



# HR practices and HRM outcomes: the role of basic need satisfaction

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## Abstract

**Purpose** – Based on soft HRM and self-determination theory, the aim of this paper is to test whether basic need satisfaction mediates the relationship between five HR practices and HRM outcomes. An important distinction (in line with soft HRM and self-determination theory) is made between the presence of, and the quality of, a practice's implementation (in terms of the degree to which employees' talents, interests and expectations are taken into account).

**Design/methodology/approach** – A theoretically grounded model is developed and tested using survey data from 5,748 Belgian employees.

**Findings** – The results indicate that autonomy and relatedness satisfaction partially mediate the relationship between HR practices and HRM outcomes. Taking into account talents, interests and expectations within HR practices is associated with higher basic need satisfaction and subsequently HRM outcomes in addition to the presence of practices.

**Research limitations/implications** – Future research could focus on HR practices and job design as both might affect basic need satisfaction and subsequently HRM outcomes. Additionally, behavior of the supervisor when administering HR practices can be further explored as a catalyst of basic need satisfaction.

**Practical implications** – HR actors should be aware that merely implementing soft HR practices may not suffice. They should also devote attention towards sufficiently taking into account individual talents, interests and expectations of employees when implementing them.

**Originality/value** – This paper contributes to the HRM literature by integrating soft HRM and self-determination theory into one model. In doing so, it sheds light on the possible pathways through and conditions under which HR practices lead to favorable outcomes.

**Keywords** HR practices, HRM outcomes, Basic need satisfaction, Human resource management, Personal needs, Self esteem, Belgium

**Paper type** Research paper

## 1. Introduction

The relationship between human resource management (HRM) and performance has occupied many researchers during the past decades. Building on the notions of soft or “high commitment” HRM (Beer *et al.*, 1984), research on the relationship between HRM and HRM outcomes such as employee attitudes has additionally gained importance (e.g. Gould-Williams, 2007; Kuvaas, 2008; Macky and Boxall, 2007). Soft HRM is hypothesized to fulfill employees' needs, which subsequently enhances favorable HRM outcomes (Edgar and Geare, 2005). This ultimately leads to increased organizational performance. In this perspective, need satisfaction is hypothesized to mediate the



relationship between HRM and HRM outcomes. However, this hypothesis remains largely untested. The present study aims to fill this gap. We develop and test a model in which basic need satisfaction mediates the relationship between five soft HR practices and several HRM outcomes. We rely on self-determination theory (Deci and Ryan, 2000) to develop our hypotheses. Self-determination theory argues that individuals have three basic needs (for autonomy, relatedness, and competence), which have to be satisfied to promote individual growth, well-being, and performance in diverse life domains including work (Deci and Ryan, 2000). In addition, soft HRM emphasizes treating employees as humans with a personal touch (Carson, 2005; Truss *et al.*, 1997). As such, we argue that paying attention to the individual by taking into account his or her individual talents, interests and expectations within the implementation of HR practices is important above the mere presence of the practice. Consequently, we distinguish between the presence and perceived quality of a practice's implementation. This is in line with increasing arguments that employees' perception of how HR practices are implemented by managers may matter equally or more than their mere presence (e.g. Edgar and Geare, 2005).

The contribution of our work is threefold. First, we contribute to the HRM performance literature by exploring theoretically and empirically whether the fulfillment of basic needs can explain why soft HR practices relate to favorable HRM outcomes. In addition, we focus not only on the presence of a practice but also on how employees perceive the quality of its implementation. In doing so, we shed light on the possible pathways through and conditions under which HR practices are related to favorable HRM outcomes. Finally, we add to the self-determination theory literature by investigating several HR practices as antecedents of basic need satisfaction. Thus far, research has mainly focused on job and person-environment fit antecedents.

## 2. Literature review and hypotheses development

### 2.1 Human resource management

HRM can be defined as "all activities associated with the management of people in firms" (Boxall and Purcell, 2008, p. 1). These activities are commonly referred to as HR practices (e.g. recruitment and selection, employee training and involvement) and are designed to create added value for the organization. Accordingly, a major goal within the HRM performance research stream has been to gather evidence for this added value. More than two decades of research has led to a general conclusion that HRM indeed matters. In their meta-analysis, Combs *et al.* (2006) managed to show that for each unit in HRM, an organization can increase its performance by 0.20 of a standardized unit, concluding that the HRM-performance relationship is both significant and managerially relevant.

Several theoretical frameworks have been put forward to unravel the HRM-performance relationship. Examples are contingency theory, the resource-based view and human capital theory (Paauwe, 2009; Wright and Gardner, 2003). However, as these frameworks are situated at the firm level, they fail to grasp the underlying mechanisms by which HRM affects performance (Wright and Gardner, 2003). The soft HRM approach meets this limitation by bringing employees into the equation. It emphasizes the ability of HRM to satisfy employees' needs, which is hypothesized to generate favorable HRM outcomes (e.g. commitment) and subsequently improved organizational performance (Edgar and Geare, 2005; Kuvaas,

2008). In addition, soft HRM places an emphasis on managing employees as humans instead of resources, suggesting that employees need to be treated with “consideration and a personal touch” in order to attain favorable outcomes (Carson, 2005; Truss *et al.*, 1997). In line with soft HRM, a general consensus has risen that HRM affects organizational performance indirectly through its impact on employees (e.g. Paauwe, 2009; Guest, 1997). By consequence, more research is gradually focusing on the relationship between HRM and HRM outcomes (e.g. Gellatly *et al.*, 2009; Gong *et al.*, 2009; Gould-Williams, 2007; Kuvaas, 2008) and theoretical frameworks explaining this relationship have emerged. For example, social exchange theory (Blau, 1964) suggests that HRM initiates a positive exchange relationship to which employees reciprocate with positive attitudes and behavior towards the organization and/or job (Gould-Williams, 2007). Secondly, according to psychological contract theory, HRM generates favorable outcomes through shaping an employee’s psychological contract (i.e. “an employee’s belief regarding the terms of an exchange agreement between the employee and employer”; Rousseau, 1995, p. 9).

Strangely, while the soft HRM approach stresses the importance of need fulfillment and treating employees as human or individuals for generating favorable outcomes, both assumptions have yet to be tested. Firstly, little attention has been given towards needs theories as a framework for understanding the HRM-HRM outcome relationship. Some authors recognize the importance of need satisfaction but do not deliver empirical evidence (e.g. Boxall and Macky, 2009; Gellatly *et al.*, 2009; Vandenberg *et al.*, 1999). An exception is Van den Broeck *et al.* (2008), who empirically established basic need satisfaction as a mediator between job resources/job demands and vigor/emotional exhaustion. However, they mainly focus on job characteristics and do not go deeper into the possible role of HRM. Furthermore, the way HRM is traditionally conceptualized assumes that the presence of HRM drives performance. However, poorly implemented HRM may never reach its intended effect, suggesting that the presence of HRM may not suffice (Edgar and Geare, 2005). As such, how well HRM is implemented by managers may matter equally or more than its presence (Edgar and Geare, 2005). The present study aims to fill these gaps by firstly introducing basic need satisfaction – as defined by self-determination theory (Deci and Ryan, 2000) as a mediator in the relationship between HRM and HRM outcomes. Secondly, we distinguish between the presence of HRM and the quality of its implementation. As soft HRM places an emphasis on managing employees as humans with a personal touch (Carson, 2005; Truss *et al.*, 1997), we argue that an important aspect of HRM quality is the degree to which employees perceive to be treated and recognized as individuals. In order to capture this, we make a distinction between the presence of HRM and the degree to which employees perceive their individuality in terms of their individual talents, interests, and expectations to be taken into account in the way HRM – and more specifically the HR practices – are implemented or enacted by HR and/or line management.

### *2.2 Self-determination theory*

Self-determination theory is a motivation theory that postulates three universal basic needs, i.e. the need for autonomy, relatedness, and competence (Van den Broeck *et al.*, 2008). These needs refer to “innate psychological nutrients that are essential for ongoing psychological growth, integrity and well-being” (Deci and Ryan, 2000, p. 229).

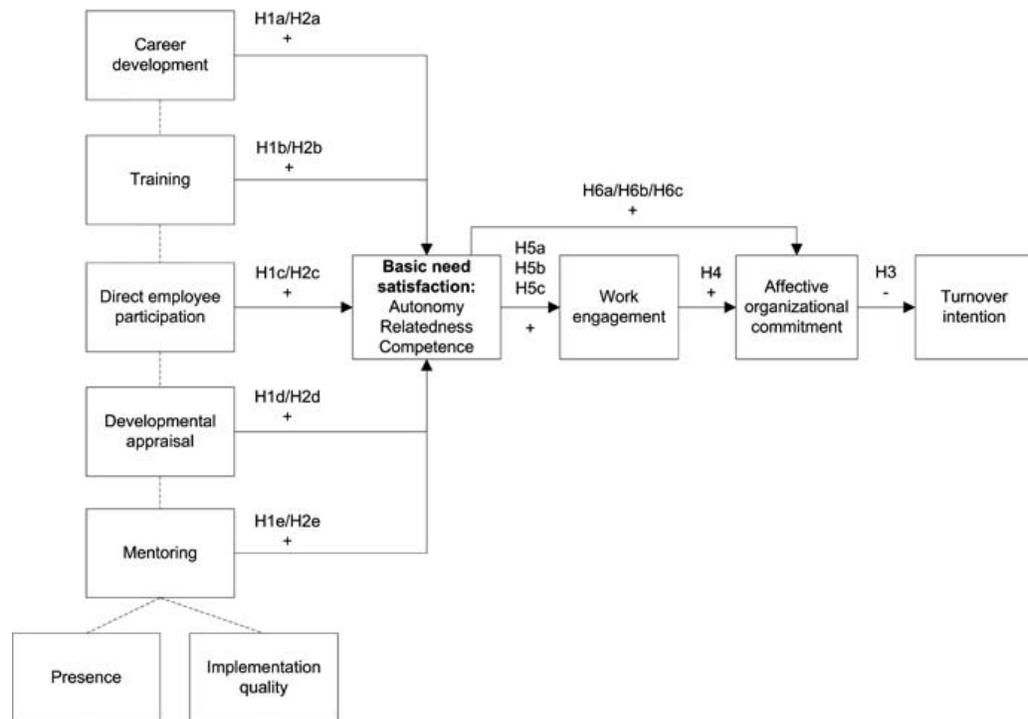
The need for autonomy entails experiencing choice, feeling like the initiator of one's own actions, and acting from interest and integrated values (Deci and Ryan, 2000). This need can be satisfied by being able to make personal choices or by backing up externally induced requests (Van den Broeck *et al.*, 2008). The need for relatedness refers to "a sense of mutual respect and reliance with others" (Baard *et al.*, 2004, p. 2046). Baumeister and Leary (1995) distinguish two main features of the need for relatedness. It requires a person to interact frequently and affectively with other people and believe these people to care about his or her welfare. Finally, the need for competence concerns feeling effective and skillful in one's actions and believing that one can influence important outcomes (Stone *et al.*, 2009; Vansteenkiste *et al.*, 2007).

According to self-determination theory, basic need satisfaction is crucial to generate favorable HRM outcomes (Baard *et al.*, 2004). Accordingly, basic need satisfaction has been found to predict job satisfaction (Mayer *et al.*, 2008), vigor (Van den Broeck *et al.*, 2008) and affective organizational commitment (Greguras and Diefendorff, 2009). Given the importance of basic need satisfaction, research looking into the antecedents of basic need satisfaction is emerging. For example, Van den Broeck *et al.* (2008) integrated self-determination theory and the job demands-resources model (Schaufeli and Bakker, 2004) showing that job demands and resources affect basic need satisfaction. They argue that job resources promote growth and thus affect basic need satisfaction positively because satisfaction is required to grow in the workplace. In addition, job demands are health-impairing and influence basic need satisfaction negatively because frustration of the basic needs is critical in explaining malfunctioning in the workplace. Greguras and Diefendorff (2009), on the other hand, found person-environment fit to increase employees' basic need satisfaction because an adequate fit allows employees to satisfy their basic psychological needs in the workplace. The core premise of the present study is that next to these job and person-environment fit aspects HRM can also satisfy the basic needs and therefore generate favorable HRM outcomes. We chose to use self-determination theory because of its widespread empirical support in a number of disciplines including organizational research and its ability to predict HRM outcomes (Gagné and Deci, 2005). In addition, similar to soft HRM, self-determination theory is rooted in the assumption of man as an active organism, who is motivated towards psychological growth and development and is willing to take on responsibilities (Carson, 2005; Van den Broeck *et al.*, 2009). As such, we believe that self-determination theory is particularly suited for unraveling the process through which HRM affects HRM outcomes.

### 2.3 Conceptual model and hypotheses

Our conceptual model is visualized in Figure 1. We explain the model in three steps. First, based on soft HRM, we choose five HR practices that we relate to basic need satisfaction using self-determination theory. Next, we identify relevant HRM outcomes and their interrelationships. Finally, we use self-determination theory to explain how basic need satisfaction is related to these outcomes.

*2.3.1 Identifying HR practices.* Soft HRM focuses on empowering, developing and trusting employees and managing them as humans (Gould-Williams and Davies, 2005). As such, this approach encompasses practices aimed at creating proactive, participating and skilled employees (Legge, 1995). Similarly, Stone *et al.* (2009) suggest a number of ways through which basic need satisfaction can be nurtured in the



**Figure 1.**  
Conceptual model

workplace and mainly mention practices aimed at empowering and developing employees (e.g. employee participation, providing sincere and non-judgmental feedback, offering educational and advancement opportunities and sharing knowledge). Accordingly, five HR practices that are generally referred to as “soft” and are directed towards development and empowerment were selected in this study, i.e.:

- (1) career development;
- (2) training;
- (3) direct employee participation;
- (4) developmental appraisal; and
- (5) mentoring (e.g. Arthur, 1994; Gong *et al.*, 2009; Snell and Dean, 1992).

For each practice, we first argue why their presence leads to basic need satisfaction.

- *Career development.* This entails planning, guiding and developing employee’s careers in the organization. Howard and Foster (1999) argue that career planning signals career security to employees, thus reducing threats of external control. As such, we expect career development to increase autonomy satisfaction. Additionally, this practice may satisfy the need for relatedness by signaling employees that they are valued and that the company is willing to invest in a long-term relationship with them (Suazo *et al.*, 2009). Finally, the willingness to engage in career development may be interpreted as a sign of competence, satisfying the third basic need.
- *Training.* Training implies offering employees the opportunity to develop general and specific skills to increase their employability (Benson, 2006).

Training opportunities allow for autonomy satisfaction by increasing feelings of internal control (Gellatly *et al.*, 2009). Next, training may satisfy the need for relatedness because it signals employees that they are valued and the company is willing to invest in a long-term relationship with them (Suazo *et al.*, 2009). It also allows for collaboration with other people such as colleagues and tutors, which can stimulate relatedness satisfaction (Stone *et al.*, 2009). Finally, the need for competence can be nurtured by acquiring new skills and knowledge (Stone *et al.*, 2009).

- *Direct employee participation.* This refers to a system of participation in management decision-making that is based on the direct involvement of employees (Heery and Noon, 2001). As this may signal to employees that the organization discourages passive compliance, employees might experience more autonomy satisfaction. In addition, increased relatedness may be perceived due to frequent interactions with a diverse range of people (colleagues and supervisors), and the interpersonal and stable bond or relationship created by its periodic and structured nature thus satisfying both features of relatedness (Baumeister and Leary, 1995). Finally, allowing employees to participate directly may be interpreted by them as a sign of competence, allowing for greater competence satisfaction.
- *Developmental appraisal.* This entails providing both positive and negative feedback about an employee's functioning, and discussing problems. It is aimed at identifying areas of improvement without tying them to rewards or punishment (Snell and Dean, 1992). Because it consists of a mutual discussion stimulating participation from the employee, which emphasizes the controlling aspect of a performance appraisal less, a developmental appraisal could elicit autonomy satisfaction. In addition, it may foster relatedness as the interaction may allow for an affective bond or relationship to be built with the supervisor and/or HR manager. Finally, positive feedback signals effectiveness, and thus immediately meets the need for competence. Additionally, Stone *et al.* (2009) propose that negative feedback may also foster competence if it is factual and non-judgmental. In that case it allows for mutual exploration of possibilities to solve the problem, and consents employees to learn from their mistakes. Because negative feedback in this context is not tied to punishment, but aimed at improving the employee's functioning, it might thus nonetheless stimulate competence satisfaction.
- *Mentoring.* As a more experienced employee, a mentor provides guidance, support and knowledge to an inexperienced employee (protégé) and serves three main purposes, i.e. providing career development, psychosocial, and vocational support (Erdem and Aytemur, 2008). As a career developer, he can – as argued above – enhance an employee's sense of autonomy by signaling career security and reducing the threats of external control (Howard and Foster, 1999). Furthermore, by providing psychosocial support, frequent contact in a caring and stable relationship can be established, which nurtures relatedness satisfaction (Baumeister and Leary, 1995). Finally, vocational support (e.g. access to technical information, expertise and feedback) is provided, which may make the protégés feel more capable of solving problems they encounter in the workplace and allow them to learn from their mistakes, thus creating competence satisfaction (Howard and Foster, 1999; Stone *et al.*, 2009).

Taking the above into account, we can formulate the following hypothesis:

- H1.* Career development (*H1a*), training (*H1b*), direct employee participation (*H1c*), developmental appraisal (*H1d*) and mentoring (*H1e*) are positively related to autonomy, relatedness, and competence satisfaction.

Next to their presence, we argue that the quality of the implementation of these practices in terms of taking into account individual talents, interests and expectations (e.g. by responding to specific individual training needs or interests) can have an additional satisfying effect. Firstly, it can be argued that this involves the employee more thus increasing his or her job resources (cf. Job demands-resources model; Van den Broeck *et al.*, 2008) and subsequently basic need satisfaction in several ways:

- by allowing more control in the workplace and avoiding feelings of external control by promoting personal and professional development (Stone *et al.*, 2009);
- by signaling affectivity, care and support to the employee;
- by allowing employees to be involved in and influence the HR practice which may be interpreted as a sign of competence; and
- by making employees become more aware of their talents, increasing their feeling of competence.

Moreover, specifically in the case of training opportunities, taking into account what individuals are interested in and require to function in the workplace may also additionally engender competence satisfaction. As such, we propose the following hypotheses:

- H2.* Taking into account the individual within the implementation of career development (*H2a*), training (*H2b*), direct employee participation (*H2c*), developmental appraisal (*H2d*), and mentoring (*H2e*) is additionally and positively related to autonomy, relatedness, and competence satisfaction.

*2.3.2 Identifying HRM outcomes.* Several outcomes have already been labeled as outcomes of soft HRM, including attitudes towards the job (e.g. job satisfaction and work engagement), attitudes towards the organization (e.g. organizational commitment), and behavioral intentions (e.g. turnover intention). This study firstly focuses on turnover intention, i.e. “a conscious and deliberate willingness to leave the organization” (Tett and Meyer, 1993, p. 262). This is an important HRM outcome because it affects performance both directly by decreasing the willingness to perform effectively (Hui *et al.*, 2007) as indirectly by increasing turnover, which subsequently affects performance negatively (Kacmar *et al.*, 2008; Zimmerman and Arnold, 2009). Because employee attitudes towards the job and/or organization are also considered important consequences of HR practices and predictors of turnover intention (Edgar and Geare, 2005; Tett and Meyer, 1993), this study additionally focuses on two attitudes, i.e. organizational commitment and work engagement.

Organizational commitment is argued to consist of three subcomponents, i.e. affective, continuance and normative commitment (Meyer and Allen, 1997). In accordance with a vast amount of HR research (e.g. Kuvaas, 2008; Macky and Boxall, 2007; Takeuchi *et al.*, 2009) and because it is the strongest predictor of performance outcomes such as turnover, job performance and OCB (Meyer *et al.*, 2002), we chose to

focus on affective organizational commitment. Affective organizational commitment is defined as “the emotional attachment to, identification with, and involvement in the organization’ (Meyer *et al.*, 2002, p. 21). As it is suggested that employees who are affectively committed to their organization will be less inclined to exit because they feel obliged towards the organization and want to stay and help the organization grow (Mellahi *et al.*, 2010), we formulate the following hypothesis:

- H3.* Affective organizational commitment is negatively related to turnover intention.

Work engagement can be defined and conceptualized in different ways. One stream of research considers it to be the opposite of burnout, such that work engagement is characterized by low levels of cynicism, exhaustion and efficacy (Bakker *et al.*, 2008). An alternative and increasingly accepted view considers it to be related to burnout, albeit independent and distinct from it. According to Schaufeli *et al.* (2006, p. 702) work engagement is “a positive fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption”. Vigor involves high levels of energy, mental resilience, persistence and a willingness to exert effort; dedication refers to strong involvement, a sense of significance, enthusiasm, inspiration, pride and challenge; and absorption entails full concentration and being engrossed in one’s work (Schaufeli *et al.*, 2006). Schaufeli and Bakker (2004) argue that engaged employees have a greater attachment to their organization because the organization provides them with the environment in which they are vigorous, dedicated to and absorbed in their work. This leads to a lower tendency to leave the organization, which implies that work engagement affects turnover intention through affective organizational commitment. We therefore hypothesize:

- H4.* Work engagement is positively related to organizational commitment.

*2.3.3 Basic need satisfaction and HRM outcomes.* Gagné and Deci (2005) propose that basic need satisfaction leads to favorable HRM outcomes because it increases autonomous motivation. Basic need satisfaction creates autonomously motivated employees who find their job interesting and suited to expressing themselves, and who thus engage in their job volitionally instead of feeling pressured to do so (Gagné and Deci, 2005). This subsequently leads to more positive attitudes towards the job, for example higher work engagement. In addition, since the organization provides the work environment through which their basic needs are satisfied, employees grow more attached to the organization, resulting in higher affective organizational commitment and subsequently a lower intention to leave the organization as leaving would result in a loss of the favorable work environment and thus the ability to satisfy one’s basic needs (Greguras and Diefendorff, 2009). Accordingly, we formulate the following hypotheses:

- H5.* Autonomy (*H5a*), relatedness (*H5b*) and competence (*H5c*) satisfaction are positively related to work engagement.
- H6.* Autonomy (*H6a*), relatedness (*H6b*) and competence (*H6c*) satisfaction are positively related to affective organizational commitment.

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### 3. Methodology

#### 3.1 Procedure and sample

This study draws on a nationwide web-based survey concerning talent management conducted among Belgian employees. During April and May 2009, participants were invited to fill in our survey through advertisements in two job magazines and through radio commercials. Through its instructions it was made clear that the survey aimed at employees, excluding anyone not working for an employer such as self-employed people. To stimulate participation, iPhones were randomly awarded. After rigorous data cleaning (e.g. checks for double records, impossible values and very short survey completion times), a sample of 5,748 employees was attained. Overall, 56 percent of our sample was male and the average age amounted to 34.63 years (SD 8.60). Nineteen percent of our respondents had a high school degree or less, 36 percent had a Bachelor's degree and 45 percent had a Master's degree. The average length of service with their current employer was 4.92 years (SD 5.96) and the average tenure in their current function was 3.96 years (SD 4.95). In total 27 percent were operational staff, 10 percent were administrative personnel, 30 percent were professional staff members, 27 percent were middle management and 5 percent were higher management. Respondents worked in diverse functional domains, of which the most represented are administration/central services (13 percent), sales (13 percent), ICT/internet services (13 percent), general management (12 percent) and executive services (10 percent). Finally, 88 percent of the respondents had a permanent employment contract.

#### 3.2 Measures

*3.2.1 HR practices.* To measure the HR practices, a multi-stage approach was used. Respondents were given a description of the practice and were asked to indicate whether it applied to them with "yes" or "no". If yes, respondents were asked to assess the degree to which their talents, interests, and expectations are taken into consideration in the way HR and/or line management implements the practice. This was to be answered on a five-point scale ranging from 1 (no degree) to 5 (a very large degree). First, career development was described as activities or conversations in which an employee's career is planned, guided, and developed. Second, training was identified as training opportunities that are aimed at increasing an employee's employability. Third, we defined direct employee participation as periodic and structured consultations between management and staff concerning work and working conditions. Fourth, developmental appraisal was described as conversations in which strengths, weaknesses, and actions to improve future functioning are discussed. Finally, we defined mentoring as the availability of a mentor who gives advice to an employee and guides his or her career.

*3.2.2 Basic need satisfaction.* This was measured using the adapted version of the Basic Need Satisfaction at Work Scale of Van den Broeck *et al.* (2008). A total of 18 items (six items for each need) were used to assess autonomy (e.g. "At work, I often feel like I have to do what others tell me to", reverse coded), relatedness (e.g. "I feel part of a group at work"), and competence satisfaction (e.g. "I don't feel very competent at work", reverse coded). All items were answered on a five-point scale ranging from 1 (totally disagree) to 5 (totally agree).

*3.2.3 Affective organizational commitment.* This was assessed with Meyer and Allen's (1997) six-item scale (e.g. "I would be very happy to spend the rest of my career

with this organization”) that was to be answered on a five-point scale ranging from 1 (totally disagree) to 5 (totally agree).

*3.2.4 Work engagement.* Schaufeli *et al.*'s (2006) shortened version of the Utrecht Work Engagement Scale was used to assess work engagement. On a seven-point scale ranging from 1 (never) to 7 (every day), respondents were asked to judge nine items reflecting the three subscales vigor, dedication, and absorption, such as “At my work I feel bursting with energy”, “I feel happy when I’m working intensely”, and “My job inspires me”, respectively.

*3.2.5 Turnover intention.* Turnover intention was measured by Jiang and Klein’s (2002) three-item scale (e.g. “I often think about leaving this organization”). These items were to be answered on a five-point scale ranging from 1 (totally disagree) to 5 (totally agree).

*3.2.6 Control variables.* As there is evidence that background variables such as gender, age, education, position and organizational tenure are related to basic need satisfaction and work outcomes (e.g. Meyer *et al.*, 2002; Van den Broeck *et al.*, 2008; Vansteenkiste *et al.*, 2007), these were used as control variables in order to prevent the observed relationships to be due to these variables. Including both position and organizational tenure did not cause multicollinearity in our data ( $VIF = 1.61$ ).

## 4. Results

### 4.1 Measurement model

Following Anderson and Gerbing’s (1988) two-step model, we first assessed our measurement model by performing a CFA on all multi-item measures (affective organizational commitment, work engagement, turnover intention, autonomy, relatedness and competence satisfaction) in which all items loaded on the factor for which they are proposed to be an indicator. Following recommendations of Bentler (1990) and Byrne (2001), the fit of the model is evaluated using several goodness of fit indices: SRMR ( $\leq 0.10$ ), RMSEA ( $\leq 0.08$ ), CFI ( $\geq 0.90$ ), and TLI ( $\geq 0.90$ ). The measurement model yielded an unsatisfactory fit: SRMR (0.06), RMSEA (0.07), CFI (0.89), and TLI (0.88). The modification indices suggested loading some items on other factors implying heavy crossloadings. Stepwise deletion of these items (three in total) resulted in a good fit: SRMR (0.05), RMSEA (0.05), CFI (0.94) and TLI (0.94). Consequently, a valid measurement model was obtained of which the factor loadings and Cronbach’s  $\alpha$  values are summarized in Table I.

### 4.2 Analyses

The means, standard deviations, and correlations of the study variables are listed in Table II. For analytic purposes, cumulative dummies were calculated based on the HR variables. More specifically, for each HR practice a first dummy indicated whether the HR practice applied to the respondent or not. A second dummy indicated whether talents, interests, and expectations were taken into consideration (indicated by a score of 4 or 5 on the corresponding scale) or not (indicated by a score of 1 to 3), in case the HR practice is applied to the respondent. As such, when adding these dummies as independent variables to structural equation analyses, the coefficient of the first dummy can be interpreted as the relationship of the presence of the practice with the dependent variable (e.g. autonomy satisfaction), while the coefficient of the second dummy can be understood as the additional relationship between implementation

	Autonomy satisfaction ( $\alpha = 0.81$ )	Relatedness satisfaction ( $\alpha = 0.87$ )	Competence satisfaction ( $\alpha = 0.86$ )	Affective organizational commitment ( $\alpha = 0.81$ )	Work engagement ( $\alpha = 0.94$ )	Turnover intention ( $\alpha = 0.93$ )
1. I feel free to do my job as I see fit	0.71					
2. When I am at work, I often feel like I have to do what I am told	0.69					
3. If I was allowed to choose, I would carry out my work differently	0.73					
4. At work I often feel forced to do things I don't want to	0.74					
5. I feel like part of a group at work		0.72				
6. At work I can talk to others about what really matters to me		0.71				
7. I consider the people I work with to be my friends		0.71				
8. I'm not really close with other people at work		0.77				
9. I don't really associate with other people at work		0.73				
10. I often feel alone among my colleagues		0.73				
11. I have mastered the tasks at work well			0.72			
12. I feel capable at work			0.78			
13. I'm good at my job			0.84			
14. I feel I can also complete difficult tasks well			0.79			
15. I don't feel very competent at work			0.52			
16. I doubt that I perform well in my job			0.61			
17. I really feel as if this organization's problems are my own				0.60		

**Table I.**  
Factor loadings  
measurement model

(continued)

	Autonomy satisfaction ( $\alpha = 0.81$ )	Relatedness satisfaction ( $\alpha = 0.87$ )	Competence satisfaction ( $\alpha = 0.86$ )	Affective organizational commitment ( $\alpha = 0.81$ )	Work engagement ( $\alpha = 0.94$ )	Turnover intention ( $\alpha = 0.93$ )
18. I do not feel like "part of the family" at my organization				0.63		
19. I do not feel "emotionally attached" to this organization				0.68		
20. This organization has a great deal of personal meaning for me				0.76		
21. I do not feel a strong sense of belonging to my organization				0.71		
22. At my work, I feel bursting with energy					0.74	
23. At my job, I feel strong and vigorous					0.75	
24. I am enthusiastic about my job					0.91	
25. My job inspires me					0.88	
26. When I get up in the morning, I feel like going to work					0.83	
27. I feel happy when I am working intensely					0.64	
28. I am proud of the work that I do					0.80	
29. I am immersed in my work					0.72	
30. I get carried away when I am working					0.79	
31. I think a lot about leaving this organization						0.93
32. I am actively searching for an acceptable alternative to this organization						0.84
33. When I can, I will leave the organization						0.93

Table I.

**Table II.**  
Descriptive statistics and correlations

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Career dev. - P	0.39	0.49	1																			
2. Career dev. - IQ	0.14	0.35	0.51	1																		
3. Training - P	0.54	0.50	0.42	0.28	1																	
4. Training - IQ	0.20	0.40	0.36	0.47	0.46	1																
5. DEP - P	0.54	0.50	0.28	0.22	0.26	0.22	1															
6. DEP - IQ	0.17	0.37	0.27	0.42	0.23	0.37	0.41	1														
7. Dev. app. - P	0.61	0.49	0.48	0.27	0.38	0.27	0.29	0.20	1													
8. Dev. app. - IQ	0.20	0.40	0.39	0.56	0.32	0.49	0.23	0.45	0.40	1												
9. Mentoring - P	0.39	0.49	0.34	0.29	0.29	0.27	0.26	0.24	0.27	0.28	1											
10. Mentoring - IQ	0.15	0.36	0.28	0.43	0.24	0.37	0.21	0.41	0.20	0.43	0.53	1										
11. Autonomy sat.	3.30	0.89	0.27	0.32	0.27	0.30	0.25	0.33	0.23	0.37	0.24	0.30	1									
12. Relatedness sat.	3.45	.82	0.23	0.26	0.24	0.23	0.27	0.29	0.24	0.30	0.22	0.26	0.39	1								
13. Competence sat.	4.20	0.61	0.01 <sup>NS</sup>	0.08	-0.01 <sup>NS</sup>	0.04	0.04	0.12	0.02 <sup>NS</sup>	0.09	-0.02 <sup>NS</sup>	0.06	0.21	0.17	1							
14. Work engagement	4.69	1.08	0.23	0.30	0.22	0.27	0.23	0.33	0.19	0.32	0.22	0.31	0.53	0.39	0.28	1						
15. AOC	3.10	0.88	0.25	0.30	0.27	0.28	0.24	0.31	0.24	0.32	0.23	0.28	0.48	0.51	0.13	0.56	1					
16. Turnover intention	2.84	1.30	-0.35	-0.34	-0.36	-0.35	-0.26	-0.32	-0.29	-0.37	-0.29	-0.31	-0.55	-0.38	-0.08	-0.54	-0.57	1				
17. Age	34.63	8.60	-0.06	-0.03	-0.05	-0.05	-0.01 <sup>NS</sup>	0.00 <sup>NS</sup>	-0.04	-0.04	-0.15	-0.08	0.04	-0.10	0.12	.14	0.02 <sup>NS</sup>	-0.01 <sup>NS</sup>	1			
18. Organizational tenure	4.92	5.96	-0.01 <sup>NS</sup>	-0.02 <sup>NS</sup>	0.04	-0.01 <sup>NS</sup>	0.04	-0.00 <sup>NS</sup>	0.05	-0.03 <sup>NS</sup>	-0.11	-0.07	0.03	0.03	0.09	0.06	0.08	-0.01 <sup>NS</sup>	0.52	1		
19. Position tenure	3.96	4.95	-0.08	-0.04	-0.07	-0.03	-0.06	-0.06	-0.06	-0.06	-0.14	-0.10	-0.01 <sup>NS</sup>	-0.03	0.12	0.02 <sup>NS</sup>	-0.01 <sup>NS</sup>	0.06	0.46	0.62	1	
20. Gender	0.44	0.50	-0.02 <sup>NS</sup>	-0.01 <sup>NS</sup>	-0.01 <sup>NS</sup>	-0.01 <sup>NS</sup>	-0.00 <sup>NS</sup>	-0.01 <sup>NS</sup>	-0.02 <sup>NS</sup>	0.01 <sup>NS</sup>	0.01 <sup>NS</sup>	0.02 <sup>NS</sup>	0.02 <sup>NS</sup>	0.03	-0.04	-0.02 <sup>NS</sup>	0.02 <sup>NS</sup>	-0.03	-0.10	-0.06	-0.04	1

**Notes:** As our data consisted of both dichotomous and continuous variables,  $\phi$  coefficients and point biserial correlations were used next to the Pearson correlation measure; Career dev. = career development; DEP = direct employee participation; Dev. app. = developmental appraisal; P = presence; IQ = implementation quality; AOC = affective organizational commitment; NS = non significant at the 0.05 level

quality and the dependent variable. Accordingly, the sum of these coefficients can be interpreted as the total relationship of presence and implementation quality with the dependent variable.

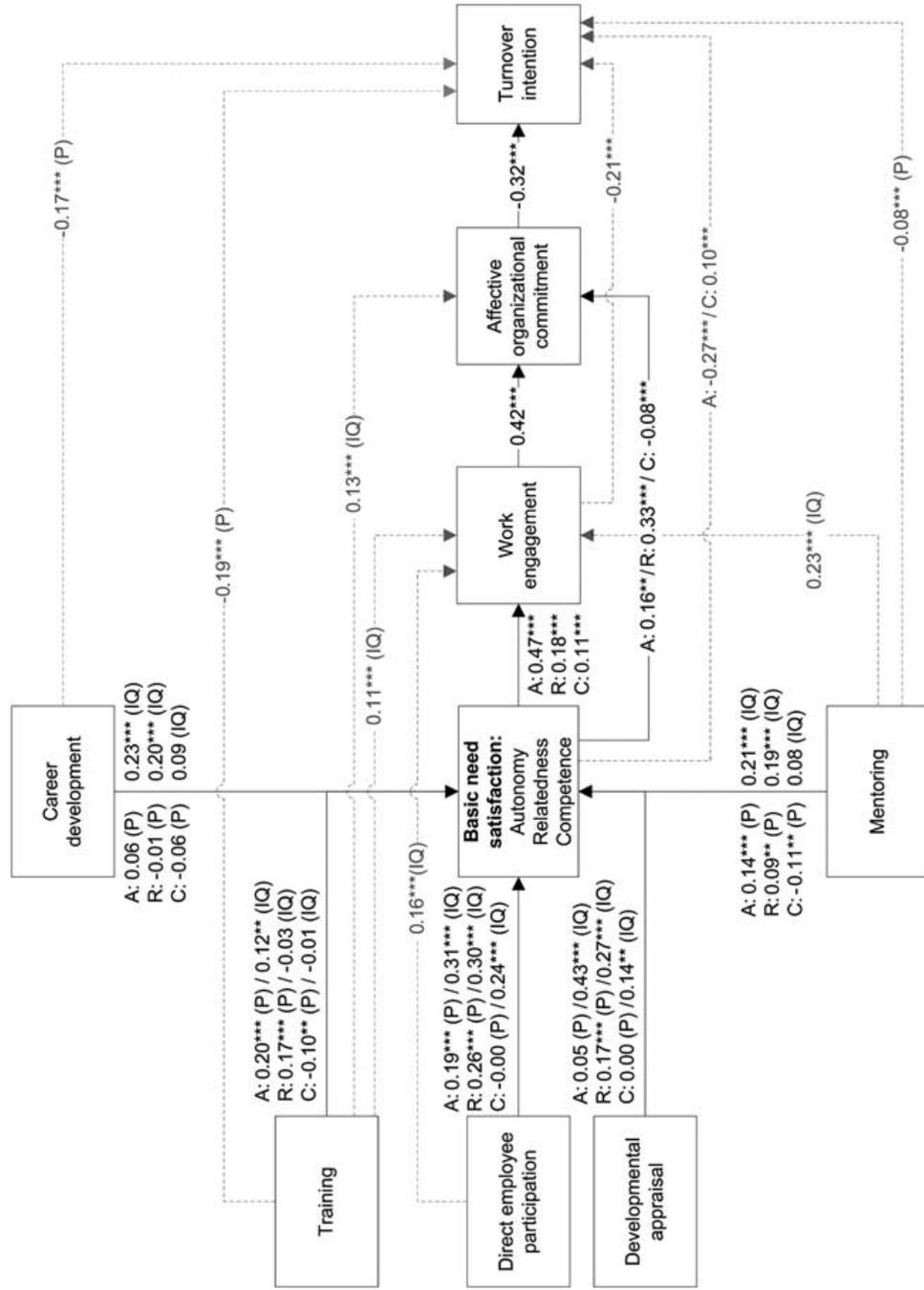
In order to put the mediating role of basic need satisfaction to the test, several structural equation models were estimated in MPLUS following the recommendations of James *et al.* (2006). First, a fully mediated model was tested assessing the model fit as well as the path coefficients from the HR practices to basic need satisfaction and from basic need satisfaction to the outcomes. The goodness of fit indices suggest a moderate fit: SRMR (0.04), RMSEA (0.04), TLI (0.92), and CFI (0.93). In addition, significant relationships were found between the HR practices and basic need satisfaction (ranging from 0.07 to 0.42 in absolute value) and between basic need satisfaction and the HRM outcomes (ranging from 0.10 to 0.54 in absolute value). However, the modification indices suggested several ways of improving the model by adding theoretically relevant direct paths between:

- basic need satisfaction and turnover intention;
- work engagement and turnover intention; and
- HR practices and the HRM outcome variables.

Therefore, in a second step, we added direct paths in a stepwise manner to test a number of partially mediated models.  $X^2$  difference tests showed that a partially mediated model in which 10 direct paths were added yields the best fit (CFI = 0.94; TLI = 0.93; RMSEA = 0.04; SRMR = 0.03). The standardized parameter estimates of this model are depicted in Figure 2.

Our results firstly show that a great amount of paths between the presence of HR practices and basic need satisfaction are significant. However, some HR practices are only positively related to one or two needs (e.g. direct employee participation), some are negatively related to competence satisfaction (e.g. training) and one, career management, is unrelated to all three needs but instead shows a direct relationship with turnover intention. As such, *H1* is only partially supported. The same conclusion can be made when we consider the second hypothesis concerning the degree to which the individual is taken into account within the HR practices. However, in this case, no significant negative relationships with basic need satisfaction emerged and all HR practices were positively related to the satisfaction of at least one basic need.

Affective organizational commitment is significantly and negatively related to turnover intention confirming *H3*. *H4* is supported as work engagement is positively related to affective organizational commitment. However, also a direct negative relationship was found with turnover intention. Autonomy (*H5a/H6a*) and relatedness (*H5b/H6b*) satisfaction are related to higher work engagement and affective organizational commitment. However, whereas competence satisfaction is positively associated with work engagement (*H5c*), it relates negatively to affective organizational commitment (*H6c*). As such, hypothesis 6 remains only partially supported whereas *H5* is fully supported. The five HR practices and control variables explain 28 percent of the variance in autonomy, 22 percent in relatedness, and 5 percent in competence satisfaction. A total of 60 percent of the variance in affective organizational commitment, 50 percent in work engagement and 60 percent in turnover intention was explained.



**Notes:** A: Autonomy; R: Relatedness; C: Competence; (P): Presence of the HR practice; (IQ): Implementation quality; \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ ; Hypothesized relationships are depicted in solid black lines, additional direct relationships are depicted in dotted grey lines

**Figure 2.**  
Standardized estimates for  
the final model

In a final step, we performed additional tests to verify whether the indirect paths from the HR practices to the HRM outcomes are significant and basic need satisfaction thus significantly mediates the relationship (Table III). First, tests of indirect effects in MPLUS showed that each significant path between an HR practice and satisfaction of one of the needs represented a significant indirect relationship with one or multiple outcomes (estimate column in Table III). In addition, following recommendations of Preacher and Hayes (2008), bootstrapping ( $k = 1000$ ) was used to obtain 95 percent confidence limits for these indirect relationships. This analysis showed that all significant indirect relationships through autonomy satisfaction did not contain zero in the 95 percent confidence interval. For relatedness satisfaction, only two paths concerning the presence of mentoring showed to be non-significant. Finally, when it comes to competence satisfaction, quite a few paths proved to be non-significant suggesting that relatedness and autonomy satisfaction are the most important partial mediators.

## 5. Discussion

This study contributes to the HRM-performance literature by examining the processes underlying the relationships between HR practices and HRM outcomes, as hypothesized by soft HRM. First of all, soft HRM stress the importance of employee needs in the causal chain (Edgar and Geare, 2005; Gould-Williams, 2007). Our findings confirm this by showing that employees who are subject to developmental and empowering HR practices are more likely to experience a general feeling of autonomy and relatedness satisfaction which is associated with higher work engagement, higher affective organizational commitment and a lower intention to leave the organization. Some HR practices are only associated with relatedness (e.g. developmental appraisal) while others are related to both relatedness and autonomy (e.g. training). This suggests that HR practices are complimentary in their relationship with basic need satisfaction and subsequently HRM outcomes and that they should be implemented together in order to maximize basic need satisfaction. Nonetheless, autonomy and relatedness satisfaction only partially account for the relationship between the HR practices and HRM outcomes as some direct relationships with turnover intention still stand. One possibility would be that HR practices also trigger extrinsic motivation (i.e. engaging in an activity to achieve a desired, separable outcome (Ryan and Deci, 2000)). The practices directly related to turnover intention are aimed at stimulating career development thus signaling the possibility to get ahead in the organization. This may reduce employees' turnover intention as they expect to achieve a desirable outcome (i.e. a career) by sticking with the organization.

Secondly, soft HRM pleads in favor of managing employees as humans in their own rights with a personal touch in order to generate favorable HRM outcomes (Baard, 2004; Carson, 2005; Truss *et al.*, 1997). We argued that next to the mere presence of HR practices, the quality of their implementation in terms of taking into account individual talents, interests, and expectations while implementing them may additionally contribute to satisfying the basic needs and HRM outcomes. Our findings lead us to conclude that in most cases the perceived quality of the implementation has a more important relationship with autonomy and relatedness satisfaction (and to a slight degree competence satisfaction) than the mere presence. However, also in this case, basic need satisfaction does not fully account for its relationship with the HRM outcomes as some direct relationships remain with work engagement and affective

	Work engagement			Affective organizational commitment			Turnover intention		
	Lower	Estimate	Upper	Lower	Estimate	Upper	Lower	Estimate	Upper
<i>Career development – Presence</i>									
Autonomy	-0.00	0.03 <sup>NS</sup>	0.06	-0.00	0.02 <sup>NS</sup>	0.05	-0.06	-0.03 <sup>NS</sup>	0.00
Relatedness	-0.01	-0.00 <sup>NS</sup>	0.01	-0.03	-0.00 <sup>NS</sup>	0.02	-0.01	0.00 <sup>NS</sup>	0.01
Competence	-0.01	-0.01 <sup>NS</sup>	0.00	-0.00	0.00 <sup>NS</sup>	0.01	-0.01	-0.01 <sup>NS</sup>	0.00
<i>Career development – Implementation quality</i>									
Autonomy	0.07	0.11 <sup>***</sup>	0.15	0.05	0.09 <sup>***</sup>	0.12	-0.16	-0.11 <sup>***</sup>	-0.07
Relatedness	0.02	0.04 <sup>***</sup>	0.05	0.05	0.08 <sup>***</sup>	0.12	-0.04	-0.03 <sup>***</sup>	-0.02
Competence	-0.00	0.01 <sup>NS</sup>	0.02	-0.01	-0.00 <sup>NS</sup>	0.00	-0.00	0.01 <sup>NS</sup>	0.02
<i>Training – Presence</i>									
Autonomy	0.06	0.09 <sup>***</sup>	0.12	0.05	0.07 <sup>***</sup>	0.09	-0.13	-0.10 <sup>***</sup>	-0.07
Relatedness	0.02	0.03 <sup>***</sup>	0.04	0.04	0.07 <sup>***</sup>	0.10	-0.04	-0.03 <sup>***</sup>	-0.02
Competence	-0.02	-0.01 <sup>**</sup>	-0.00	0.00	0.00 <sup>NS</sup>	0.01	-0.01	-0.01 <sup>*</sup>	-0.00
<i>Training – Implementation quality</i>									
Autonomy	0.02	0.06 <sup>**</sup>	0.09	0.01	0.04 <sup>**</sup>	0.07	-0.10	-0.06 <sup>**</sup>	-0.02
Relatedness	-0.02	-0.01 <sup>NS</sup>	0.01	-0.04	-0.01 <sup>NS</sup>	0.02	-0.01	0.01 <sup>NS</sup>	0.02
Competence	-0.01	-0.00 <sup>NS</sup>	0.01	-0.00	0.00 <sup>NS</sup>	0.00	-0.01	-0.00 <sup>NS</sup>	0.01
<i>Direct employee participation – Presence</i>									
Autonomy	0.06	0.09 <sup>***</sup>	0.12	0.05	0.07 <sup>***</sup>	0.09	-0.12	-0.09 <sup>***</sup>	-0.06
Relatedness	0.03	0.05 <sup>**</sup>	0.06	0.08	0.11 <sup>***</sup>	0.13	-0.06	-0.04 <sup>***</sup>	-0.03
Competence	-0.01	0.00 <sup>NS</sup>	0.01	-0.00	0.00 <sup>NS</sup>	0.00	-0.01	0.00 <sup>NS</sup>	0.01
<i>Direct employee participation – Implementation quality</i>									
Autonomy	0.11	0.14 <sup>***</sup>	0.18	0.08	0.11 <sup>***</sup>	0.14	-0.19	-0.15 <sup>***</sup>	-0.11
Relatedness	0.04	0.05 <sup>***</sup>	0.07	0.09	0.12 <sup>***</sup>	0.15	-0.07	-0.05 <sup>***</sup>	-0.04
Competence	0.02	0.03 <sup>***</sup>	0.04	-0.02	-0.01 <sup>**</sup>	-0.00	0.01	0.02 <sup>***</sup>	0.03
<i>Developmental appraisal – Presence</i>									
Autonomy	-0.01	0.03 <sup>NS</sup>	0.06	-0.00	0.02 <sup>NS</sup>	0.04	-0.06	-0.03 <sup>NS</sup>	0.01
Relatedness	0.02	0.03 <sup>***</sup>	0.04	0.04	0.07 <sup>***</sup>	0.10	-0.04	-0.03 <sup>***</sup>	-0.02
Competence	-0.01	0.00 <sup>NS</sup>	0.01	-0.00	0.00 <sup>NS</sup>	0.00	-0.01	0.00 <sup>NS</sup>	0.01
<i>Developmental appraisal – Implementation quality</i>									
Autonomy	0.16	0.20 <sup>***</sup>	0.24	0.12	0.16 <sup>***</sup>	0.19	-0.25	-0.21 <sup>***</sup>	-0.17
Relatedness	0.03	0.05 <sup>***</sup>	0.06	0.08	0.11 <sup>***</sup>	0.14	-0.06	-0.05 <sup>***</sup>	-0.03
Competence	0.01	0.02 <sup>**</sup>	0.03	-0.01	-0.01 <sup>NS</sup>	0.00	0.00	0.01 <sup>**</sup>	0.02
<i>Mentoring – Presence</i>									
Autonomy	0.04	0.07 <sup>***</sup>	0.10	0.03	0.05 <sup>***</sup>	0.08	-0.10	-0.07 <sup>***</sup>	-0.04
Relatedness	0.00	0.02 <sup>**</sup>	0.03	0.01	0.04 <sup>**</sup>	0.06	-0.03	-0.02 <sup>**</sup>	-0.00
Competence	-0.02	-0.01 <sup>**</sup>	-0.00	0.00	0.00 <sup>NS</sup>	0.01	-0.02	-0.01 <sup>**</sup>	-0.00
<i>Mentoring – Implementation quality</i>									
Autonomy	0.06	0.10 <sup>***</sup>	0.14	0.05	0.08 <sup>***</sup>	0.11	-0.14	-0.10 <sup>***</sup>	-0.06
Relatedness	0.02	0.03 <sup>***</sup>	0.05	0.05	0.08 <sup>***</sup>	0.11	-0.05	-0.03 <sup>***</sup>	-0.02
Competence	-0.00	0.01 <sup>NS</sup>	0.02	-0.01	-0.00 <sup>NS</sup>	0.00	-0.00	0.01 <sup>NS</sup>	0.02

**Table III.**  
Results of bootstrapping  
( $k = 1,000$ )

**Notes:** (In)direct relationships are non-significant when zero is part of the 95 percent confidence interval; \* < 0.05; \*\* < 0.01; \*\*\* < 0.001

organizational commitment. Social exchange theory may explain this as irrespective of basic need satisfaction, taking into account the individual strengthens the social exchange relationship between employee and employer increasing the employee's felt obligation to reciprocate by improving his or her attitudes towards the job and organization. These results are nonetheless in line with Edgar and Geare's (2005) findings which suggest that the quality of practices may matter more than their presence or quantity. This also implies that future HRM research may benefit from focusing on whether employees perceive HR practices to be well implemented besides their presence or availability.

Whereas soft HRM is an American model, this study was performed in a Belgian context. In Belgium, a large part of the employment relationship is settled through collective bargaining at the national, industry and company level fueled by the highly embedded notion of equality and strong unions (Sels *et al.*, 2000). This greatly reduces the room for individualization in HRM. Nevertheless, despite this limited maneuvering room, a substantial part of our respondents indicated that their individual talents, interests and expectations are taken into account when HR practices are implemented (between 31 and 39 per cent depending on the HR practice). In addition, it is more strongly related to basic need satisfaction and subsequently HRM outcomes than the mere presence of a practice suggesting that even in a collective context, organizations may benefit from taking into account the individual employee when implementing a practice. As such, in a strong individualized context such as the US, the relationships found may even be stronger.

This study also contains a few unexpected results regarding the need for competence. First, we found competence satisfaction to be negatively related to affective organizational commitment which contradicts previous theoretical (e.g. Deci and Ryan, 2000) and empirical research (e.g. Greguras and Diefendorff, 2009). An explanation might be that employees whose competence satisfaction is high may perceive their labor market worth and/or job alternatives to be high. This might subsequently thwart their commitment to the organization and subsequently increase their intentions to leave the organization. The latter is also supported by a direct positive relationship found between competence satisfaction and turnover intention. Additionally, employees who feel highly competent may experience this as a high input into the organization in terms of investment. Based on equity theory (Adams, 1963), one can argue that these employees will expect more in return from the organization in terms of HR practices than employees who feel less competent. As such, given the same HR practices, employees who feel highly competent may generate less commitment towards the organization.

Secondly, although competence satisfaction was not shown to be a significant mediator, training and mentoring did show a negative relationship with competence satisfaction. One possible explanation for these results might be that employees interpret being assigned training or a mentor as an embarrassment or a sign of incompetence (Suazo *et al.*, 2009), thwarting their competence satisfaction. Also a reversed effect is plausible such that employees experiencing less competence satisfaction are more likely to receive training or be assigned a mentor.

### 5.1 Practical implications

Ryan and Deci (2000) argue that research on the conditions that foster versus undermine basic need satisfaction has practical significance as it may help design

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social environments that optimize people's development, performance, and well-being. Our results indicate that such an environment exists when soft HR practices directed towards development and empowerment are present. However, our findings also suggest that although soft HR practices are meant to manage employees as individuals with their own individual characteristics, in practice employees do not always feel treated as individuals. Consequently, merely implementing soft HR practices does not suffice. Managers should also "walk the talk" and devote attention towards taking into account individual talents, interests and expectations of employees when implementing HR practices in order to achieve higher basic need satisfaction and subsequently HRM outcomes. Organizations may benefit from training HRM actors, such as line managers, into identifying and bearing in mind individual talents, interests, and expectations when administering HR practices. In addition, in both the case of training and mentoring, special care should be given to ensuring that employees do not interpret this practice as a sign of incompetence or as an embarrassment in order to avoid decreased competence satisfaction.

### *5.2 Limitations and future research directions*

This study is not without its limitations. First, although the causal arrows in our model are based on theoretical predictions and previous research findings, drawing conclusive causal conclusions from the results is impossible considering the cross-sectional nature of our data. As such, we want to encourage future longitudinal research to confirm the causal relationships between our focal variables.

Secondly, although we reached a large number of respondents, the procedure used to gather our data (i.e. through a web based survey) may have led to sampling bias which may jeopardize the generalization of our results. The composition of our sample showed that employees younger than 40 and highly educated employees were overrepresented in our sample. While self-determination theory assumes the three basic needs to be universal, it does acknowledge the possibility of differences in need strength (Deci and Ryan, 2000). As such, future research could explore whether, and in what manner the importance of basic need satisfaction may differ across age and education groups and whether and how this might influence the relations between HRM, basic need satisfaction, and outcomes. For example, relatively low educated employees may attach less importance to autonomy in comparison to highly educated employees such that HR practices aiming at autonomy satisfaction may not have the expected effect on the first group compared to the latter. Consequently, the relationships we found may be more typical for highly educated and young employees.

Next, our five HR practices and control variables only manage to explain 5 percent of the variance in competence satisfaction, suggesting that the source of high or low competence satisfaction lies elsewhere. Greguras and Diefendorff (2009) found the demands-abilities fit (D-A fit) – i.e. the perceived match between an employee's skills and abilities and those required to effectively perform one's job – to positively affect competence satisfaction. Consequently, in accordance with the job demands-resources model (Schaufeli and Bakker, 2004), designing a job in such a way that the job demands match an employee's capacities and providing employees with the job resources to tap into and develop their abilities may play an important role in assuring a high D-A fit and thus a high level of competence satisfaction. In other words, job design may play a larger role when it comes to satisfying the need for competence than HR practices. The way

jobs are designed may also affect autonomy (e.g. through the degree of job control) and relatedness (e.g. through the degree of supervisor support) satisfaction. As such, we would encourage future research to focus on both HR practices and job design.

Next, as all our data is gathered from one source – the employee – our research may be susceptible to common method bias. However, to address these issues, we took precautionary measures, both procedural and statistical. First, we used validated measures for most of our variables as measures that have undergone psychometric evaluation are less prone to common method bias (Doty and Glick, 1998). As these measures also have different response formats and both negatively and positively worded items, answering the questionnaire in a pattern is likely to be prevented (Podsakoff *et al.*, 2003). Secondly, we performed a Harman's one-factor test on our six multi-item measures to assess whether there is one general factor present in our data. An EFA resulted in six factors with eigenvalues greater than one. In addition, a CFA in which all items loaded on one factor resulted in a bad fit (CFI = 0.55; TLI = 0.52; RMSEA = 0.14; SRMR = 0.12). As such, no general factor emerged from the data. Finally, following recommendations of Anderson and Gerbing (1988), we found both convergent and discriminant validity to be achieved. First, as a model in which all items loaded on the factor for which they are proposed to be an indicator yielded a good fit to the data and all estimated parameter coefficients were significant, convergent validity was established. Secondly, we assessed discriminant validity by estimating several models in which the correlation between a pair of factors was constrained to 1. As the fits of these constrained models were all considerably worse than the unconstrained model fit ( $\chi^2$  differences ranging from 3224 to 13729), we can conclude discriminant validity to be achieved. We thus conclude that common method bias has not plagued our study substantially. Future research could reduce the risk of common method bias further by for example measuring the independent and dependent variables at different points in time.

Finally, as previously mentioned, Baard (2004) argued that managerial behavior can be a very powerful tool for supporting satisfaction of the basic needs. Yukl *et al.* (2002) suggest that leadership consists of three distinct types of behavior: task behavior, relations behavior and change behavior. As relations behavior is particularly aimed at supporting, developing, recognizing, consulting and empowering subordinates, it seems plausible that this may support subordinates' basic need satisfaction. Recognizing refers to giving praise and showing appreciation to subordinates which may tap into their competence satisfaction, while empowering by delegating and providing more autonomy and discretion to subordinates may affect autonomy satisfaction. As such, we want to encourage future research to consider the immediate supervisor as an important catalyst of basic need satisfaction next to HRM and more importantly within the implementation of HRM. When supervisors implement HR practices but do not support them with the right leadership behavior, the practices may never reach their purpose. For example, when supervisors implement empowering practices such as direct employee participation but do not stimulate – or in worst cases discourage – their employees to actually participate or voice their opinions, the practice may never reach its intended effect.

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