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A new look at the relationships between transformational leadership and employee attitudes—Does a high-performance work system substitute and/or enhance these relationships?

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Abstract

Even while attempting to explain the same outcomes, research on leadership and on human resource management (HRM) have largely progressed on parallel trajectories. We extend recent efforts to bring these fields closer together by testing how employee perceptions of a high-performance work system (HPWS) and transformational leadership (TL), independently and jointly, influence four important employee attitudes. Analyses of 308 subordinates of 76 managers in five multinational companies suggest that a HPWS substitutes for much of the independent influence of TL and constitutes an important boundary condition for some of this influence. Implications for future research on HRM and leadership are discussed.

KEYWORDS

job resources, organizational identification, self-efficacy, substitutes for leadership, turnover intention, work engagement

1 | INTRODUCTION

Scholars in the fields of leadership and HRM share the goal of “developing a better understanding of how to effectively manage people in organizations” (Leroy, Segers, van Dierendonck, & den Hartog, 2018, p. 249). Much valuable research toward this goal has been carried out both in leadership (Avolio, Walumbwa, & Weber, 2009; Hiller, DeChurch, Murase, & Doty, 2011; Hoch, Bommer, Dulebohn, & Wu, 2018) and in HRM (Jackson, Schuler, & Jiang, 2014; Jiang, Lepak, Hu, & Baer, 2012; Jiang & Messersmith, 2017; Markoulli, Lee, Byington, & Felps, 2017; Paauwe, 2009). However, concerns have been raised that the separation of these research streams limits the understanding of effective people management and, therefore, it is important to bring them closer together (Leroy et al., 2018). Similarly, Yukl has argued that leadership theory needs to “bridge the gulf between the leadership and management literatures” (2008, p.709).

One important task of leadership revolves around “energizing organizational constituencies” (Hambrick & Quigley, 2014, p. 476) and “motivating followers and mobilizing resources towards the fulfillment of the organization’s mission” (Antonakis & House, 2014, p. 746). In this view, employee attitudes represent important leadership effectiveness criteria (Hiller et al., 2011). Similarly, HRM is also recognized as an important antecedent to employees’ attitudes (Jiang et al., 2012; Markoulli et al., 2017). However, we have very little understanding of the distinctive and joint roles played by leadership style and the HRM system in influencing employee attitudes, and thus in energizing and mobilizing the human resources. Core questions in this regard concern the potential independence and/or synergy of their respective influence (Leroy et al., 2018).

There are a wide variety of leadership styles, HRM systems, and outcomes at different levels of analysis that could be considered from a joint perspective. The focus of the present study is on how

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transformational leadership (TL) and a high-performance work system (HPWS), jointly and independently, are related to a set of employee attitudes. A focus on TL and HPWS is interesting in that they share much theoretical ground both in extant empirical research (e.g., theories of social exchange, social identification and job demands/resources) and have independently been found to largely promote the same employee outcomes. Further, in Leroy et al.'s (2018) recent values-based conceptualization TL and HPWS are interestingly posited to have partly similar and partly distinct values-based effects on employees. Finally, TL is the leadership style that has dominated the leadership landscape (Antonakis & House, 2014; Arnold, 2017; Ng, 2017). Similarly, HPWS has been the dominant conceptualization in independent research on HRM (Combs, Liu, Hall, & Ketchen, 2006).

Among the "plethora" of theorized intermediate outcomes of TL (Ng, 2017, p. 385; van Knippenberg & Sitkin, 2013), we focus on four employee attitudes: self-efficacy, organizational identification, work engagement and turnover intention. The first two are viewed as core motivational mediators in the most influential theorization of TL's influence (Shamir, House, & Arthur, 1993; van Knippenberg & Sitkin, 2013). Both are also central intermediate outcomes in the more recent theorization and meta-analytical update by Ng (2017), where work engagement complements self-efficacy as another key motivational mechanism of TL. Finally, a central outcome of any attempt to motivate and mobilize human resources is employee turnover intention, with TL having been identified as an important "pull-to-stay force" (Waldman, Carter, & Hom, 2015, p. 1725). All of these outcomes play significant roles also in research on HPWS. Self-efficacy, the sense of being able to perform, is a key aspect of the ability-motivation-opportunity theory central to HPWS (Huselid, 1995; Lepak, Liao, Chung, & Harden, 2006). Engagement, turnover intentions and affective organizational commitment are important intermediate outcomes as evidenced by Markoulli et al. (2017). We note that organizational commitment is closely related to organizational identification (Reade, 2001). Thus, our four focal outcomes represent core aspects of the ideas that both TL and HPWS can motivate, energize and mobilize human resources. In addition, the theories used to explain these outcomes in both fields overlap to significant degrees, as we will show in more detail below.

In sum, TL and HPWS are dominant in their respective research streams, have common goals, share important theoretical ground, the focal outcomes are highly relevant for both, and little is known about their distinct and joint influence on the focal employee attitudes. Against this background, we ask the following important research question: *How do TL and HPWS relate to employees' self-efficacy, work engagement, organizational identification and turnover intention (a) independently and (b) together?*

We examine this research question based on a sample of 308 subordinates to 76 managers in five multinational companies (MNCs), offering the following contributions. First, we develop and test an integrative values-based and resource-based theorization of the independent and joint effects of HPWS and TL on focal attitudes. Thereby, we extend, theoretically and empirically, the emerging research on the simultaneous influence of various leadership styles

and HRM systems (Chuang, Jackson, & Jiang, 2016; Han, Liao, Taylor, & Kim, 2018; Hong, Liao, Raub, & Han, 2016; Jiang, Chuang, & Chiao, 2015; Jo, Aryee, Hsiung, & Guest, 2020; McClean & Collins, 2019; Schopman, Kalshoven, & Boon, 2017; Zhu, Chew, & Spangler, 2005). Based on this overall integrative theorization we first build on leadership substitutes theory (Jermier & Kerr, 1997; Kerr & Jermier, 1978) to test whether HPWS partially substitutes the theorized main effects of TL. We then use our integrative theorization to also test whether the residual (distinct) main effects of TL and HPWS have mutually reinforcing, synergistic interaction effects (Leroy et al., 2018; Yukl, 2008). From a practical perspective, our study can help leaders and HR professionals make evidence-based decisions when investing scarce resources in leadership and HPWS development, respectively. It also helps managers understand the role of HPWS as a tool for leadership.

2 | TL, HPWS AND THE FOCAL EMPLOYEE ATTITUDES – AN OVERVIEW OF EXTANT RESEARCH AND THEORY, AND OUR CONCEPTUAL MODEL

A key research question in extant research on leadership has been how an individual leader can influence followers (Yukl, 2008). Leaders also play an important role in implementing HRM practices (Sikora & Ferris, 2014; Steffensen Jr., Parker Ellen III, Wang, & Ferris, 2019), a challenging and dynamic process in itself (van Mierlo, Bondarouk, & Sanders, 2018). In contrast to research that aims to identify specific leader behaviors that may enhance HRM implementation (Nishii & Paluch, 2018), our primary interest is in the unique and combined influence of TL and HPWS on employee attitudes.

TL involves a set of specific *leader behaviors* whereby leaders inspire and support followers, that is, "by articulating a vision..., [acting] as an appropriate role model..., [fostering] the acceptance of group goal..., [communicating] high performance expectations... [and providing both] individualized concern and intellectual stimulation" (Yang, Zhang, & Tsui, 2010, p. 656–657). Both primary research (e.g., Walumbwa, Avolio, & Zhu, 2008) as well as reviews (Hiller et al., 2011) and meta-analyses (Banks, Gooty, Ross, Williams, & Harrington, 2018; Hoch et al., 2018) testify TL's importance for employee attitudes.

While one is hard-pressed to find much agreement on how to define a HPWS (Boon, Den Hartog, & Lepak, 2019), it is "conceptualized as a set of distinct but interrelated, mutually reinforcing HRM policies and practices, rather than isolated individual HRM practices... to select, develop, retain and motivate a workforce to achieve superior intermediate indicators of firm performance" (Saridakis, Lai, & Cooper, 2017, p. 87). Thus, whereas TL is constituted by specific interpersonal leader-behavior, a HPWS comprises a set of organizational practices. As in the case of TL, both primary research (e.g., Boxall, Ang, & Bartram, 2011; Sels et al., 2006) as well as reviews (Jiang & Messersmith, 2017; Paauwe, 2009) and meta-analyses (Jiang et al., 2012; Saridakis et al., 2017) suggest that HRM systems, and particularly HPWS, are important for employee attitudes.

More specifically, there is extensive evidence for a relationship between TL and *self-efficacy* (e.g., Hannah, Schaubroeck, & Peng, 2016; Kark, Shamir, & Chen, 2003; Ng, 2017; Walumbwa et al., 2008). Research has also identified positive relationships between TL and (work) *engagement* (e.g., Kovjanic, Schuh, & Jonas, 2013; Ng, 2017; Zhu, Avolio, & Walumbwa, 2009), TL and *organizational identification* (for TL, Boehm, Dwertmann, Bruch, & Shamir, 2015; Kark et al., 2003; Ng, 2017; Walumbwa et al., 2008) and, finally, TL and employee *turnover intentions* (Tse, Huang, & Lam, 2013; Waldman et al., 2015). Research on HRM systems, in turn, has also found positive relationships between HPWS and employee *self-efficacy* (e.g., Saksida, Alfes, & Shantz, 2017), *organizational identification* (e.g., Bartram, Karimi, Leggat, & Stanton, 2014), *work engagement* (e.g., Cooke, Cooper, Bartram, Wang, & Mei, 2019) and, finally, employee *turnover intentions* (e.g., Kehoe & Wright, 2013). Table 1 summarizes the partly similar and partly distinct theories used in the above empirical research on TL and HPWS, which we review in more detail in the next section. Table 1 also summarizes how Leroy et al.'s (2018) recent values-based categorization of the effects of leadership and HRM, and the Job Demands-Resource (JD-R) model (Bakker & Demerouti, 2007), offer two frameworks that complement and integrate the more specific theories used in each field.

Leroy et al. (2018) presented a values-based framework of leadership and HRM that maps various leadership styles and HRM systems along two axes representing different motivational outcomes. The framework posits specifically that both TL and HPWS influence *openness to change* and *independence* among employees in about equal degrees. We argue that one example of this effect is self-efficacy. The other axis conceptualizes motivational forces as a continuum from pure *self-enhancement* (i.e., influencing employees' pursuit of personal status and success) to *self-transcendence* (i.e., influencing employees' concern with the wellbeing of others). We claim that self-efficacy and work engagement are examples of self-enhancement effects while organizational identification is an example of self-transcendence effects. Leroy et al. (2018) suggest that HPWS primarily influences the former, self-enhancement, whereas TL more strongly motivates the latter, self-transcendence. While agreeing with this view of the *primary* influence of TL and HPWS we also view Leroy et al.'s (2018) framework as being useful for further theorizing and, indeed, in need of a more detailed connection to existing research on TL and HPWS. As will become clear based on our more detailed review below, we claim that both TL and HPWS are likely to influence both employees' self-enhancement and self-transcendence. Thus, this expanded interpretation of the values-based framework provides one overarching reason to expect that the influence of TL and HPWS may partly overlap in that they both influence three important motivational outcomes, openness to change, self-enhancement and self-transcendence, each exemplified by at least one of our focal attitudes. All of these outcomes, we argue below, are also likely to make employees thrive in the organization and reduce their turnover intentions.

The JD-R model integrates both the more specific theories of TL and HPWS as well as the values-based perspective (Table 1) and has also been applied to research on TL and wellbeing (Arnold, 2017; Nielsen et al., 2017) and HRM and wellbeing (Boxall et al., 2016; Nielsen et al., 2017). In the JD-R model, "job resources refer to those physical,

psychological, social, or organizational aspects of the job that are ... functional in achieving work goals, [or] reduce job demands and the associated physiological and psychological costs, [or] stimulate personal growth, learning, and development" (Bakker & Demerouti, 2007, p. 312). The JD-R model underlines the common nature of TL and HPWS as organizational resources likely to promote personal resources such as self-efficacy and organizational identification (Xanthopoulou et al., 2007), with subsequent impact on work engagement and turnover intentions (Schaufeli & Bakker, 2004). By focusing on resources as the substance of social exchange, the model provides a conceptual superstructure for more detailed elaborations of this exchange in research on HPWS, for example, ability-motivation-opportunity (AMO) theory, and TL, for example self-concept theory and self-determination theory. The JD-R model clarifies the role of both HPWS and TL as influencing the resource-based motivational process among employees (Fernet, Austin, & Vallerand, 2012), and offers a second overall argument for how their respective influence may partly overlap.

In summary, we will argue that while being based on much similar theory, the main difference between TL and HPWS is that TL offers an interpersonal, leader-centric explanation and HPWS offers a more sociological, organizational process-oriented explanation of employee outcomes and organizational behavior (Jermier & Kerr, 1997). This crucial distinction between TL and HPWS, as well as the important commonalities, prompts the question to what extent their effects are independent (unique and/or redundant) and/or potentially synergistic (Leroy et al., 2018). This is a question of the relative importance and potential interaction of management and leadership (Yukl, 2008).

Based on this overview of the common theoretical background of TL and HPWS, we first set out to derive and test the hypothesis that the HPWS partially substitutes the main effects of TL (Jermier & Kerr, 1997) on the focal employee attitudes. This reflects the idea that HRM and leadership style are independent phenomena (Leroy et al., 2018). Second, based on arguments for the synergistic fit of HPWS and TL (Leroy et al., 2018) we derive and test the hypothesis that the HPWS enhances the main effects of TL. Our conceptual model is illustrated in Figure 1.

3 | HYPOTHESIS DEVELOPMENT

In order to justify our hypotheses, we first need to understand in more detail the arguments, in the respective fields, for why both TL and HPWS are likely to be related to each of our focal outcomes. In what follows we therefore describe the key arguments for each effect offered in each field of research.

3.1 | Distinct and overlapping independent main effects of HPWS and TL

3.1.1 | TL and self-efficacy

Extensive evidence (e.g., Hannah et al., 2016; Kark et al., 2003; Ng, 2017; Walumbwa et al., 2008) supports a positive relationship

TABLE 1 Theories applied to TL, HPWS, and the focal outcomes

	Theories used in separated research fields		Unifying values-based framework	Unifying resource-based theory
Outcomes and definitions	HPWS	TL	HPWS and TL	HPWS and TL
Self-efficacy Self-efficacy is defined as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (Bandura, 1986, p. 391).	Ability-motivation-opportunity framework (Saksida et al., 2017; cf. Jiang et al., 2012; Lepak et al., 2006)	Self-concept theory and social identity theory (Hannah et al., 2016; Kark et al., 2003; Walumbwa et al., 2008)	Effects on openness to change and self-enhancement (Leroy et al., 2018)	HPWS and TL as resource providers (Arnold, 2017; Boxall, Guthrie, & Paauwe, 2016; Nielsen et al., 2017). Job-demands-resources model—personal resources (Bakker & Demerouti, 2007; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007)
Organizational identification "Identification occurs when individuals internalize the values and beliefs of the other entity... The person believes that those ideals championed by the target are important for them to pursue too." (Ng, 2017).	Social identification theory (Bartram et al., 2014)	Social identification theory (Boehm et al., 2015; Kark et al., 2003; Walumbwa et al., 2008)	Effects on self-transcendence (Leroy et al., 2018)	
Work engagement Schaufeli and Bakker (2004) defined work engagement as "a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" (p. 295).	Job-demands resource model; social exchange theory (Alfes, Shantz, Truss, & Soane, 2013; Cooke et al., 2019)	Self-determination theory (Kovjanic et al., 2013; Zhu et al., 2009)	Effects on self-enhancement (Leroy et al., 2018)	Resource-based effects (Schaufeli & Bakker, 2004)
Turnover intentions This concept is not defined in any of the work we cite but refers to an employee's intention to leave the organization.	Social exchange theory (Kehoe & Wright, 2013)	Social exchange theory (Tse et al., 2013; Waldman et al., 2015)	Values-based effects (Leroy et al., 2018)	Resource-based effects (Schaufeli & Bakker, 2004)

Abbreviations: HPWS, high-performance work system; TL, transformational leadership.

between TL and employee *self-efficacy*, largely explained based on self-concept theory and social identity theory. Walumbwa et al. (2008) draw on self-concept theory to argue that transformational leaders shift followers' self-concepts towards coping with more challenging tasks by means of positive visions, high performance expectations, showing confidence in their abilities, and giving them regular, adequate feedback. Hannah et al. (2016) add that by having high performance expectations and showing consideration transformational leaders also encourage employees to take

on new challenges and help them learn from these, thus developing new competencies which enhance followers' self-efficacy. Very much in line with the above, Ng (2017) argues that TL influences self-efficacy by intellectually stimulating and inspiring their followers, convincing them of their capability to contribute to organizational goals through encouragement and vicarious learning. All of the above emphasizes the interpersonal role of the leader, and the encouragement, role modeling and vicarious learning provided as part of this.

3.1.2 | HPWS and self-efficacy

Saksida et al. (2017) draw on AMO theory (Jiang et al., 2012; Lepak et al., 2006) to explain how HPWS enhances self-efficacy, most clearly related to the ability and motivational aspects of the influence of HPWS. The *ability* to contribute to the organization is enhanced by recruitment, selection and training that directly shapes employees' knowledge and skills, increasing their confidence in being able to perform, that is, their self-efficacy. Employees' *motivation* is significantly driven by individual and group performance-related pay which improves self-efficacious effort, and thus over time self-efficacy. Saksida and colleagues' empirical focus on volunteers highlights partly different issues than for regular employees, but overall, their research supports the argument that HPWS contributes to employees' self-efficacy. For example, they link training directly to self-efficacy by arguing that it "increases volunteers' confidence in their ability to perform their role" (2017, p. 2067). These considerations are further strengthened by two notions that are core to HPWS although not discussed in Saksida et al. (2017) that there are synergy effects between practices (Subramony, 2009), and that practices primarily conceived to enhance skills or motivate are also likely to attract competent people and enhance their opportunities to perform, fostering psychological empowerment (Ehrnrooth & Björkman, 2012) which is closely related to self-efficacy.

In sum, with regard to self-efficacy, there seems to be some agreement between TL and HPWS on the importance of supporting employees in developing their own skills and competences, thereby increasing their confidence in being able to do their job. They differ in that in the case of TL key reference is made to the specific TL behaviors that influence employees' self-concept, helping them to learn and grow and providing them with opportunities to do so. The argumentation in the HPWS literature focuses on concrete practices affecting employee ability, motivation and opportunities, influencing their initial competence and helping them to grow and learn. We note that the effect on self-efficacy of both HPWS and TL is a good example of their resource-based effects (Schaufeli & Bakker, 2004). It also exemplifies a values-based *self-enhancement-effect* of both HPWS and TL, that is, increasing employees' ability to pursue "status and success" in the eyes of the leader and the organization. In addition, we posit that self-efficacy exemplifies an effect of both HPWS and TL on *openness to change* in the form of "independence and readiness to change" (Leroy et al., 2018, p. 250–251).

3.1.3 | TL and organizational identification

Much research has found TL positively related to organizational identification (Boehm et al., 2015; Kark et al., 2003; Ng, 2017; Walumbwa et al., 2008). This has been explained with arguments mainly based on theories of social identity, the idea that followers identify socially with inspiring leaders who set a personal example and appear to be symbolic of an organization, also making their followers want to identify with its values (Hannah et al., 2016; Ng, 2017). Explanations advanced

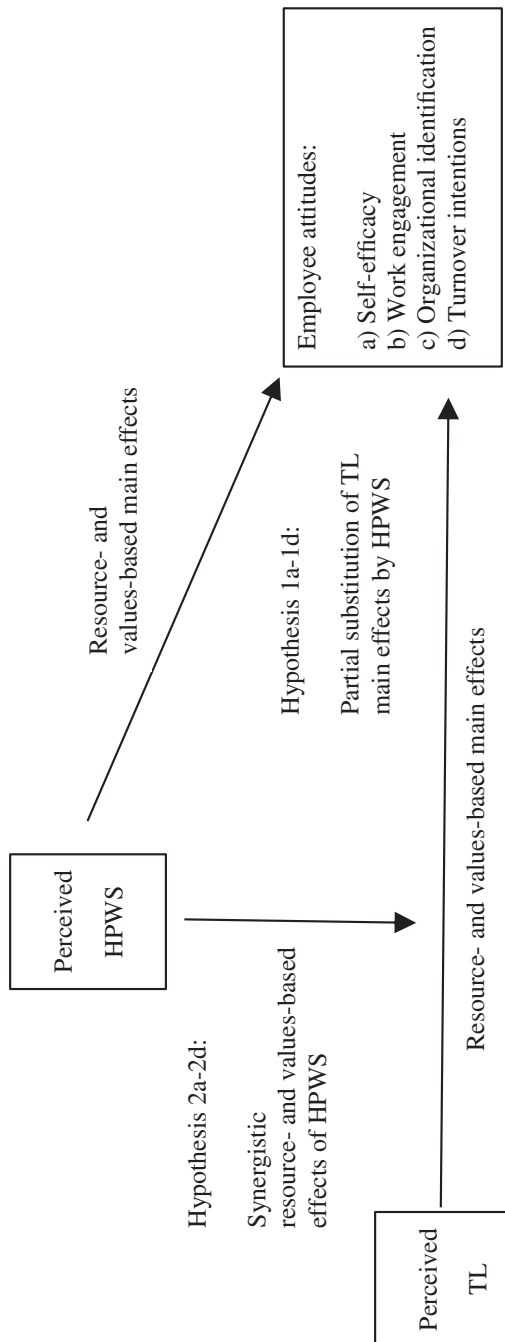


FIGURE 1 Theoretical model. HPWS, high-performance work system; TL, transformational leadership

for the mechanisms behind this process include an increased sense of self-worth among followers (Walumbwa et al., 2008), an important personal resource (Bakker & Demerouti, 2007), and social persuasion to the effect that the organization's values "are important and can contribute to followers' own role performance and to the effectiveness and maintenance of the group" (Hannah et al., 2016, p. 254).

3.1.4 | HPWS and organizational identification

Bartram et al. (2014) argue that HPWS can have a positive impact on the social identity of employees and strengthen their identification with organizational values (2014:2404). For example, selective hiring may engender social identification by improving overall levels of person-organization fit. Employment security can encourage employees to develop a long-term view of their relationship with the organization and thereby promote organizational identification. Extensive training may "enhance communication, cohesion and coordination of activities" helping employees to develop shared understandings and thereby foster organizational identification. Viewing HPWS as an employer investment in employees, the relationship between HPWS and values-based organizational identification can more generally be explained by a resource-based form of social exchange which not only makes it more likely that an employee "develop[s] an affective bond with the organization itself" (Kehoe & Wright, 2013, p. 372) but also "shares the values and goals of his or her employing organization" (Reade, 2001, p. 409).

In sum, with regard to organizational identification, the extant literature on both TL and HPWS draws their arguments from theories of social identity and identification (Ashforth, Harrison, & Corley, 2008). However, in the case of TL the primary conduit of identification is an admired leader who symbolizes the organization, whereas in the case of HPWS the primary conduit of identification is the organizational practices that constitute the HPWS. Organizational identification exemplifies not only another resource-based effect of both TL and HPWS, it also exemplifies the suggested effect of both TL and HPWS on employees' *self-transcendence* (cf. Leroy et al., 2018).

3.1.5 | TL and work engagement

Several studies have found TL positively related to work engagement (e.g., Kovjanic et al., 2013; Ng, 2017; Zhu et al., 2009) explained largely based on psychological processes related to self-determination theory, closely linked to the JD-R model (Fernet et al., 2012). Also Ng (2017) summarizes TL's influence on work engagement in resource-based terms, as a process of enriching or expanding the resources that enable work engagement. Psychological or spiritual resources are expanded by making followers feel that organizational goals are exciting and worth pursuing, which gives them energy and "strengthens their psychological capacity to handle different task demands" (2017:389). Tangible resources are expanded based on the individualized consideration of followers and what is important for them by making sure that they have "practical and useful means to achieve their work, career, and personal goals" (ibid.).

3.1.6 | HPWS and work engagement

Alfes et al. (2013) use social exchange theory to argue why a set of perceived HRM practices may promote work engagement. The mechanism they suggest is that the HRM practices in question signal investment and support on the part of the employer, making employees feel valued and trusted, which in turn is an antecedent of work engagement. This social exchange-based effect is likely also in the specific case of HPWS (Kehoe & Wright, 2013). Alfes et al. (2013) also build on the JD-R theory, as do Cooke et al. (2019) who focus explicitly on HPWS, and based on our earlier arguments on how HPWS influences the personal resources of self-efficacy and identification, as well as resilience as per Cooke et al. (2019), we note that JD-R theory would also predict HPWS to foster work engagement (Schaufeli & Bakker, 2004).

In sum, on the surface extant research differs somewhat when it comes to theories that can explain how TL and HPWS are linked to work engagement (self-determination versus social exchange theory). However, both explanations have a resource-based foundation. Again, the literature on TL emphasizes direct provision of personal resources by the specific inspirational, stimulating and considerate TL behaviors grounded in their socio-cognitive effects (Ng, 2017; Shamir et al., 1993). The literature on HPWS suggests that the system of practices creates personal resources that enable work engagement to occur (Cooke et al., 2019). Thus, work engagement is again a good example of both a resource-based effect (Schaufeli & Bakker, 2004) and a values-based *self-enhancement-effect* (Leroy et al., 2018) of both TL and HPWS.

3.1.7 | TL and turnover intentions

Research has related TL to employee *turnover intentions* and explained this relationship based on social exchange theory (Tse et al., 2013; Waldman et al., 2015). Tse et al. (2013) argue that turnover intentions are governed by two social exchange mechanisms, leader-member exchange (LMX) and affective commitment. Since affective commitment is closely related to organizational identification as already discussed above, we focus on LMX, defined as "an individual's perception of the quality of the dyadic relationship he/she develops with his/her [supervisor]." LMX influences turnover intentions so that transformational leaders, through charismatic appeal and individualized consideration, arouse emotional attachment that enables them to "induce employee staying [and] develop a strong personalized exchange relationship with their employees" (2013, p. 764).

3.1.8 | HPWS and turnover intention

Kehoe and Wright (2013) draw on social exchange theory to explain how HPWS causes employees to perceive an exchange relationship in which the organization supports them and they in turn feel "an obligation to the organization's goals and so develop an affective bond with [it]" (2013, p. 372). Kehoe and Wright (2013) also express this affective bond as affective commitment and argue that the extent of this

commitment mediates employees' intention to stay with the organization.

In sum, in the extant literature turnover intentions are primarily explained by TL and HPWS based on the same theoretical mechanism, namely social exchange. However, the difference is again that in TL the relevant partner in the social exchange is the leader, whereas in HPWS, it is the system of organizational practices. To the above social exchange-based explanations we would add that all the arguments related to the effects of TL and HPWS on self-efficacy, organizational identification and work engagement are also likely to contribute to a negative relationship between both TL and HPWS with turnover intentions.

Our review has shown that TL and HPWS share many theoretical mechanisms in their effects (Table 1). JD-R integrates the more detailed theoretical arguments by making clear that both TL and HPWS are fundamentally social support-related resource providers and that this resource provision represents an important part of their effects. Further, TL and HPWS also share values-based effects: both foster employees' independence and an openness to change, in our study exemplified by self-efficacy. Both also foster employees' self-enhancement, in our study exemplified by both self-efficacy and work engagement. Finally, both foster self-transcendence, in our case exemplified by organizational identification. This suggests that the effects of TL and HPWS, while hitherto theorized and examined in siloed research streams, may partly overlap when considered together. Their distinctiveness largely rests on the purely interpersonal, leader-centric nature of TL behavior versus the more sociological, social practice-based nature of HPWS (Jermier & Kerr, 1997). In other words, TL is differentiated from "traditional management or administration of impersonal systems [e.g., HPWS]" by "the cognitive and affective relationship between leader and organizational members" (Zhu et al., 2005:40). While HPWS is also at least partly implemented by the same leader exhibiting more or less TL, its differentiating feature is still the concrete practices of selection, training, performance appraisal, reward practices, job descriptions, career opportunities and job security policies.

3.2 | HPWS as a substitute of the main effects of TL

Clearly, employees may be guided, helped and influenced by both parties (Leroy et al., 2018), transformational leaders and the HPWS. To understand how this dual influence is likely to play out, we first draw on leadership substitutes theory (Kerr & Jermier, 1978). Kerr and Jermier (1978) originally identified three categories of variables as potential substitutes for leadership: subordinate, task and organizational characteristics. While in research on leadership substitutes "[t]he conventional model posits that substitutes moderate the leader behavior–outcome relationship" (Dionne, Yammarino, Atwater, & James, 2002:455), substitutes can also be defined as variables that "are directly linked to follower outcomes" that could make leadership more or less redundant (Nübold, Muck, & Maier, 2013, p. 32). In fact,

Jermier and Kerr (1997:98) have argued that "it is the main effects [of substitutes] that deserve our attention" because they challenge "the view that interpersonal leadership should be seen as the primary theoretical category" of leadership, which was in fact part of the original, neglected, argument in Kerr and Jermier (1978). HPWS clearly represents a more sociological counterpoint to TL's purely interpersonal explanation of organizational behavior, and as such may act as a substitute for some of the main effects of TL.

Podsakoff, Niehoff, MacKenzie, and Williams (1993) found that many substitutes accounted for more variance in the criterion variable than did the leadership behaviors. However, they examined a wide range of discrete HPWS-related substitutes, such as organizational reward practices, feedback practices, job descriptions and performance appraisal, and concluded that it was "difficult to discern a pattern for the main effects" (Podsakoff et al., 1993, p. 38). Specifically concerning TL, Podsakoff, MacKenzie, and Bommer (1996) concluded that "to ignore the substitutes variables ...would lead to biased parameter estimates of the effects of these leader behaviors [and] that much of what we know about the impact of transformational leadership on employee attitudes, perceptions, and performance may be subject to qualification." (1996, p. 295). In the present study we argue that HPWS is likely to represent a contextual substitute of sufficient theoretical scope to allow us to discern a clearer pattern and arrive at less biased estimates for the independent main effects not only of TL, but also of HPWS.

Based on all of the above, both the theoretical overlaps and the distinctiveness of TL and HPWS, and in line with the basic proposition of leadership substitutes theory (Jermier & Kerr, 1997), we would expect that HPWS may partially substitute the main effects attributable to TL when the latter is considered alone. This yields our first set of hypotheses:

Hypothesis 1a *Accounting for HPWS significantly reduces the relationship between TL and self-efficacy.*

Hypothesis 1b *Accounting for HPWS significantly reduces the relationship between TL and work engagement.*

Hypothesis 1c *Accounting for HPWS significantly reduces the relationship between TL and organizational identification.*

Hypothesis 1d *Accounting for HPWS significantly reduces the relationship between TL and turnover intentions.*

3.3 | Synergistic fit: HPWS As an enhancer of the influence of TL

In addition to HPWS providing a partial substitute for the *main effects* normally attributed to TL, it may also be that the expected residual (unique) positive effect of TL "is enhanced by relevant programs, systems, and structural forms" (Yukl, 2008, p. 713). As is evident from this quote, the extent to which such positive interaction effects occur

depends on the relevant alignment of the leadership style and the management system in question.

We first note that due to their theoretically expected residual unique effects, as discussed above, there is no reason to expect an interaction effect such that HPWS will make TL either unnecessary or impossible (Podsakoff et al., 1993, p. 2). On the contrary, we will argue that HPWS and TL will have positive synergistic effects such that HPWS will enhance the effects of TL and that these enhancing interaction effects are based on both values- and resource-based mechanisms.

Leroy et al. identify two forms of synergistic effects, one arising from supplementary fit and one from complementary fit of leadership style and HRM. The more leaders and HRM systems are “aligned in their underlying values” (2018, p. 253), the more synergistic supplementary fit there is likely to be as the interpersonal and practice dimensions reinforce each other to communicate the same messages. They also suggest that leadership and HRM can have complementary values-based effects such that although driving different values, these can combine to produce better outcomes. Leroy et al.'s (2018) framework specifically suggests that TL and HPWS are likely to have values-based interaction effects that are both supplementary (on independence and openness to change) and complementary (HPWS on self-enhancement and TL on self-transcendence). Above we have questioned the rigor of the latter distinction, arguing that *both* TL and HPWS will influence *both* self enhancement and self-transcendence. This implies that TL and HPWS are largely aligned in their values-based effects and are thus likely to have powerful supplementary synergistic effects on employees' openness to change (self-efficacy), self-enhancement (self-efficacy and work engagement) and self-transcendence (organizational identification). We argue more generally that the fostering of both self-enhancement and self-transcendence is not contradictory but, on the contrary, employees thrive in contexts that foster both, thus overall reducing their turnover intentions. Thus, even if there are specific differential effects of HPWS and TL on self-enhancement and self-transcendence (Leroy et al., 2018), these are likely to exemplify an important form of synergistic complementary fit.

We also add that the resource-based effects of TL and HPWS are likely to create synergistic effects on all our outcomes as follows: as per our first set of hypotheses the HPWS helps the organization to select, develop, motivate and retain competent employees who are already more likely to be self-efficacious, engaged and identify with the values of the firm as embedded in the HPWS. The higher this “foundational” HPWS effect is, the more receptive employees are likely to be to TL's additional purely interpersonal stimulation, challenge, consideration and high-performance expectations.

We note that both the values-based and the resource-based logics also apply the other way around. The higher the level of TL is, the more its well-aligned interpersonal behaviors can amplify the values- and resource-based effects of HPWS, thus increasing the effectiveness of the latter. For example, interpersonal considerate behavior can support and enhance the values embedded in the job security provided by the HPWS, and interpersonal intellectual stimulation and inspirational motivation can boost the effects not only of incentive pay and performance appraisals but also the effects of

careful selection and training. With respect to other instances of congruent combinations of leadership and HRM system, see Jo et al. (2020) and McClean and Collins (2019) for similar arguments about leadership enhancing the resources provided and the messages sent by the HRM system.

However, considering arguments that the context influences leadership (Shamir, 2013), that organizational systems are an important part of that context (Oc, 2018), and that HPWS is a good example of an organizational system that is likely to improve the conditions for empowering but challenging interpersonal TL behavior as being effective, we posit the following hypotheses:

Hypothesis 2a *HPWS moderates the positive relationship between TL and self-efficacy such that the relationship becomes stronger as HPWS increases.*

Hypothesis 2b *HPWS moderates the positive relationship between TL and work engagement such that the relationship becomes stronger as HPWS increases.*

Hypothesis 2c *HPWS moderates the positive relationship between TL and organizational identification such that the relationship becomes stronger as HPWS increases.*

Hypothesis 2d *HPWS moderates the negative relationship between TL and turnover intentions such that the relationship becomes stronger as HPWS increases.*

4 | METHODS

4.1 | Sample

The study is based on data obtained from Finnish MNCs. We approached MNCs that had participated in leadership development programs at the business school we represent and/or were its partner organizations. We stopped the recruiting process when five firms had signed up for the project. They represented five different industries: construction, alimentation, mechanical engineering, metal, and financial services. Having been granted access to a number of domestic units in these firms and obtained the email addresses of 483 participating subordinate employees, data collection was carried out with an online questionnaire. We received responses from 308 employees (response rate 64%) representing subordinates of managers heading 76 units (average number of responding employees per unit: 4.1). The average age of respondents was 44 years, 66% of them were male, and their average tenure under the same manager was 2.71 years.

4.2 | Measures

Except for employee gender, age and tenure (see “Control variables” below), most survey items were scored on Likert scales ranging from

1 (strongly disagree) to 5 (strongly agree). Items concerning turnover intentions and employee engagement were assessed using scales 1 (never) to 5 (always). As our survey was carried out within a large-scale collaborative international research project, we reduced several measurement instruments to make room for as many desirable constructs as deemed possible. We were however careful in any abbreviations we made and also consider their consequences in a separate subsection in the Results section below.

4.2.1 | Independent variables

HPWS. To measure perceived HPWS we adapted and abbreviated Sun, Aryee, and Law's (2007) initially validated 27-item measurement instrument, which covers eight high performance human resource practices. We included all two-item measures of individual practices. To measure the practices for which Sun et al. (2007) used more items, we generally included their two or three best loading ones. We made one exception to the above in that we entirely replaced their measure of performance appraisal. Based on previous research (Sumelius, Björkman, Ehnrooth, Mäkelä, & Smale, 2014) performance evaluation against "objective quantifiable results" (Sun et al., 2007, p. 576) is likely to be rare in the case of white-collar office workers from various functions in diverse organizations. In line with this we searched for two alternative performance appraisal items, most similar to the two best loading ones in Sun et al. (2007) but which more adequately would reflect the expectation that considerable judgment goes into performance evaluation. We found two such items in Lepak and Snell (2002) which also have the arguable strength of tapping into evaluation of both quantity and quality of employee output. We also complemented the instrument with one other item from Lepak and Snell (2002) measuring the relative level of pay based on the fact that such a measure has been included in many HPWS measurement instruments (e.g., Kehoe & Wright, 2013). Finally, although we also measured employee participation (Sun et al., 2007), since one of the best loading items refers directly to leadership behavior we removed this dimension for the purposes of keeping the HPWS construct clearly distinct from leadership behavior. These procedures resulted in an integrative 17-item scale of HPWS, consistent with organizational practice (Lepak & Snell, 2002) and extant research (Pak & Kim, 2018; Sun et al., 2007). All items are exhibited in Appendix 1. Below we validate the scale and include a separate sub-section where we consider our constructs against the background of known dangers of reducing items in original measurement instruments (Smith, McCarthy, & Anderson, 2000; Stanton, Sinar, Balzer, & Smith, 2002).

Transformational leadership was measured with an abbreviated version of one of the two best-established TL measures, a measurement instrument originally validated by Podsakoff, MacKenzie, Moorman, and Fetter (1990) and replicated by Podsakoff et al. (1996). These early versions of the measurement instrument included six dimensions. They were later merged into four dimensions and a 14-

item measurement instrument (Kirkman, Chen, Farh, Chen, & Lowe, 2009; MacKenzie, Podsakoff, & Rich, 2001). To select the specific set of items for the present study we went back to the original measurement instrument (Podsakoff et al., 1990; Podsakoff et al., 1996) and used the consistently best loadings items in these two validations, three items for "core TL behaviors," the most complex dimension in the later four dimensional version of this construct, and two items each for "high performance expectations" and "intellectual stimulation." The only inconsistencies across the two original studies concerned the items for the dimension "individualized consideration." Thus, to measure this dimension we used the two best loading items in MacKenzie et al. (2001), one of which was also the best loading item in the original study by Podsakoff et al. (1990). These procedures resulted in a 9-item measure of TL closely corresponding to the 14-item measurement instrument (Kirkman et al., 2009; MacKenzie et al., 2001), but one that is also true to the most consistent parts of the two original validations of the construct. We refer the reader to Supplement 1 for all items included and their references. Below, we provide important additional evidence of the validity of our reduced measurement instrument.

4.2.2 | Dependent variables

Work engagement. This was measured using an abbreviated nine-item measure taken from Schaufeli, Bakker, and Salanova (2006) based on best factor loadings for each dimension to preserve overall domain coverage (Stanton et al., 2002). Sample items were: for the vigor dimension, "At my work, I feel bursting with energy"; for the work dedication dimension, "I am enthusiastic about my job"; and for the work absorption dimension, "I feel happy when I am working intensely." Cronbach's alpha was 0.88.

Task related self-efficacy was measured using the four best loading items in Riggs, Warka, Babasa, Betancourt, and Hooker (1994), excluding the negatively worded or reverse coded ones. A sample item was: "I have confidence in my ability to do my job." Cronbach's alpha was 0.85.

Organizational identification was measured using the three best-loading items in Reade's (2001) measure of values-based identification. A sample item was: "My values and the values of the organization that I work for are the same." Cronbach's alpha was 0.82.

Turnover intention was measured using a three-item measure adopted from Rusbult, Farrell, Rogers, and Mainous III (1988). A sample item was: "I often think about quitting." Cronbach's alpha was 0.83.

4.2.3 | Control variables

Based on previous research, we controlled for respondent gender (male = 0 and female = 1), age, tenure under the same supervisor (in years) and industry (1 = Banking and finance, 2 = Construction, 3 = Food processing, 4 = Metal engineering, and 5 = Chemical industry).

4.3 | Analyses

Our data was hierarchical in nature, with employees nested within teams. In order to acknowledge within-team dependencies we tested our hypotheses with multilevel models (Aguinis & Edwards, 2014). To facilitate interpretation, all the studied variables were standardized.

Our hypotheses were examined with multilevel regression analyses using random-intercept models in Stata (version 14). The regression analyses were conducted in four steps for each of the outcome variables. First, TL was entered into the analyses; next, HPWS was entered; third, HPWS and TL were entered simultaneously; and fourth, the interaction term between HPWS and TL was entered into the analyses together with the main effects. Steps 1–3 tested Hypotheses 1a–1d and Step 4 tested Hypotheses 2a–2d.

In order to examine the relative importance of the predictor variables, pertaining to Hypotheses 1a–1d, we calculated the Pratt Index as suggested by Liu, Zumbo, and Wu (2014). The Pratt Index is calculated as the product of the standardized regression coefficient and the Pearson correlation, divided by the total R^2 (Liu et al., 2014). The Pratt Index denotes how much each predictor contributes to the explained variance in the outcome variable orthogonally (Liu et al., 2014). We calculated the Pratt Index from Step 3 in the multilevel regression analyses.

5 | RESULTS

Table 2 exhibits the descriptive statistics and correlations of all constructs, including the ICC_1 values and reliabilities of the main study constructs. The reliabilities in the diagonal show that each main construct has an acceptable degree of internal consistency reliability. Correlations between the study variables are similar in direction and magnitude to correlations obtained in prior siloed research on TL and HRM as reviewed above. Although the values for the intra-class correlations (ICC_1) are relatively small, they are all statistically significant. The variance inflation factor was 2.30 for HPWS and 1.72 for TL. The tolerance level was 0.43 and 0.58 for HPWS and TL, respectively.

5.1 | Measurement model

We examined the construct validity of our measurement model using multilevel confirmatory factor analysis (CFA) in Mplus version 8.1 (Muthén & Muthén, 2017). Goodness of fit for the CFAs was determined based on the Comparative Fit Index (CFI) and the Root Mean Square Error of Approximation (RMSEA) index. RMSEA is not affected by model complexity and CFI is independent of sample size (Cheung & Rensvold, 2002). CFI values above .90 and RMSEA values below .08 indicate adequate fit, whereas CFI values above 0.95 and RMSEA values below .05 indicate good fit. We used the χ^2 difference test to compare the competing models. The theoretically most correct model, with 3-s order factors (TL, HPWS and work engagement) and three first order factors (self-efficacy, identification and turnover intention)

showed good fit to the data ($\chi^2 = 1,313.73$, $df = 916$, CFI = 0.93, RMSEA = 0.04). This model was compared to a model with 2-s order factors (one for TL and HPWS combined and one for engagement; $p[\chi^2_{diff}] < .001$, $\chi^2 = 1,393.10$, $df = 921$, CFI = 0.92, RMSEA = 0.04), a model with six first order factors (TL, HPWS, engagement, self-efficacy, identification and turnover intention; $p[\chi^2_{diff}] < .001$, $\chi^2 = 2,045.10$, $df = 930$, CFI = 0.81, RMSEA = 0.06) and a model with only one first-order factor (all variables; $p[\chi^2_{diff}] < .001$, $\chi^2 = 3,883.53$, $df = 945$, CFI = 0.50, RMSEA = 0.10). These results show that our measures adequately capture distinct constructs.

5.2 | The internal and external validity of our abbreviated measures

As we used reduced measurement scales for our key constructs, we examined their validity in some further detail. Important criteria for abbreviated scales are “internal, external, and judgmental” qualities of the construct (Stanton et al., 2002, p. 169). The criteria for the internal qualities reflect several potential problems of abbreviated scales, importantly including “factor structure problems... [and] narrow measurement of the construct...” (Stanton et al., 2002, p. 171). The CFAs above suggest that we avoided factor structure problems. To avoid narrow measurement of constructs one should “adequately sample content from all parts of the construct domain” (Stanton et al., 2002, p. 171), the importance of which is echoed by (Smith et al., 2000). Not only did we include items from all dimensions of our constructs (an objective criterion), we also arguably adequately covered the construct domain within each dimension, the latter being a judgmental quality (Stanton et al., 2002). Further, and very importantly, the external qualities (Smith et al., 2000; Stanton et al., 2002) of our constructs appear satisfactory as the bivariate correlations in our data compare well with those in previous research in particular with reference to the shorter scale of TL. For example, the mean correlation between TL and work engagement based on the meta-analysis by Hoch et al. (2018) was 0.44, compared to 0.41 in our study. The mean correlation between TL and turnover intention in Banks et al. (2018) was -0.31 , compared to -0.38 in our study. The correlations between TL and organizational value identification (0.33) and self-efficacy (0.19) also compare well with those in Hannah et al. (2016), which were 0.31 and 0.16 respectively at Time 3 of their measurement. This suggests that we have been able to avoid many of the potential dangers of scale reductions (Smith et al., 2000). “The overarching goal of any scale reduction project should be to closely replicate the pattern of relations established within the construct’s nomological network...” (Stanton et al., 2002, p. 172). The above considerations provide considerable support for the adequacy of our abbreviated measures.

5.3 | Common method variance

To investigate the presence of common method variance (CMV) in our model we used the six-factor measurement model and the

unmeasured latent method construct (ULMC) approach (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Because of identification problems, we restricted all item loadings on the ULMC to be equal, the correlations between the ULMC and the other latent factors to be zero, and the variance of the ULMC to be 1. The significance of the factor loadings was examined both with and without the ULMC in the model in order to determine if the ULMC had an effect on the parameters (Podsakoff et al., 2003). There were minimal differences (<0.001) in the factor loadings between the model with the CMV factor and without it. In addition, the model fit did not improve significantly when adding the CMV factor ($\Delta\chi^2 = 1.43$, $\Delta CFI = 0.00$, $\Delta RMSEA = 0.00$). This shows that our model is at least not contaminated by an ULMC (Williams, Cote, & Buckley, 1989) and therefore we excluded it in our main analyses. However, the above does not rule out the presence of CMV as all available post hoc statistical remedies for its detection have been criticized (Richardson, Simmering, & Sturman, 2009). Therefore, it is relevant to consider the implications of its possible presence in this study, but it is not a major concern as we are mainly examining the *relative importance* and *interaction effects* of our two independent variables. We return to this issue in the Limitations section.

5.4 | Multilevel regression and moderation analyses

The results of the multilevel regression and moderation analyses are in Table 3. As for our first set of Hypotheses 1a–1d, the multilevel regression analyses (Table 3) show that accounting for HPWS significantly reduced the independent association between TL and engagement (Step 1: $\beta = 0.43$, $p < .001$; Step 3: $\beta = 0.21$, $p < .01$; $z[\text{difference}] = 2.50$, $p = .006$), TL and organizational identification (Step 1: $\beta = 0.36$, $p < .001$; Step 3: $\beta = 0.07$, $p > .05$; $z[\text{difference}] = 3.46$, $p < .001$), and TL and turnover intentions (Step 1:

$\beta = -0.41$, $p < .001$; Step 3: $\beta = -0.12$, $p > .05$; $z[\text{difference}] = -3.46$, $p < .001$). For self-efficacy, the association was also reduced when HPWS was added into the analyses, but the reduction was not statistically significant at the .05 threshold (Step 1: $\beta = 0.21$, $p < .001$; Step 3: $\beta = 0.07$, $p > .05$; $z[\text{difference}] = 1.49$, $p = .068$).

Calculation of the Pratt Index showed that HPWS accounted for 78.57% of the explained variance in self-efficacy, 65.17% in engagement, 92.44% in organizational identification, and 85.43% in turnover intentions. These results support Hypotheses 1a–1d but also, surprisingly, suggest mostly stronger than partial substitution of the main effects of TL.

Lending partial support to Hypotheses 2a and 2c, there was a significant interaction between HPWS and TL for self-efficacy ($\beta = 0.13$, $p < .01$) and for organizational identification ($\beta = 0.09$, $p < .05$). The simple slopes are plotted in Figure 2. The interactions indicate that for employees who perceive high HPWS (i.e., +1 SD), TL is positively associated with self-efficacy ($\beta = 0.24$, $p = .012$) and organizational identification ($\beta = 0.19$, $p = .019$), while for employees who perceive low HPWS (i.e., -1 SD), TL is not related to either (self-efficacy: $\beta = -0.02$, $p = .820$; organizational identification: $\beta = 0.00$, $p = .981$). Examination of the critical values of the simple slopes showed that the interaction effect of HPWS fell below the common significance threshold of $p = .05$ at +0.35 SD for self-efficacy ($\beta = 0.16$, $p = .048$) and +0.45 SD for organizational identification ($\beta = 0.14$, $p = .046$). This shows that even small increases in HPWS have a significant (positive) effect on the association between TL and these outcomes. However, the support for Hypotheses 2a and 2c is only partial in that we did not find that HPWS enhances an independent positive relationship between TL and self-efficacy/organizational identification. Rather we found that HPWS functions as a boundary condition for these TL-attitude relationships. We found no support for Hypotheses 2b and 2d.

TABLE 2 Means, standard deviations, ICC₁, correlations and Cronbach's alpha values of study variables

Variable	M (SD)	ICC	1	2	3	4	5	6	7	8	9
1. HPWS	56.03 (9.56)	0.18	<i>0.85</i>								
2. TL	30.73 (6.35)	0.19	0.63**	<i>0.88</i>							
3. Self-efficacy	16.83 (2.35)	0.11	0.25**	0.19**	<i>0.85</i>						
4. Organizational identification	11.30 (2.30)	0.19	0.52**	0.33**	0.37**	<i>0.82</i>					
5. Engagement	32.91 (5.83)	0.09	0.46**	0.41**	0.51**	0.49**	<i>0.88</i>				
6. Turnover intentions	5.50 (2.98)	0.09	-0.52**	-0.38**	-0.07	-0.34**	-0.31**	<i>0.83</i>			
7. Gender	0.34 (0.48)	-	-0.02	-0.07	-0.08	0.05	0.01	0.04	-		
8. Age	43.71 (10.10)	-	-0.00	-0.10	0.08	0.02	0.02	-0.18*	-0.10	-	
9. Tenure	2.71 (3.00)	-	0.02	-0.03	-0.09	-0.05	-0.06	0.01	-0.01	0.16*	-

Notes: Cronbach's alpha values are in italics in the diagonal.

Abbreviations: ICC, intraclass correlation; HPWS, high-performance work system; TL, transformational leadership.

Gender coded 0 for "male" and 1 for "female."

* $p < .01$.

** $p < .001$.

TABLE 3 Results from the multilevel regression and moderation analyses

	Self-efficacy			Engagement			Organizational identification			Turnover intentions		
	Estimate	SE	R ²	Estimate	SE	R ²	Estimate	SE	R ²	Estimate	SE	R ²
Step 1			0.06			0.19			0.18			0.21
TL	0.21***	0.06		0.43***	0.05		0.36***	0.05		−0.41***	0.05	
Step 2			0.09			0.22			0.30			0.31
HPWS	0.26***	0.06		0.47***	0.05		0.49***	0.05		−0.52***	0.05	
Step 3			0.09			0.25			0.31			0.32
TL	0.07	0.07		0.21**	0.07		0.07	0.06		−0.12	0.06	
HPWS	0.22**	0.07		0.33***	0.07		0.45***	0.06		−0.44***	0.06	
Step 4			0.11			0.25			0.32			0.32
HPWS	0.24***	0.07		0.34***	0.07		0.46***	0.06		−0.44***	0.06	
TL	0.12	0.07		0.24***	0.07		0.10	0.07		−0.12	0.07	
Interaction term (HPWS*TL)	0.13**	0.05		0.08	0.04		0.09*	0.04		0.02	0.04	

Notes: Control variables were gender, age, tenure (under same supervisor), and industry.

Abbreviations: HPWS, high-performance work system; TL, transformational leadership.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

6 | DISCUSSION

The starting point of this research was the fact that we know very little about the impact of leadership style on employee attitudes when accounting for HPWS, and vice versa. We thus set out to “bridge the gulf between leadership and management theories [such as HPWS]” (Yukl, 2008, p. 709; Leroy et al., 2018) by addressing the research question: *How do TL and HPWS relate to employees' self-efficacy, work engagement, organizational identification and turnover intention (a) independently and (b) together?*

Consistent with the extant research on TL as reviewed above, we find that that TL's strong association with this study's outcomes holds so long as HPWS is disregarded. However, all associations of TL are significantly weakened once HPWS is accounted for. Independent of HPWS, TL is directly related to only one of four examined employee attitudes, that is, work engagement. On the other hand, independent of TL, HPWS is strongly related to all of the examined attitudes, and these relationships are only marginally reduced when TL is accounted for.

6.1 | Contributions with respect to the focal attitudinal outcomes

Our evidence calls into question some of the core assumptions of TL's effect on turnover intention (Banks et al., 2018; Hiller et al., 2011; and as reviewed above) in that we found *no* relationship between TL and turnover intention once we accounted for HPWS. This suggests that the adage that “people do not leave organizations, they leave bosses” (cf. Reina, Rogers, Peterson, Byron, & Hom, 2018) may be an

attributional error due to the attraction of the leadership concept as an explanatory variable and the salience of cases in which people have indeed left their organizations due to their bosses (Pfeffer & Sutton, 2006).

Our evidence also raises questions regarding the relative magnitude of TL's importance for work engagement (Hoch et al., 2018; Ng, 2017) in that the independent relationship between TL and work engagement was still significant, but reduced by about 50%, when HPWS was accounted for. This suggests that prior evidence of the relationship between TL and work engagement may be biased in the sense discussed by Podsakoff et al. (1996) and that it is important to account for HPWS to arrive at better estimates of one of the core mechanisms of TL's influence as identified by Ng (2017).

Finally, with respect to self-efficacy and organizational identification our evidence points to a need to consider TL theory within a broader scope. The results suggest that HPWS acts as a strong boundary condition (cf. Menges, Walter, Vogel, & Bruch, 2011) for TL's relationships with these attitudes such that *any* positive effect of TL depends on HPWS. This is particularly interesting as it questions the sufficiency of a core theorization of TL, that is, self-concept theory (Shamir et al., 1993; van Knippenberg & Sitkin, 2013), and related theorizations (Ng, 2017), to explain the influence of TL. Our results suggest that HPWS is required in order to ensure the quality of employees such that they can be open and receptive to the empowering but presumably challenging influence of TL. Although not hypothesized in this study, we note that since the statistical analyses are symmetric, and as HPWS does have significant main effects, we could turn the argument around to say that TL can be seen as an enhancer of the main effects of HPWS as also noted in the hypothesis section.

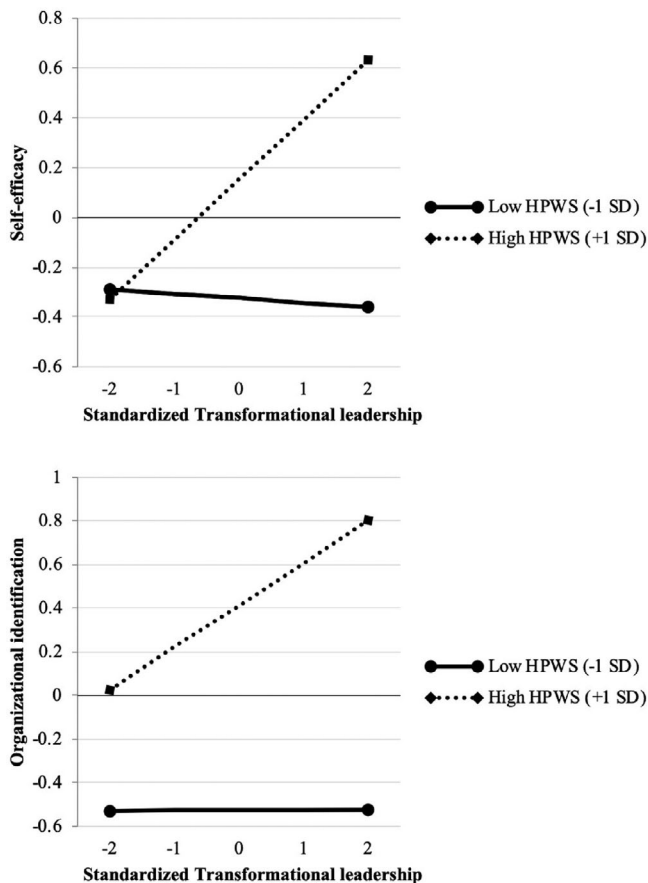


FIGURE 2 Interaction effects of self-efficacy (upper box) and organizational identification (lower box) with HPWS on transformational leadership (HPWS, high-performance work system)

6.2 | Contribution and support in relation to extant joint research on leadership and HRM

By considering HPWS as both a general contextual substitute for TL's main effects and an enhancer of these effects on a broad range of individual-level attitudinal outcomes, our study theoretically and empirically extends the scarce research that has considered the effects of leadership and HRM simultaneously (Chuang et al., 2016; Han et al., 2018; Hong et al., 2016; Jiang et al., 2015; McClean & Collins, 2019; Schopman et al., 2017; Zhu et al., 2005; see Table 4). We specifically extend this research by integrative theoretical considerations and an individual-level analysis examining employee attitudes. As we provide evidence for HPWS functioning both as an important substitute of the main effects of TL and as a boundary condition for some of the latter's effects, we also find support for our results in that research.

Thus, at the organizational level of analysis HRM was found to fully explain the relationship between CEO-TL and absenteeism, leaving no independent explanatory power of the interpersonal TL behaviors per se (Zhu et al., 2005). Also, at the organizational level of analysis, HRM was about 75% more strongly related to voluntary employee turnover than CEO-Charismatic leadership (McClean &

Collins, 2019). Both of these studies point to the relative importance of HRM either by suggesting that leadership behaviors per se, while important, are less important than HRM (McClean & Collins, 2019), or by suggesting that most of the influence of TL behavior occurs through the implementation of HRM practices (Zhu et al., 2005). We note that both of the latter studies also suggest that CEO-level leadership has independent explanatory power with respect to organizational performance, although HRM was more important also for this outcome in both studies. Moreover, the analysis of Chuang et al. (2016) shows that *only* HRM, not empowering leadership, had main effects on team knowledge acquisition, while the analysis of Hong et al. (2016) shows that *only* HRM, not empowering leadership, had main effects on the initiative climate, even as neither of them focus on these results in their respective studies. Related findings of the relative importance of the main effects of HPWS and leadership can be extracted from Jo et al. (2020). We return to discussing the relationships between our study and the joint research on leadership style and HRM in our directions for future research as some of that research has provided conflicting evidence which warrants more discussion (particularly Chuang et al., 2016; Hong et al., 2016; Jiang et al., 2015; Schopman et al., 2017).

6.3 | Theoretical implications

While our study most concretely contributes to tentatively questioning research on TL (cf. van Knippenberg & Sitkin, 2013) and supporting research on mediating mechanisms of HPWS (Jiang & Messersmith, 2017; Markoulli et al., 2017), it also contributes to research on leadership substitutes theory. First, our results provide novel support for the argument that the main effects of leadership substitutes, beyond pure "interpersonal leadership" behavior, represent important continued foci of research (Jermier & Kerr, 1997, p. 98). Our study also partly questions the recent generalization that there is "strong support for the importance of leadership" *regardless* of substitutes (Oc, 2018, p. 221; cf. Dionne et al., 2002). Relatedly, we suggest that our study gets support from the romance of leadership theory. This theory points to a socially (potentially) mis-constructed relevance of person-centric leadership (Bligh, Kohles, & Pillai, 2011; Meindl, 1995; Meindl, Ehrlich, & Dukerich, 1985), suggesting that it may be "a simplified, biased, and attractive way to understand organizational performance" (Meindl, 1993, p. 94). The theory does not imply that leadership is unimportant, but that leader-centric "conceptualizations and modes of thought are probably providing a too narrow account of leadership's real significance" (Meindl, 1993, p. 97). In this regard, our results point to the importance of leading organizations through "structures, and systems" in some distinction to the emphasis in "much of the leadership research" on leading through "inter-personal, face-to-face relations" (Hooijberg, Hunt, Antonakis, & Boal, 2007, p. 2) and of viewing "policies and practices as an important context [and tool] for leadership" (Klimoski, 2013, p. 274; Shamir, 2013). In line with all of this, also Podsakoff et al. emphasized the possibility that leaders may be able to influence certain substitutes of

TABLE 4 Extant research on the joint and unique effects of leadership style and HRM

Study	Level of analysis	Leadership style and source of measures	HRM system and source of measures	Theory of relationship between leadership and HRM	Theorized mechanisms	Outcomes	Extracted findings
Zhu et al. (2005)	Firm	CEO TL (HR manager perceptions)	Organization-level human capital-enhancing HRM (HR manager perceptions)	HRM transmits the cognitive and affective effects of TL	HRM as mediator	- Firm-level absenteeism - Firm performance	Main effects: HRM fully explains the relationship between TL and absenteeism and explains about 50% of its relationship with firm performance
McClean and Collins (2019)	Firm	CEO charismatic leadership (CL) (average of employee perceptions)	Organization-level high commitment HRM (average of employee perceptions)	Various theorizations of positive and negative synergistic fit and overlapping substitution effects	HRM and CL as enhancers and substitutes and "deadly combination"	- Firm-level voluntary turnover - Firm performance	Main effects: HRM is about 75% more strongly related to voluntary turnover than CL and about 50% more strongly related to firm performance. Interaction effects: Positive interaction effect of HRM and CL on both outcomes
Jiang et al. (2015)	Unit	Store manager service-oriented-EL (employee perceptions)	Store-level service-oriented HPWS (store manager perceptions)	Leadership substitutes theory	HRM and EL as substitutes	- Collective customer knowledge - Service climate - Service performance - Firm performance	Main effects: Not presented but only HRM was correlated with customer knowledge and only EL was correlated with service climate. Interaction effects: Negative moderation effect. HRM and EL completely substituted each other's effects on customer knowledge and partially substituted each other's effects on service climate

TABLE 4 (Continued)

Study	Level of analysis	Leadership style and source of measures	HRM system and source of measures	Theory of relationship between leadership and HRM	Theorized mechanisms	Outcomes	Extracted findings
Chuang et al. (2016)	Unit	Team leader EL (<i>employee perceptions</i>)	Organization-level knowledge-intensive team-work-enhancing HPWS (<i>average of team leader perceptions</i>)	Leadership substitutes theory	HRM and EL as substitutes	<ul style="list-style-type: none"> -Team knowledge acquisition -Team knowledge sharing 	<p>Main effects: HRM and EL were about equally positively related to knowledge sharing but only HRM was positively related to knowledge acquisition.</p> <p>Interaction effects: Negative moderation effect. HRM and EL completely substituted each other's effects on both knowledge acquisition and knowledge sharing.</p>
Hong et al. (2016)	Cross-level	Department head EL (<i>supervisor perceptions</i>)	Establishment-level initiative-enhancing HRM (<i>executive committee member perceptions</i>)	Attraction-selection-retention theory + consistent situational cues	HRM and EL as mutual enhancers	Department initiative climate	<p>Main effects: -Only HRM was positively related to initiative climate.</p> <p>Interaction effect: Negative moderation effect. HRM and EL completely substituted each other's effects on initiative climate. (-HRM's and EL's relationships with individual-level attitudes not revealed/analyzed.)</p>
Han et al. (2018)	Unit	Team leader TL (<i>employee perceptions</i>)	Organization-level TL-enhancing HPWS (<i>average of HR and team manager perceptions</i>)	Logical connection between TL and TL-enhancing HRM	TL as a mediator	Team performance	<p>Main effects: Not presented but both HRM and TL were about equally correlated with team performance</p> <p>Interaction effects: Moderated mediation effect with the indirect effect of HPWS on team performance via TL varying significantly</p>

(Continues)

TABLE 4 (Continued)

Study	Level of analysis	Leadership style and source of measures	HRM system and source of measures	Theory of relationship between leadership and HRM	Theorized mechanisms	Outcomes	Extracted findings
Schopman et al. (2017)	Individual	TL at various levels (<i>employee perceptions</i>)	High commitment HRM (<i>employee perceptions</i>)	<ul style="list-style-type: none"> -HRM sends signals to leaders enabling their TL. -TL transmits the organizational support provided by HRM. 	TL as mediator	<ul style="list-style-type: none"> Employee -Intrinsic motivation -Motivation to continue to work 	<p>as a function of the organization's adaptation and efficiency orientations.</p> <p>Main effects: TL relatively more important direct relationship with intrinsic motivation</p> <p>Mediation effects: TL partially mediated HRM's relationship with intrinsic motivation.</p> <p>-Neither TL nor HRM had unique relationships with motivation to continue work in the health sector.</p>
The present study	Individual	TL (<i>employee perceptions</i>)	HPWS (<i>employee perceptions</i>)	Resource-based theory; values-based theory; leadership substitutes theory	HRM as an enhancer and a general contextual substitute of main effects of TL	<ul style="list-style-type: none"> Several individual-level employee attitudes 	<p>Main effects:</p> <ul style="list-style-type: none"> -TL has one independent relationship (with work engagement). -HRM is more strongly related to work engagement and fully explained TL's direct relationship with all other employee attitudes. <p>Interaction effects:</p> <ul style="list-style-type: none"> -Positive interaction effects of HRM and TL on self-efficacy and organizational identification -HRM represents a boundary condition for TL's relationships with the latter.

Abbreviations: CL, charismatic leadership; EL, empowering leadership; HPWS, high-performance work system; HRM, human resource management; TL, transformational leadership.

leadership, and argued: "If so, it is possible that managers actually have a stronger impact than previously suggested because they can influence subordinates not only directly through their behavior, but also by shaping the context in which the subordinates work" (1996, p. 295). Research within the field of HRM has already begun to shed light on this type of leader influence by focusing on the question of how leaders can attend to the challenging implementation and development of the HRM system (Guest & King, 2004), and thus how they can influence this contextual variable (Nishii & Paluch, 2018; Steffensen Jr. et al., 2019). Leroy et al. (2018) call such leadership "human resource leadership."

6.4 | Specific important caveats

First, this study is not about the importance of leaders, it is about the importance of leadership style, and specifically the leader behaviors constituting TL, in relation to a system of management practices, a HPWS, in whose development and implementation managers play an important role. Second, while our results may be a symptom of weaknesses in the TL theory (van Knippenberg & Sitkin, 2013), they do not mean that TL could not be very influential in some situations or contexts outside the scope of the present study. Relatedly, *highly* transformational leaders may still be much more effective in influencing employee attitudes than the averages we have examined here. For some indication of this possibility, see Garvin (2013) relating to Google's Project Oxygen which identified performance differences only between highly effective and highly ineffective managers' leadership style. Finally, although compatible with some other recent research on leadership and HRM, as shown in Table 4 and discussed both above and below, it should be kept firmly in mind that our results are based on one study only. More research is clearly needed to potentially replicate, extend and/or critically question our results, as suggested also in the section on Future research.

6.5 | Practical implications

By assessing the respective roles played by the experienced HPWS and TL in fostering employee attitudes, this study sheds light on the implications of organizational investments in each. Our findings suggest that when it comes to retaining employees, managers would do better to attend to the HPWS and its implementation than by improving their TL behaviors in the form of individually considering employees, intellectually stimulating them, inspiring them by expressing high performance demands, providing a vision, and promoting teamwork. When it comes to engaging employees, these leader behaviors appear important even as, on average, HPWS seems to be more important also in this case. When it comes to promoting employees' organizational identification and their feelings of being able to carry out their work (self-efficacy), HPWS is again most important but here the TL behaviors become important in combination with the HPWS. This evidence offers novel arguments for HRM

professionals in advocating HRM system development and implementation. Although our findings echo what Zhu et al. (2005) and McClean and Collins (2019) found at the organizational/CEO level of analysis, as well as related research by Jo et al. (2020), we still need more joint research on HRM and leadership style before more robust practical recommendations concerning their joint and independent importance can be offered.

6.6 | Limitations of the study

First, this research, and all research that we have considered, is based on cross-sectional or at least non-longitudinal data. Thus, our results should be viewed with the appropriate caution. Second, single-source data is often a problem in research as it may cause CMV which can conflate relationships between variables. The results of our ULMC analysis (Podsakoff, MacKenzie, & Podsakoff, 2012) diminish the likelihood of such bias but do not rule it out (Richardson et al., 2009). However, the possibility of CMV is a crucial problem for the broad objective of the present article only if there is reason to suspect that it would differentially conflate the relationships of TL and HPWS, respectively. We have found no evidence suggesting the latter. Further, interaction effects can only be deflated by CMV, not inflated (Siemsen, Roth, & Oliveira, 2010), which means that CMV cannot explain the significance of the interaction effects we found. They could, however, be larger and there might be interactions we were unable to detect. Third, we used reduced measurement scales which may have biased the results, although our validations (above) suggest that we have been able to avoid the dangers of scale reductions (Smith et al., 2000).

Fourth, in this study we examined the full construct of TL and the full construct of HPWS, whereas it has been pointed out that the specific dimensions of TL (van Knippenberg & Sitkin, 2013) and specific (combinations of) HRM practices deserve more attention in future research (Hauff, Guerri, Dul, & van Rhee, 2019). Such analyses remained outside the scope of the present article. Fifth, the sample size is relatively small, and based on five Finnish multinational organizations. Again, however, as examined above the external validity of our research is supported by the fact that the correlational evidence is compatible with previous individual-level research on TL and HPWS respectively and related recent joint research on other leadership styles and HRM as discussed above. In short, despite the above-mentioned reasons for caution in interpreting our results, we suggest that they provide important evidence on the independent and joint relationships of TL and HPWS with the focal individual-level employee attitudes.

6.7 | Future research

Our study strongly points to a need to learn more about the distinct and joint influence of leadership style and HRM. Clearly, our results should be both replicated and extended to other cultures, other

organizations and contexts, using other measures of TL and HRM, other leadership styles that might be more complementary and less redundant in relation to HRM (e.g., servant leadership), other employee attitudes, and longitudinal panel data. An important starting point for future research on the joint effects of leadership and HRM should be the contrasting theorizations of the relationship between leadership and HRM in the emerging body of such research (see Table 4). These diverse theorizations include HRM as a mediator of the influence of leadership (Zhu et al., 2005) and, conversely, leadership as a mediator of HRM (Han et al., 2018; Schopman et al., 2017), leadership as a negative moderator of the influence of HRM (Chuang et al., 2016; Hong et al., 2016; Jiang et al., 2015) and HRM as a positive moderator of the influence of leadership (Jo et al., 2020; McClean & Collins, 2019; the present study) as well as HRM as a substitute for the main effects of leadership (the present study).

Our own theoretical and methodological starting point in this regard was that perceived TL behaviors and the perceived HPWS are largely independent factors (Leroy et al., 2018) rather than mediators of each other's effects, and that HPWS acts as a positive moderator/enhancer. Further, we also found it important to measure both leadership and HPWS from the perspective of the same subjects and analyze them at the same level of analysis, as did Zhu et al. (2005), McClean and Collins (2019), and partly Jo et al. (2020). In addition, we found it important to measure the HPWS based on employee perceptions (Boon et al., 2019). All this is in sharp contrast with Chuang et al. (2016), Hong et al. (2016) and Jiang et al. (2015). We note that Schopman et al. (2017) are so far alone in prior research in using a similar individual-level research design and analysis method as we have—albeit in a very different context and examining other outcomes—to yield results suggesting a much stronger relative importance of TL than we found.

An important task for future research is to build on this emerging body of joint research to theorize the most appropriate relationships between various HRM systems and leadership styles and their respective influence. A related specific topic for future research is to explore the differentiation and relative explanatory power of HRM and the more management oriented idea of transactional leadership in the Full range leadership theory (Judge & Piccolo, 2004). One clear distinction between these appears to be that HRM provides a significantly broader conceptualization of the transactional element of managing people and incorporates both transactional and relational elements of such management. There is still much work to be done to further “bridge the gulf between the leadership and management literatures” (Yukl, 2008, p. 709; Leroy et al., 2018).

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APPENDIX A1

CONSTRUCTS, DIMENSIONS, AND ITEMS

Transformational leadership.

Core TL behaviors:

- 1 *My supervisor inspires others with his / her plans for the future.* (Podsakoff et al., 1990, Item 18; Podsakoff et al., 1996, Item 16). In MacKenzie et al. (2001) and Kirkman et al. (2009) this item is replaced by item X1/1.
- 2 *My supervisor provides a good role model to follow.* (Podsakoff et al., 1990, Item 8; Podsakoff et al., 1996, Item 19; MacKenzie et al., 2001, Item X2; Kirkman et al., 2009, Item 2).
- 3 *My supervisor develops a team attitude and spirit among employees.* (Podsakoff et al., 1990, Item 28; Podsakoff et al., 1996, Item 20). In MacKenzie et al. (2001) and Kirkman et al. (2009) this item is replaced by X3/3.

High performance expectations

- 4 *My supervisor insists on only the best performance.* (Podsakoff et al., 1990, Item 10; Podsakoff et al., 1996, Item 17; MacKenzie et al., 2001, Item X5; Kirkman et al., 2009, Item 5).
- 5 *My supervisor will not settle for second best.* (Podsakoff et al., 1990, Item 14; Podsakoff et al., 1996, Item 21; MacKenzie et al., 2001, Item X6; Kirkman et al., 2009, Item 6).

Intellectual stimulation

- 6 *My supervisor has stimulated me to rethink the way I do things.* (Podsakoff et al., 1990, Item 23; Podsakoff et al., 1996, Item 13; MacKenzie et al., 2001, Item X13; Kirkman et al., 2009, Item 13).
- 7 *My supervisor has ideas that have challenged me to reexamine some of my basic assumptions about my work.* (Podsakoff et al., 1990, Item 27; Podsakoff et al., 1996, Item 3; MacKenzie et al., 2001, Item X14; Kirkman et al., 2009, Item 14).

Individualized consideration

- 8 *My supervisor shows respect for my personal feelings.* (Podsakoff et al., 1990, Item 7; Podsakoff et al., 1996, Item 12; MacKenzie et al., 2001, Item X9; Kirkman et al., 2009, Item 8).
- 9 *My supervisor considers my personal feelings before acting.* (Podsakoff et al., 1990, Item 3; Podsakoff et al., 1996, Item 7; MacKenzie et al., 2001, Item X8; Kirkman et al., 2009, Item 10).

High Performance Work System (Sun et al., 2007).

Selection.

Great effort is taken to select the right person for jobs in this company.

In this company, considerable importance is placed on the staffing process.

Long-term employee potential is emphasized in the (employee) selection process in this company.

Training.

In this company I am provided with extensive training programs.

In this company I generally go through training programs every few years.

Career opportunities.

In this company I have few opportunities for upward mobility (REV).

I do not have any future in this company (REV).

Job security.

I can most probably stay with this company for as long as I wish.

Job security is almost guaranteed to me in this company.

Clear job descriptions.

My duties in this job are clearly defined.

My job has an up-to-date job description.

Pay

I receive bonuses based on the profit of the company.

In this company there is a close tie or matching of my pay to my individual and/or my group's performance.

In this company salaries for employees in my position are higher than those of our competitors. (Lepak & Snell, 2002).

Performance appraisal.

In this company my performance evaluation assesses the quality of my output. (Lepak & Snell, 2002).

In this company my performance evaluation assesses the quantity of my output. (Lepak & Snell, 2002).

In this company my performance evaluation includes developmental feedback.

Self-efficacy (Riggs et al., 1994).

I have confidence in my ability to do my job.

I have all the skills needed to perform my job very well.

I am an expert at my job.

I am very proud of my job skills and abilities.

Work engagement (Schaufeli et al., 2006).Vigor dimension.

At my work, I feel bursting with energy.

At my work, I feel strong and vigorous.

When I get up in the morning, I feel like going to work.

Dedication dimension.

I am enthusiastic about my job.

My job inspires me.

I am proud of the work that I do.

Absorption dimension.

I feel happy when I am working intensely.

I am immersed in my work.

I get carried away when I am working.

Organizational identification (Reade, 2001).

My values and the values of this company are the same.

I share the goals of this company.

What this company stands for is important to me.

Turnover intentions (Rusbult et al., 1988).

I have recently spent some time looking for another job.

During the next year I will probably look for a new job outside this company.

I often think about quitting.