Engaging leadership in the job demands-resources model

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Abstract

Purpose – The purpose of this paper is to integrate leadership into the job demands-resources (JD-R) model. Based on self-determination theory, it was argued that engaging leaders who inspire, strengthen, and connect their followers would reduce employee's levels of burnout and increase their levels of work engagement.
Design/methodology/approach – An online survey was conducted among a representative sample of the Dutch workforce ($n = 1{,}213$) and the research model was tested using structural equation modeling.
Findings – It appeared that leadership only had an indirect effect on burnout and engagement – via job demands and job resources – but not a direct effect. Moreover, leadership also had a direct relationship with organizational outcomes such as employability, performance, and commitment.
Research limitations/implications – The study used a cross-sectional design and all variables were based on self-reports. Hence, results should be replicated in a longitudinal study and using more objective measures (e.g. for work performance).
Practical implications – Since engaged leaders, who inspire, strengthen, and connect their followers, provide a work context in which employees thrive, organizations are well advised to promote engaging leadership.
Social implications – Leadership seems to be a crucial factor which has an indirect impact – via job demands and job resources – on employee well-being.
Originality/value – The study demonstrates that engaging leadership can be integrated into the JD-R framework.

Keywords Stress, Leadership, Motivation (psychology)
Paper type Research paper

Introduction

The aim of the current paper is to extend the job demands-resources (JD-R) model by including a particular type of positive, "engaging" leadership. The JD-R model (Demerouti *et al.*, 2001; Schaufeli and Bakker, 2004) was introduced about one decade ago and has evolved into one of the leading models in the field of occupational health psychology. Simply put, the JD-R model proposes that high job demands lead – via burnout – to negative outcomes (the stress process), whereas job resources lead – via work engagement – to positive outcomes (the motivational process). However, so far no attempt has been made to integrate leadership into the JD-R framework. Although a few studies used parts of the JD-R model for formulating hypotheses about leadership and engagement (e.g. Tims *et al.*, 2011; Tuckey *et al.*, 2012) the current study is the first the integrate leadership into the JD-R model as such; thus including both processes. This is remarkable because a recent review shows that leadership has a profound impact on follower's job strain and affective well-being affect, although the pathways are still largely unknown (Skakon *et al.*, 2010). The current study tries to fill this void by investigating the direct and indirect effects of leadership – through demands and resources – on burnout and work engagement.

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The JD-R model

Figure 1 depicts the essence of the JD-R model and its extension with leadership. It integrates two basic psychological processes (Bakker and Demerouti, 2007): first, a stress process which is sparked by excessive job demands (e.g. work overload and interpersonal conflict) and may – via burnout – lead to negative outcomes such as sickness absence (Toppinen-Tanner *et al.*, 2005), poor performance (Taris, 2006), impeded workability (Siebt *et al.*, 2009), and low organizational commitment (Halbesleben and Buckley, 2004); second, a motivational process which is sparked by abundant job resources (e.g. performance feedback and job control) and may – via work engagement – lead to positive outcomes such as organizational commitment, intention to stay, extra-role behavior, and work performance (for recent a overviews see: Van den Broeck *et al.*, 2013).

The empirical support for the JD-R model is abundant. For instance, in their recent review Schaufeli and Taris (2014) showed that 12 studies confirmed the mediating role of burnout and engagement in the stress and motivation process, respectively. In the remaining four studies partial instead of full mediation was found for either burnout or engagement. This review also attests longitudinal evidence for the JD-R model.

The integration of leadership into the JD-R model

So far leadership has been included in the JD-R model as a job resource – if at all (Breevaart *et al.*, 2014). Or more specifically, only particular aspects such as supervisory coaching or support have been included as a job recourse. Typically, in studies using the JD-R, all resources are included as a single latent construct which precludes the assessment of their specific impact (e.g. Schaufeli and Bakker, 2004). It is, however, important to study the impact of leadership in its own right because leaders are supposed to balance the job demands and job resources of their followers in such a way that they remain healthy, motivated, and productive. They do so by managing the allocation and the impact of job demands and job resources on their followers. For instance, transformational leaders contribute to a favorable work environment (Piccolo and Colquitt, 2006) thereby initiating a motivational process that leads to work engagement (Breevaart *et al.*, 2014). Contrarily, destructive leadership contributes to role problems (Skogstad *et al.*, 2007) and may therefore foster burnout. Hence, in order to investigate the specific impact of leadership on job demands and job resources, the current study considers leadership as a distinct feature that goes beyond a mere resource.

Using self-determination theory (SDT; Deci and Ryan, 2000) the concept of "engaging leadership" was developed. According to SDT three innate psychological needs are considered crucial for individuals' optimal and healthy functioning, also at the workplace; the needs for autonomy (i.e. feeling in control), competence (i.e. feeling effective), and relatedness (i.e. feeling loved and cared for). More specifically, SDT

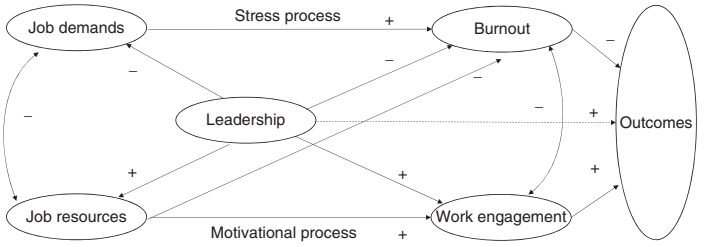

Figure 1.
The hypothesized job demands-resources leadership model

posits that employees are likely to be engaged (i.e. internalize their tasks and show high degrees of energy, concentration, and persistence) to the degree that their needs for autonomy, competence, and relatedness are satisfied (Ryan and Deci, 2012). In line with this reasoning and using the JD-R model, it was found that basic need satisfaction mediates the link between job resources and vigor, the core component of work engagement (Van den Broeck *et al.*, 2008). In other words, job resources are conducive for need satisfaction, which, in its turn, fosters work engagement.

In the current study, psychological need satisfaction is not measured as such, but the leadership measure is based on its premises and it is assumed that it might explain why engaging leaders foster follower's engagement. The reasoning is as follows; engaging leaders: first, inspire their followers (e.g. by enthusing them for their vision and plans, and by make them feel that they contribute to an important mission); second, strengthen their followers (e.g. by granting them freedom and responsibility, and by delegating tasks); third, connect their followers (e.g. by encouraging collaboration and by promoting a high team spirit). By inspiring, strengthening, and connecting leaders promote the fulfillment of follower's basic psychological needs for autonomy, competence, and relatedness, respectively. When employees are inspired by their supervisor to contribute personally to an important overall goal this will increase their feeling of control ("I can make a significant contribution"). When employees are strengthened because their supervisor delegates responsible and challenging tasks they will feel more competent after task completion ("Yes, I can"). And finally, when employees are connected with others in their team because their supervisor encourages close collaboration and interpersonal bonding, they will feel a strong sense of belongingness ("I feel at ease in my team"). In a nutshell; as a consequence of specific leadership behaviors that focus on inspiring, strengthening, and connecting employees, their basic psychological needs are fulfilled and hence their levels of engagement are likely to increase.

In contrast, when these engaging leadership behaviors are absent and employee's basic needs are thwarted, burnout is likely to result. For instance, Van den Broeck *et al.* (2008) found that job demands frustrated the satisfaction of basic needs, which, in its turn, was negatively associated with exhaustion, the core component of burnout.

The current study is the first to investigate engaging leadership from the perspective of SDT. Although the term "engaging leaders" has been used before, a closer look reveals that it either refers to idiosyncratic conceptualizations (e.g. Alimo-Metcalfe *et al.*, 2008) or to existing conceptualization, notably transformational leadership (e.g. Hofslett-Kopperud *et al.*, 2014). A recent literature review concluded that the relationship between leadership and work engagement has not widely been investigated (Carasco-Saul *et al.*, 2015). The most pervasive framework was transformational leadership (nine studies), followed by authentic leadership (two studies), and ethical and charismatic leadership (one study each). Almost without any exception, these studies are consistent in showing that leadership is significantly related to work engagement, directly or indirectly via mediation. In contrast, none of these leadership frameworks is rooted in a psychological theory of motivation, such as SDT. Nevertheless, there is some overlap between the conceptualization of engaging leadership in the current study and transformational that includes four aspects (Bass, 1985): first, idealized influence (i.e. role modelling, the articulation of high expectations and confidence in followers); second, inspirational motivation (i.e. talking optimistically and enthusiastically about the future and articulation a compelling vision); third, intellectual stimulation (i.e. encouraging followers to challenge existing

approaches, reframe problems, and think in new ways); fourth, individualized consideration (involves coaching and mentoring, and a focus on helping followers to develop their strengths). So transformational leadership does not include social bonding or connecting, whereas engaged leadership does not include intellectual stimulation and idealized influence. Recently, Soane (2014) discussed the relevance of transformational leadership for engagement and she pointed out that particularly inspirational motivation and individualized consideration increase engagement in ways that are similar to inspiring and strengthening engaged leadership. This agrees with Kovjanic *et al.* (2013) who found that transformational leadership satisfied the three basic psychological needs and that, in its turn, need satisfaction was related to work engagement. In other words, it seems that need satisfaction mediates the relationship between transformational leadership and work engagement. This indirect relationship has also been established in a other studies (e.g. Hofslett-Kopperud *et al.*, 2014; Salanova *et al.*, 2011). It seems that, in contrast, transformational leadership is negatively related to burnout. A recent systematic review showed that five out of six studies reported a negative relationship, whereas in only one study no significant relationship was found (Skakon *et al.*, 2010, pp. 126-130).

In addition to the direct effect of engaging leadership on employee well-being an indirect effect through job demands and job resources is also hypothesized in the current study, based on the assumption that leaders play a crucial role in managing the allocation and impact of job demands and job resources on their followers (see model 1).

Good leaders create a job environment that sets the conditions to avoid burnout and to increase work engagement (Shuck and Herd, 2012). In terms of the JD-R model this means that leaders manage job demands and job resources in ways that prevents burnout and promote work engagement. More specifically, inspiring leaders provide their followers with organizational resources (e.g. by emphasizing alignment, value congruence, trust, and justice) and minimize their organizational demands (e.g. by circumventing bureaucracy and adequately managing organizational change). Furthermore, strengthening leaders provide their followers with work resources (e.g. job control, use of skills, task variety) and development resources (e.g. performance feedback, career perspective), and monitor their qualitative and quantitative job demands (e.g. work overload, emotional demands, and work-home interference). Finally, engaging leaders connect their followers by providing them social resources (e.g. good team atmosphere, role clarity). In sum, engaging leadership has an indirect effect on burnout and work engagement through lowering job demands and increasing job resources (see Figure 1). This line of reasoning is supported by Breevaart *et al.* (2014) who found in their dairy study among naval cadets that transformational leadership increased their job resources (i.e. job autonomy and social support), which, in its turn, increased cadet's levels of work engagement.

When leadership is neither inspiring, nor strengthening or connecting it is likely that employees experience high job demands and lacking resources, which, in its turn, would increase their risk for burning-out. Unfortunately, the exhaustive recent literature review of Skakon *et al.* (2010) did not identify any study on the indirect effect of leadership on burnout, via job characteristics. An additional own literature review covering the period after the review yielded 58 publications but also none of these addressed this indirect effect. Hence, the current study is the first to investigate the indirect effect of (engaging) leadership on burnout through job demands and job resources.

The present study

In contrast to most other JD-R studies, the current study is not restricted to a specific occupational or organizational group but uses a national representative sample. This offers the unique possibility to include a wide variety of job demands, job resources, and outcome measures simultaneously into the JD-R model. Recently, Schaufeli and Taris (2014) listed 61 job demands and resources and 22 outcomes that have been included in JD-R studies so far. From this exhaustive list a selection was made of 46 concepts, based on their relevance for the general working population (see Table I).

As a consequence of this comprehensive approach, it was not possible to employ standard multiple-tem scales because this would have exceeded the acceptable length of the questionnaire. Therefore, most concepts were tapped by less than four items and some even by a single item (see Appendix).

In sum, the aim of the present study is to test a comprehensive version of the JD-R model – in a national representative sample of the Dutch working population – that includes a wide variety of demands, resources and outcomes and that is extended with engaging leadership (see Figure 1). It should be noted by way of disclaimer that the current study uses a cross-sectional design, which precludes any causal interpretation of the study results.

Method

Sample and procedure

An online survey was carried out by a survey agency among a sample ($n = 1{,}213$) of the Dutch working population that is representative for industry (according to the classification of the national Bureau of Statistics). The three largest industries in the sample were: health and welfare (17.4 percent), commercial services (14.4 percent), and retail and repair (13.1 percent). A slight majority was male (51.5 percent), the mean age was 37.5 years (SD = 12.2); 10.8 percent completed primary or lower vocational education, 13.9 percent high school, 32.3 percent intermediate vocational education, 31.5 percent higher vocational education (college), and 11.5 percent university education.

Model	χ^2	df	NFI	TLI	CFI	RMSEA
Job demands						
1-factor	755.97	54	0.77	0.74	0.78	0.10
3-factor	355.56	51	0.89	0.88	0.91	0.07
3-factor (modified)	291.14	47	0.92	0.91	0.93	0.07
Job resources						
1-factor	3,449.47	209	0.76	0.74	0.77	0.11
4-factor	2,283.59	203	0.84	0.83	0.85	0.09
4-factor (modified)	1,451.84	193	0.90	0.89	0.91	0.07
Outcomes						
1-factor	1,089.25	54	0.77	0.73	0.78	0.13
4-factor	402.25	49	0.92	0.90	0.92	0.08
4-factor (modified)	230.96	47	0.95	0.94	0.96	0.06

Note: $n = 1{,}213$

Table I. Confirmative factor analyses

Measures

Appendix displays all study variables, whereby an a priori categorization was made of job demands, job resources, and outcomes. In other words, it was expected that job demand cluster into qualitative demands, quantitative demands, and organizational demands; whereas job resources were expected to cluster in social resources, work resources, organizational resources, and development resources. Finally, outcomes were expected to cluster in: commitment, employability, self-rated work performance, and performance behavior. As can be seen from the appendix, the internal consistencies (coefficient α) of all multi-item measures exceed 0.70 (Nunnaly and Bernstein, 1994).

Most items for job demands and job resources stem from existing scales, such as the Questionnaire on the Experience and Evaluation of Work (QEEW; Van Veldhoven *et al.*, 2002) – that is generally used in the Netherlands for psychosocial risk evaluation – and the National Working Conditions Survey (NWCS; Houtman, 2012) that is carried out annually.

The three burnout and engagement items have been selected from the Dutch version of the Maslach Burnout Inventory (MBI-NL; Schaufeli and Van Dierendonck, 2000) and the Utrecht Work Engagement Scale (UWES; Schaufeli *et al.*, 2006), respectably. A large database of 37,722 of Dutch employees was available to calculate the correlations of the scale-score of these selected items with the original, longer versions of the MBI and UWES; these correlations were 0.92 and 0.95, respectively.

The engaging leadership scale was self-constructed. The scale was developed and first tested in an unpublished Dutch study, carried out by students and using a sample of 195 employees. The original scale included 14 items, after deleting unsound items nine items remained. Correlations with work engagement ($r = 0.52$), satisfaction of basic psychological needs ($r = 0.53$), and in-role ($r = 0.24$) and extra-role performance ($r = 0.33$) were significant and in the expected direction. A confirmatory factor analyses (CFA) on the data of the current study revealed a good fit of the hypothesized three-factor structure (inspiring, strengthening, and connecting); $\chi^2 = 270.58$, $\mathrm{df} = 24$, $p < 0.001$; normed fit index (NFI) = 0.97, Tucker Lewis index (TLI) = 0.96, comparative fit index (CFI) = 0.97, root mean square error of approximation (RMSEA) = 0.09. This fit was significantly better than that of the one-factor model; $\Delta\chi^2 = 860.97$, $\Delta\mathrm{df} = 3$, $p < 0.001$.

For the assessment of most outcomes items from existing sales were used. Only for team and organizational commitment items were self-formulated.

All items are scored on a five-point Likert scale that either ranged from "never" (1) to "always" or from "completely disagree" (1) to "completely agree" (5). There were only three exceptions; work performance was assessed on a ten-point scale (i.e. Dutch school grades, whereby ten is excellent), and sickness absence duration and frequency were assessed by the number of days and the number of times the employee has listed sick during the past year, respectively.

Analyses

Structural equation modelling methods as implemented in AMOS 21.0 (Arbuckle, 2012) were used to test the research model displayed in Figure 1. Maximum likelihood estimation was employed and the goodness-of-fit of the tested models was evaluated using the χ^2 test statistic, the NFI, the TLI, the CFI, and the RMSEA. Values larger than 0.90 for NFI, TLI and CFI and 0.08 or lower for RMSEA indicate acceptable model fit (Byrne, 2009). For RMSEA, values greater than 0.10 should lead to model rejection (Browne and Cudeck, 1993).

A two-step approach was used in order to minimize the large number of variables in the model. In the first step three CFA's were conducted including 12 job demands,

22 job resources, and 12 outcomes, respectively. In each case, the assumed factor structure as displayed in the appendix was pitted against a one-factor solution. When the fit of the assumed factor model was superior to that of the one-factor model, the fit of the former was optimized by using information from the Modification Indices, which suggests allowing particular errors to correlate.

In the second step, the research model was tested, whereby the factor-scores of the three best fitting models from the previous step were used as indicators for the latent job demands and job resources factors, as well as for the outcomes. Furthermore, three indicators (inspiring, strengthening, and connection) were used for assessing the latent leadership measure; and the three items that tap burnout and engagement were used to estimate the corresponding latent variables.

Results

Preliminary analyses[1]

Table I shows the results of a series of the three CFA's. For job demands, job resources, and outcomes, a hypothesized multi-factor model was tested based on the expected clustering of elements (see Measures and Appendix), as well as an alternative one-factor model. As can be seen, all hypothesized models fitted significantly better to the data than their corresponding one-factor models (job demands: $\Delta\chi^2 = 400.41$, $\Delta df = 3$, $p < 0.001$; job resources, $\Delta\chi^2 = 1{,}165.88$, $\Delta df = 8$, $p < 0.001$; and outcomes: $\Delta\chi^2 = 678$, $\Delta df = 5$, $p < 0.001$).

The fit of the three models could be improved significantly by allowing pairs of errors to correlate: for job demands ($\Delta\chi^2 = 64.42$, $\Delta df = 4$, $p < 0.001$), job resources ($\Delta\chi^2 = 171.29$, $\Delta df = 10$, $p < 0.001$), and job outcomes ($\Delta\chi^2 = 687$, $\Delta df = 2$, $p < 0.001$). More specifically, in case of demands, resources, and outcomes, four, nine, and two pairs of errors were allowed to correlate, respectively. These correlated errors represent common variance that is not explained by the latent construct and is most likely caused by overlapping item content. Taken together, it can be concluded that the a priori clusters of job demands, job resources, and outcomes were confirmed.

Model testing

Table II shows the results of the model testing[2]. The solution for the hypothesized model was not admissible because a negative variance was estimated. This problem was solved in the modified hypothesized model (M1) by allowing three pairs or errors to correlate, as suggested by the Modification Indices. The resulting modified model showed a reasonable fit with the data; only the value for RMSEA did not meet its criterion. It appeared that three path-coefficients of M1 were non-significant; namely those that link leadership with burnout ($\beta = 0.08$), burnout with performance behavior ($\beta = -0.04$), and burnout with work engagement ($\beta = -0.04$).

Because the (modified) hypothesized model included only indirect effects of leadership, an alternative, model (M2) was tested which also included the direct effects of leadership on all four outcomes. Additionally, the three non-significant paths were

Table II. Test of research model

	Model	χ^2	df	NFI	TLI	CFI	RMSEA
M1	Hypothesized model (modified)	1,791.24	150	0.92	0.91	0.93	0.10
M2	Final model	1,683.90	147	0.93	0.92	0.94	0.09

Note: $n = 1{,}213$

deleted. It appeared that M2 fits significantly better to the data than M1 ($\Delta\chi^2 = 107.93$, $\Delta df = 3$, $p < 0.001$). All three relative fit indices (NFI, TLI, and CFI) exceed their criterion of 0.90, only the value of RMSEA is slightly higher than 0.08 but still lower than 0.10. In M2 the path connecting leadership with work engagement is no longer significant ($\beta = 0.05$, ns). The final model (M2) is displayed in Figure 2 and explains 48 percent of the variance in burnout and 57 percent of the variance in work engagement. The explained variance of the outcomes ranges from 20 percent (self-rated performance) via 21 percent (employability) and 49 percent (performance behavior) to 55 percent (commitment).

As can be seen from Figure 2 and consistent with the stress process of the JD-R model, burnout mediated the relationship between job demands and (lack of job resources) on the one hand, and three of the four outcomes on the other hand. Significant results were obtained for subsequent separate tests for the mediating role of burnout in the relation between job demands and employability (Sobel = −9.41; $p < 0.001$), performance (Sobel = −6.12; $p < 0.001$), and commitment (Sobel = −6.36; $p < 0.001$); as well as for the relationship between lack of resources and employability (Sobel = −6.13; $p < 0.001$), performance (Sobel = −4.89; $p < 0.001$), and commitment (Sobel = −4.99; $p < 0.001$).

In addition and consistent with the motivational process of the JD-R model, work engagement mediated the relationship between job resources and all four outcomes; employability (Sobel = 3.76; $p < 0.01$), performance (Sobel = 6.59; $p < 0.001$), performance behavior (Sobel = 12.49; $p < 0.001$), and commitment (Sobel = 12.24; $p < 0.001$).

Leadership was stronger related with job resources ($\beta = 0.79$) than with job demands ($\beta = -0.34$), indicating that engaging leaders particularly seem to increase employee's job resources and to a somewhat lesser extent decrease their job demands. In addition, leadership was directly associated especially with commitment ($\beta = 0.32$) and performance behavior ($\beta = 0.32$), and somewhat less strongly with employability ($\beta = 0.09$) and self-rated performance ($\beta = 0.08$). Contrary to expectations, however, leadership was not directly related with burnout and engagement; instead it had an indirect effect on burnout through job demands (Sobel = −8.79; $p < 0.001$) and job resources (Sobel = −6.89; $p < 0.001$) as well as on engagement through job resources

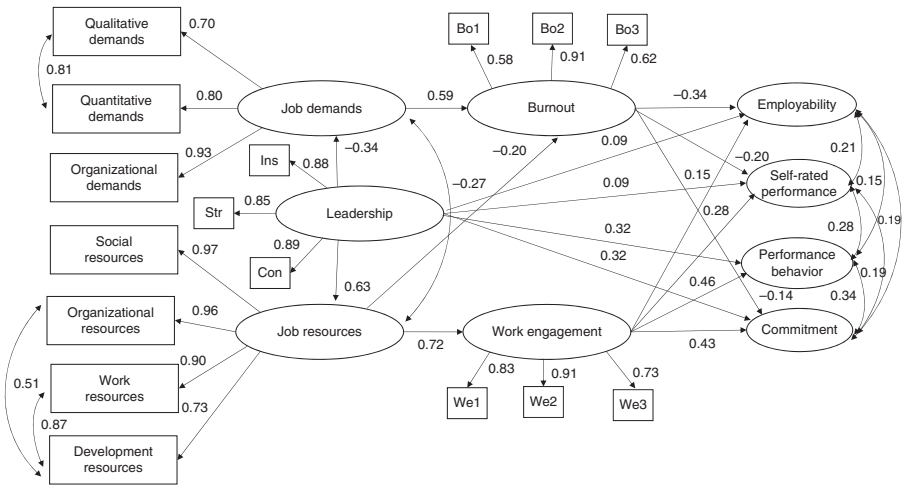

Figure 2.
Structural equation modeling results of the research model

(Sobel = −15.06; $p < 0.001$). Finally, leadership had a direct effect on outcomes as well as an indirect through reducing the stress process (i.e. decreasing demands and burnout) and through enhancing the motivational process (i.e. increasing job resources and work engagement).

Discussion

Not only did the present study integrate leadership into the JD-R model (see below), it also confirmed its basic assumptions: first, burnout mediates the relationship between high job demands and poor job resources on the one hand (the stress process) and various job outcomes on the other; second, work engagement mediates the relationship between job resources and outcomes (the motivational process). As such the current study adds to the accumulating evidence of the validity of the JD-R model (cf. Schaufeli and Taris, 2014).

Modifications of the research model and unexpected findings

The original model was modified by allowing three pairs of errors between job characteristics to correlate. This signifies that certain indicators of job demands and job resources share some unique variance. More specifically this was the case for qualitative and quantitative job demands, which makes sense because when emotional and mental (qualitative) demands are high, workload (a quantitative demand) is also likely to be high, but this does not necessarily imply that organizational demands are also high. By the same token, it appeared that work resources and developmental resources share unique variance; when work resources (e.g. task variety) are available it is likely that developmental resources are available as well (e.g. possibilities for learning), which does not necessarily imply the availability of social (e.g. team spirit) or organizational resources (e.g. communication). Although it is – generally speaking – not recommended to allow errors to correlate in order to improve model fit, this is considered to be legitimate when it can defended on conceptual grounds, as in the current case (Byrne, 2009). Nevertheless, it means that the structure of job demands and job resources is not as clear-cut as anticipated. On second thoughts this might not come as a surprise because this study is the first to include a wide variety of more than thirty job demands and job resources.

Contrary to expectations no direct effect of leadership on burnout was found. Although the correlation of burnout with engaging leadership is significant and in the expected direction ($r = -0.32$; $p < 0.001$) this association disappears in the model. The reason for that is that job demands (and job resources to a somewhat lesser degree) seem to mediate the relationship between leadership and burnout. For the non-significant association in the model between leadership and engagement, the story is somewhat different. Initially, in M1 this association was significant ($\beta = 0.12$; $p < 0.001$), but it disappeared after in M2 the direct effects of leadership on outcomes were added. This means rather than an indirect relationship – via work engagement – a direct relationship exists between leadership and outcomes. Moreover, like in case of burnout the effect of leadership on work engagement is indirect – via job resources. This is in line with the findings of a longitudinal study (Nielsen *et al.*, 2008) that showed that followers' perceptions of their work characteristics (i.e. role clarity, meaningful work, opportunities for development) mediated the relationship between transformational leadership style and future psychological well-being.

It appeared that leadership had a direct effect on all four outcomes, which was particularly strong for commitment and performance behavior. This is not very

surprising because engaging leaders inspire and connect their followers, which is likely to have an effect on their commitment (Alimo-Metcalfe *et al.*, 2008). Moreover, engaging leaders also strengthen their followers meaning that they foster performance and performance behaviors such as self-development, proactivity, and goal directedness (see the meta-analyses of Wang *et al.*, 2011, for similar effects of transformational leadership).

Taken together, the pivotal role of engaging leadership in JD-R model is confirmed, albeit in a slightly different way as initially hypothesized. Instead of having direct effects on burnout and work engagement, is seems that the effect of engaging leadership is exclusively indirect. It creates a more favorable job environment, which, in its turn, reduces burnout and fosters work engagement and work outcomes (cf. Shuck and Herd, 2012).

Weaknesses, strengths, and suggestions for further research

Some weaknesses of the present study need to be mentioned. First, most constructs have been measured with a few items, and some even with one single item. Nevertheless, the internal consistencies of all shortened scales exceeded by far the usual criterion of 0.70 (average $\alpha = 0.86$). Moreover, based on a meta-analysis Warren and Landis (2007) concluded that single-item questions correlate less high with other constructs than multi-item scales. This would mean that in the current study the "true" correlations have been underestimated. The fact that despite this possible underestimation the modified research model fitted to the data underscores the validity of the measures that have been used. Recently, Fisher *et al.* (in press), demonstrated the validity of various single-item measures that are often used in organizational research, including work-home conflict, co-worker social support, role clarity, and job control that also have been used in the present study. Building on the results of the current study that confirm that short, even single-item measures can be used successfully, future research may lean more heavily on such brief measures. This would minimalize the respondent's burden, which is particular important for survey research in organizations.

Second, Modification Indices have been used to allow errors to correlate in order to improve the fit of the CFA models (see Table I). Although this *post hoc* optimization strategy is generally discouraged, it can be defended on substantive grounds such as overlapping meaning or item content (MacCallum *et al.*, 1992). This seems to be the case in the current CFA model as is exemplified by the high Modification Indices for the items on harassment and interpersonal conflict (demands), job control and participation in decision making (resources), and proactivity and self-development (outcomes) which seem to overlap.

A third weakness is the cross-sectional nature of the current study that precludes any causal inferences. Nevertheless, there is accumulating evidence from longitudinal studies with the JD-R model that job demands and job resources act as antecedents of burnout and work engagement, and various outcomes as their consequences (see Schaufeli and Taris, 2014, for a recent review). So the next step would be to confirm the results of the current study, using a longitudinal design, preferably with at least three waves so that mediation effects can be adequately tested. The current explorative, cross-sectional study on engaging leadership provides an encouraging point of departure for a suchlike longitudinal endeavor.

A fourth weakness is that employee's perceptions of leadership have been measured, instead of leadership behaviors as assessed by the supervisors themselves. Interestingly found that transformational leadership only seemed to trigger work

engagement when the leader was perceived as transformational by the employee and not in case of leader's self-reports. Therefore, future research should also include leadership behaviors as assessed by non-followers.

And finally an obvious weakness is that all constructs were measured by self-reports, which raises the question of common method variance. An attempt to fit a model that included an additional method factor on which all observed variables in the research model were supposed to load (Podsakoff *et al.*, 2003, p. 894) was not identified. Although it cannot be ruled out that common method variance might have biased the results, Spector (2006) argues that the general arguments for common method bias are to some extent overstated for surveys as the ones in the current study. Besides, self-reports are an ideal way to assess psychological concepts that have to do with, for instance, well-being, perceived job characteristics, and perceived behaviors of others (Conway and Lance, 2010). Nevertheless, future research should also include more objective outcomes, notably for job performance and sickness absence. Then despite the fact that subjective and objective performance are moderately positively related (Bommer *et al.*, 1995) and that self-reported sickness absence is a fairly good indicator of company registered sickness absence (Ferrie *et al.*, 2005), subjective and objective measures should not be used interchangeably.

The strong points of the current study are: first, its sample, which is representative for the Dutch working population; second, its efficiency, whereby a wide variety of constructs were assessed with relatively few questions; third, the fact that a well-researched model has been extended with novel concept that is rooted in a psychological theory of motivation – engaging leadership. Building on this final strength, future research may start to further explore the role of engaging leadership, for instance, by investigating in how far it fosters the actual satisfaction of basic psychological needs (autonomy, belongingness, and competence) in followers, and how this would fit into the JD-R framework. Another interesting avenue for future research would be to test the hypothesis that engaging leadership would enhance follower's career competencies. Also using the JD-R model, Akkermans *et al.* (2013) found that job resources increase employee's career competences, which in their turn, increase their levels of work engagement. So it can be hypothesized that engaging leadership may indirectly increase their follower's career competencies by increasing their job resources. Alternatively, and based on role modeling, a direct effect might also occur.

Practical implications

The findings of the current study suggest that organizations and employees are better off when they invest in increasing job resources rather than in reducing job demands. Although the latter might decrease burnout, by fostering job resources also employee's engagement is likely to be enhanced. Hence, two birds are killed with one stone. For organizations, increasing job resources makes more sense because reducing job demands (e.g. diminishing the workload by hiring more staff) is usually not an option from a financial business perspective. In most cases, increasing job resources such as performance feedback, participation in decision making, and possibilities for learning and development, is a more feasible strategy.

But above all the results of the current study illustrate the key role of engaging leadership. Engaged leaders, who inspire, strengthen, and connect their followers, provide a work context in which employees thrive, and may therefore stimulate sustainable employability throughout employee's entire career. As Soane (2014) argued, these kinds of leaders "[…] have abundant potential to create a positive

working environment that promotes engagement and a host of other beneficial outcomes" (p. 147). So in order to decrease burnout and to increase work engagement – and hence to produce favorable outcomes – organizations are well advised to promote engaging leadership. This can be done by leadership development programs (Shuck and Herd, 2012), leadership coaching (Ely *et al.*, 2010), or by leadership workshops, which rely often on the principles of goal setting (Segers *et al.*, 2010). Whatever avenue is chosen, fostering engaging leadership pays, not in terms of employee well-being also in terms of beneficial organizational outcomes.

Notes

1. The details of the preliminary analyses are available upon request.
2. The variance-covariance matrix that is used as input for the SEM analyses is available upon request.

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Appendix

Concept	No.	α	Example item	Source
Job demands				
Qualitative job demands				
Emotional demands	1	na	Is your work emotionally demanding?	QEEW
Mental demands	1	na	Does your work require much attention and concentration?	QEEW
Physical demands	1	na	Is your work physically demanding?	QEEW
Work-home conflict	1	na	Do you have trouble balancing work and private life?	Self
Quantitative demands				
Work overload	3	0.82	Do you have to work very fast?	QEEW
Work underload	1	na	Do you have too little work to do?	DUBORS
Pace of change	1	na	To me, the pace of change is generally (too low/low/just fine/high/too high)	Self
Organizational demands				
Organizational change	3	0.71	Do you agree with the changes that are implemented in your company?	Self
Red tape	3	0.86	Are you prevented from carrying out your work properly because of unnecessary rules?	Self
Harassment	4	0.81	Have you been exposed to bullying the past 12 months?	NWCS
Role conflict	3	0.80	Do you get incompatible requests?	NQPS
Interpersonal conflict	4	0.83	Are there personal conflicts within your team?	Self
Job resources				
Social resources				
Social support co-workers	3	0.85	Can you count on your colleagues for help and support, when needed?	QEEW
Social support supervisor	3	0.92	Do you feel your work is recognized and appreciated by your supervisor?	QEEW
Team atmosphere	2	0.92	Do you feel at ease in your team?	Self
Team effectiveness	3	0.86	Do you cooperate effectively in your team?	Self
Role clarity	3	0.88	Is it sufficiently clear what you need to do in your job?	NQPS
Fulfilment of expectations	2	0.86	Can you deliver the quality of work that is expected by others?	Self
Recognition	1	na	Do you feel appreciated by the people you work for (customers, citizens, patients, students)?	Self
Work resources				
Job control	7	0.90	Can you choose the way how to execute your work?	QEEW/NQPS
Person-job fit	2	0.86	My current job fits well with what I can	Self
Task variety	2	0.85	Do you perform many different tasks?	QEEW
Participation in decision making	1	na	Can you participate in decision making about work-related issues?	QEEW
Use of skills	1	na	Do you have sufficient opportunities at work to use your skills and abilities?	QEEW

(*continued*)

Table AI. Study variables

Concept	No.	α	Example item	Source
Availability of tools	1	na	I have all the tools (tools, equipment, instruments, software) needed to do my job properly	Self
Organizational resources				
Communication	3	0.82	I am sufficiently informed about the developments within my organization	QEEW
Alignment	2	0.82	My work contributes to the objectives (results) of my organization	Self
Trust in leadership	2	0.82	I trust the way my organization is managed	Self
Organizational justice	3	0.81	In my opinion, the rules and procedures at work are applied in a correct and fair manner	Jordan and Turner (2008)
Fair pay	1	na	I get sufficiently paid for the work that I do	QEEW
Value congruence	1	na	My personal values are in line with those of the organization I work for	Self
Development resources				
Performance feedback	3	0.80	Do you get feedback from others (colleagues, customers) on how you do your job?	QEEW
Possibilities for learning and development	3	0.92	In my work I always learn new things	QEEW
Career perspective	2	0.90	My job provides opportunities for promotion	QEEW
Leadership				
Inspiring	3	0.93	My supervisor is able to enthuse others for his/her plans	Self
Strengthening	3	0.88	My supervisor delegates tasks and responsibilities	Self
Connecting	3	0.92	My supervisor encourages team members to cooperate	Self
Employee well-being				
Burnout	3	0.83	I doubt the significance of my work	MBI-NL
Work engagement	3	0.86	At my job, I feel strong and vigorous	UWES
Outcomes				
Commitment				
Team commitment	1	na	I really feel closely involved with my team	Self
Organizational commitment	1	na	I really feel closely involved with my organization	Self
Turnover intention	1	na	Next year, I'm planning to change jobs	QEEW
Employability				
Workability	1	na	Generally speaking, how do you rate your work ability?	WAI
Frequency of sickness absence	1	na	How often have you been absent from work the past 12 months because of sickness?	NWCS
Duration of sickness absence	1	na	How many work days have you been absent the past 12 months because of sickness?	NWCS
Self-rated work performance	1	na	How would you rate your current job performance?	HPQ
Performance behavior				
Proactivity	3	0.86	I actively tackle problems at work	Frese *et al.* (2007)
Goal directedness	3	0.88	At work, I know exactly what results I want to achieve	Self

Table AI. (*continued*)

Concept	No.	α	Example item	Source
Self-development	3	0.89	I try to learn new things at work	Tims *et al.* (2012)
In-role performance	3	0.91	Your work performance meets all standards	Goodman and Svyantek (1999)
Extra-role performance	3	0.85	You assist colleagues with their work when they return from being absent	Goodman and Svyantek (1999)

Notes: na, not applicable; QEEW, Questionnaire on the Experience and Evaluation of Work (Van Veldhoven *et al.*, 2002); NWCS, National Working Conditions Survey (Houtman, 2012); DUBORS, Dutch Bore-out Scale (Reijseger *et al.*, 2013); NQPS, Nordic Questionnaire for Psychosocial Factors at work (Lindström *et al.*, 2000); MBI-NL, Dutch version of the Maslach Burnout Inventory (Schaufeli and Van Dierendonck, 2000); UWES, Utrecht Work Engagement Scale (Schaufeli *et al.*, 2006); WAI, Workability Index (Thorsen *et al.*, 2013); HPQ, Health and Performance Questionnaire (Kessler *et al.*, 2003)

Table AI.

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