

Daily self-management and employee work engagement



Kimberley Breevaart^{a,*}, Arnold B. Bakker^{a,b}, Evangelia Demerouti^c

^a Erasmus University Rotterdam, The Netherlands

^b Lingnan University, Hong Kong

^c Eindhoven University of Technology, The Netherlands

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ABSTRACT

The present study adopts a bottom-up approach to work engagement by examining how self-management is related to employees' work engagement on a daily basis. Specifically, we hypothesized that on days that employees use more self-management strategies, they report higher resources at work and in turn, are more vigorous, dedicated, and absorbed in their work (i.e., engaged) on these days. We tested this hypothesis in a sample of 72 maternity nurses who filled out an online diary for 5 days ($N = 360$ data points). In line with our hypotheses, results of multilevel structural equation modeling analyses showed that daily self-management was positively related to the resourcefulness of the daily work environment (i.e., more skill variety, feedback, and developmental opportunities) and consequently, to employees' daily work engagement. However, contrary to our expectations, the measurement model showed that two of the five included self-management strategies (i.e., self-reward and self-punishment) loaded onto a separate factor and were unrelated to all job resources. The findings contribute to our understanding of employees' role in regulating their own daily work engagement.

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Daily diary studies show that work engagement varies greatly within persons (Xanthopoulou & Bakker, 2012). Employees who are generally engaged in their work may be more or less engaged on a specific day depending on the amount of job resources available (e.g., Simbula, 2010; Tims, Bakker, & Xanthopoulou, 2011; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009). Hence, it is important for employees to be surrounded by a resourceful work environment (e.g., being supported, receiving feedback, and having decision latitude) on a day-to-day basis. Several studies have shown that certain leadership behaviors contribute to work-related resources like decision latitude how and when to perform the work, feedback about work, social support, and opportunities to use skills (e.g., Nielsen & Daniels, 2012; Piccolo & Colquitt, 2006; Purvanova, Bono, & Dzieweczynski, 2006; Tuckey, Bakker, & Dollard, 2012). These resources, in turn, have a positive influence on followers' work engagement. However, the timing of work and work spaces (e.g., office, home, train) become increasingly flexible. Therefore, employees are no longer always under direct supervision, and working independently becomes increasingly important. The present study focuses on how employees can take the lead themselves, and influence their own daily work engagement.

The current study contributes to the literature on work engagement and self-management by being the first to examine the relationship between daily self-management and daily work engagement. Self-management refers to employees' control over their own behavior instead of being externally controlled by the supervisor. Manz and Sims (1980) argue that self-management may even substitute leadership effects, because individuals who use self-management are responsible for many managerial functions such as monitoring performance, taking corrective actions, and seeking resources. Furthermore, we examine how self-management and work engagement are related by arguing that self-management contributes to the resourcefulness of the work environment and consequently, to employees' work engagement. Although several beneficial effects of self-management for employees and organizations have been shown (e.g., Murphy & Ensher, 2001; Raabe, Frese, & Beehr, 2007; Uhl-Bien & Graen,

* Corresponding author at: Erasmus University Rotterdam, Department of Work & Organizational Psychology, Woudestein, T12-45, P.O. Box 1738, 3000 DR Rotterdam, The Netherlands.

E-mail address: breevaart@fsw.eur.nl (K. Breevaart).

1998), very little is known about the underlying mechanisms explaining these effects. Our sample of maternity nurses enabled us to examine the suggested relationships in the appropriate context, because these nurses work independently and do not frequently interact with their leader.

1. Theoretical background

1.1. Self-management

Self-management means that employees manage and monitor their own behavior and are responsible for the decisions they make. It also means that employees, in the absence of any external control, make decisions that are less attractive, but more desirable (Manz & Sims, 1980). Self-management strategies help structuring the work environment, increase self-motivation, and facilitate behaviors that contribute to the achievement of performance standards (e.g., Hackman, 1986; Manz & Sims, 1980). Self-management strategies consist of self-observation, self-goal setting, self-cueing, self-reward, and self-punishment (Houghton & Neck, 2002). Self-observation means that individuals are aware of why and when they show certain behaviors. This awareness may lead individuals to change their behavior to improve their performance. Self-goal setting contributes to goal achievement and performance when goals are specific, challenging, and attainable (Locke & Latham, 1990). Self-cueing refers to using reminders that help focusing on what individuals need to accomplish, which enables employees to adjust their behavior to improve their performance. Finally, self-reward and self-punishment are referred to as incentive modification. That is, desirable behaviors are reinforced (e.g., treating yourself with something you like), while undesirable behaviors have aversive consequences (e.g., be tough on yourself when you do not perform well). Together, these strategies are aimed at encouraging desirable behaviors and preventing undesirable behaviors, thus ensuring successful performance (Frayne & Geringer, 2000).

According to substitutes for leadership theory (Kerr & Jermier, 1978), certain characteristics of the employee, task and organization make leadership unnecessary. That is, substitutes for leadership ensure that leadership behaviors are unable to predict follower outcomes. As mentioned earlier, self-management may substitute leadership behavior (Manz & Sims, 1980). Thus, self-management can be advantageous for organizations, because it saves time and money otherwise spend on external managers (Manz & Sims, 1980; Markham & Markham, 1995). We expect that, in the absence of a leader, self-managing individuals will optimize their daily work environment, which contributes to their daily work engagement.

We treat self-management as a state that can fluctuate within persons rather than a static characteristic. Manz and Sims (1980, 1991) argue that we all use self-management to some extent, depending on external contingencies. For example, it is likely that employees do not consciously monitor their behavior when pressing matters require their attention, such as conflicts with/between colleagues or problems arranging childcare. Research on self-management training has shown that self-management is not a stable characteristic; instead, it is trainable (Frayne & Latham, 1987; Latham & Frayne, 1989).

1.2. Daily work engagement

Daily work engagement is a transient, positive, fulfilling and work-related state of mind that is characterized by vigor, dedication and absorption and fluctuates within individuals over a short period of time (Breevaart, Bakker, Demerouti, & Hetland, 2012; Sonnentag, Dormann, & Demerouti, 2010). Vigor refers to high levels of energy and mental resilience. Next, dedication means being enthusiastic about work and inspired by the work tasks. Finally, absorption refers to being fully concentrated on work and feeling like time flies when working (cf. Schaufeli & Bakker, 2004). Daily work engagement has been associated with several positive outcomes, including personal initiative and proactive behavior (Sonnentag, 2003), self- and other-ratings of in- and extra-role performance (Bakker & Bal, 2010; Xanthopoulou, Bakker, Heuven, Demerouti, & Schaufeli, 2008), and objective financial returns (Xanthopoulou et al., 2009). Among the best-known predictors of work engagement are job resources (for meta-analyses, see Crawford, LePine, & Rich, 2010; Halbesleben, 2010). Moreover, research has shown that leaders' daily behavior positively affects the resourcefulness of the work environment, which in turn, stimulates employees' work engagement on these days (Breevaart et al., 2013; Tuckey et al., 2012). As leaders are no longer "always around", it is becoming increasingly important to complement this leader-focused approach to work engagement and its predictors with an employee-focused approach, i.e., self-management. The present study focuses on skill variety, feedback and opportunities for development as outcomes of self-management initiatives of employees, because they are valuable (e.g., Bakker & Bal, 2010) and contribute to performance by increasing work engagement (for a meta-analysis see Halbesleben, 2010).

2. Hypotheses

Self-management strategies are aimed at increasing the efficiency with which work is carried out as to increase the likelihood of goal achievement and high performance (Manz, 1986). Because job resources are aspects of a job that contribute to the achievement of working goals (Bakker & Demerouti, 2007), they are especially salient for self-managing individuals. Self-managing individuals have the authority and control to make decisions (Uhl-Bien & Graen, 1998), which is a requisite for employees to actually make changes in the work environment (Tims & Bakker, 2010; Wrzesniewski & Dutton, 2001). As job resources hold intrinsic value to people and people are motivated to gain, protect, and regain resources (Hobfoll, 1989, 2002), this latitude to decide how to perform work makes it likely that self-managing individuals mobilize their own resources. For example, on the days that individuals use self-goal setting, they set specific goals, which may provide them with the opportunity to acquire new skills (i.e., developmental opportunities). Another example is that awareness and monitoring of one's own behavior (i.e., self-observation), provide feedback

about how well one is performing the work and may also require the use of different skills when behaviors are dysfunctional. These arguments lead to the following hypothesis:

Hypothesis 1. Daily self-management is positively related to daily job resources (i.e., skill variety, feedback, and developmental opportunities).

Job resources increase work engagement because they are either intrinsically or extrinsically motivating (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). Job resources can be extrinsically motivating when they contribute to the achievement of working goals and intrinsically motivating when they fulfill employees' basic needs. For example, the opportunity to develop one's presentation skills may satisfy one's need to feel competent at work. Several diary studies examined the daily relationship between job resources and work engagement, showing that employees are more engaged on days when more job resources are available. For example, Xanthopoulou et al. (2008) showed that flight attendants were more engaged on the days that they received more social support from their colleagues. In another study, Xanthopoulou et al. (2009) showed that employees in a Greek fast-food restaurant were more engaged on days that they had more autonomy and received more coaching. In line with these findings we hypothesize:

Hypothesis 2. Daily job resources are positively related to daily work engagement.

The present study further contributes to the literature by examining the process through which daily self-management is related to daily work engagement. Hitherto, we argued that self-managing individuals mobilize their resources whenever they are able to, because people are motivated to conserve and accumulate their resources (Hobfoll, 1989, 2002). For example, Hakanen, Perhoniemi, and Toppinen-Tanner (2008) showed that task-level job resources increased individuals' work engagement and in turn, further accumulated people's job resources. In a similar vein, Bakker and Bal (2010) showed that weekly job resources had a positive relationship with weekly work engagement, but that weekly work engagement also had a positive, lagged effect on next week's job resources. Llorens, Schaufeli, Bakker, and Salanova (2007) found that task resources fostered the personal resource efficacy beliefs, which contributed to people's task engagement. In addition, task engagement then increased efficacy beliefs, which further built individuals' task resources. Taken together, these studies suggest that employees are inclined to accumulate their resources at work. Since job resources start a motivational process leading to higher employee work engagement on a day-to-day basis (e.g., Xanthopoulou et al., 2008, 2009), we expect that self-management is related to engagement through the mobilization of job resources.

Hypothesis 3. Daily self-management is positively related to daily work engagement through daily job resources (mediation hypothesis).

3. Method

3.1. Participants and procedure

We approached maternity nurses working in a Dutch maternity care organization to fill out the same, short online questionnaire at the end of each working day. In diary studies, participants are often requested to fill out the diary for five consecutive working days. Since maternity nurses have no conventional work weeks and can therefore have as much as two weeks off, we enabled them to fill out the questionnaire on five days during a period of five weeks. We sent an e-mail with the link to the online questionnaire and a personal login code to each participant. All 162 maternity nurses were approached to participate in our study. After five weeks, 72 nurses filled out the questionnaires ($M = 4.6$ days), which resulted in a response rate of 44.4%. The mean age was 44.7 ($SD = 9.66$), ranging from 21 to 64. On average, the nurses had 22.08 years work experience ($SD = 10.41$), of which they worked 14.29 years ($SD = 9.27$) in the current organization. Most participants were either cohabiting or living together (87.5%), with (71.4%) or without (28.6%) children living at home. The vast majority of participants completed a vocational or lower degree (84.72%).

3.2. Measures

All study variables were measured using daily diaries. We used existing scales to measure our variables, but adjusted them in two ways: (1) we adjusted the time frame of the scales so that they referred specifically to the day (cf. Ohly, Sonnentag, Niessen, & Zapf, 2010), and (2) we reduced the number of items whenever possible to reduce interference with daily work life.

3.2.1. Day-level self-management

Day-level self-management was measured with fourteen items from the behavioral focused strategies of the revised self-leadership questionnaire (Houghton & Neck, 2002). This questionnaire measured five self-management strategies. For each strategy, we choose three items with the highest factor loadings. However, since the original questionnaire only includes two items for the strategy of self-cueing, this self-management strategy was assessed with two items. Example items are "Today, I consciously had goals in mind for my work efforts" (self-goal setting), "Today at work, when I did well on an assignment, I treated myself with something I like" (self-reward), "Today, I tended to go down on myself in my mind when I performed poorly" (self-punishment), "Today, I was usually aware of how well I was doing at work" (self-observation), and "Today, I used written notes to remind myself of what I needed to

accomplish” (self-cueing). Participants could respond to the items on a 7-point scale, ranging from 1 (*totally disagree*) to 7 (*totally agree*).

3.2.2. Day-level job resources

Daily skill variety, daily feedback and daily developmental opportunities were measured with three items each. All scales were based on scales developed by Bakker, Demerouti, and Verbeke (2004). An example item for each resource is: “Today, my work required the use of different talents” (skill variety), “Today, I received a sufficient amount of information about the results of my work” (feedback) and “Today, my work offered me the opportunity to learn new things” (developmental opportunities). The items could be answered on a 7-point scale, ranging from 1 (*not at all*) to 7 (*a very large degree*).

3.2.3. Day-level work engagement

Daily work engagement was measured with the adapted version (Breevaart et al., 2012) of the 9-item Utrecht Work Engagement Scale (UWES; Schaufeli, Bakker, & Salanova, 2006). Example items are “Today at work, I felt bursting with energy” (vigor), “Today, I was inspired by my job” (dedication) and “Today, I was immersed in my work” (absorption). The statements could be answered on a 7-point scale (1 = *totally disagree*, 7 = *totally agree*).

3.3. Strategy of analysis

We tested our multilevel structural equation models using Mplus (Muthén & Muthén, 1998–2010). We have a multilevel design with days at the first level (Level 1; $N = 360$) nested within persons at the second level (Level 2; $N = 72$). The intraclass correlation (ICC) indicated that the variance explained by the day level ranged from 30.9% in self-management to 49.4% in developmental opportunities (see Table 1). Furthermore, we used the online interactive tool by Selig and Preacher (2008) to create confidence intervals for the indirect effects. This method is preferred over the delta method confidence intervals provided by Mplus, because it does not make assumptions about the distribution of the indirect effect. Finally, because participants were given the opportunity to fill out the diary during a period of five weeks, we controlled for the day the diary was filled out in all our analyses.

4. Results

4.1. Descriptive statistics

Table 1 shows the day-level inter-correlations and the means, standard deviations, ICCs, and internal consistencies of the study variables averaged over five days. The internal consistencies for daily self-management (i.e., self-observation, self-cueing, & self-goal setting) ranged from .77 to .87 across days. For the job resources, internal consistencies varied across days from .76 to .82 for skill variety, .85 to .90 for feedback and .61 to .88 for developmental opportunities. Finally, internal consistencies ranged from .80 to .96 across days for work engagement.

4.2. Results of structural equation modeling analyses

4.2.1. Measurement model

We first tested a measurement model to examine the construct validity of our variables. The measurement model consisted of five factors; self-management (five dimensions), skill variety (3 items), feedback (3 items), developmental opportunities (3 items), and work engagement (3 dimensions). This model showed satisfactory fit to the data ($\chi^2(109) = 170.82$; CFI = .95; RMSEA = .04; SRMR = .06), and all indicators loaded significantly on the intended factors ($p < .001$), except for some of the indicators of self-management. Self-goal-setting (.64), self-observation (.60), and self-cueing (.35) loaded significantly on the factor self-management ($p < .01$), but self-reward (.09) and self-punishment (.18) did not. Therefore, we tested an alternative measurement model, whereby self-management was split into two factors. The first factor consisted of self-goal-setting, self-observation and self-cueing (from here on called self-management), and the second factor consisted of self-reward and self-punishment (from here on called incentive modification). This model also fitted well to the data ($\chi^2(104) = 136.80$; CFI = .97; RMSEA = .03; SRMR = .05), and this time all factors had significant factor loadings ($p < .01$).

Table 1

Means, standard deviations, inter-correlations and internal consistencies (Cronbach's alphas on the diagonal) between the study variables, $N = 72$ persons, $N = 360$ days).

	<i>M</i>	<i>SD</i>	ICC	1.	2.	3.	4.	5.
1. Daily self-management	4.31	1.25	30.9%	(.82)				
2. Daily skill variety	5.30	1.25	48.8%	.43*	(.78)			
3. Daily feedback	4.91	1.45	36.7%	.46*	.54*	(.87)		
4. Daily developmental opportunities	4.64	1.30	49.4%	.44*	.56*	.46*	(.79)	
5. Daily work engagement	5.88	1.04	43.5%	.41*	.63*	.56*	.55*	(.93)

* $p < .001$.

4.2.2. Structural models

Hypothesis 1 states that daily self-management is positively related to daily job resources. Self-management was indeed positively related to skill variety (estimate = .44, $p < .001$, $.28 \leq B-CCI \leq .59$), feedback (estimate = .48, $p < .001$, $.29 \leq B-CCI \leq .66$), and developmental opportunities (estimate = .44, $p < .001$, $.22 \leq B-CCI \leq .67$) on a daily basis. However, daily incentive modification was unrelated to daily skill variety (estimate = $-.05$, *n.s.*), daily feedback (estimate = $-.06$, *n.s.*), and daily developmental opportunities (estimate = $.06$, *n.s.*). Thus, **Hypothesis 1** is partly confirmed as only three of the five dimensions of self-management are related to job resources.

Hypothesis 2 states that daily job resources are positively related to daily work engagement. On days that skill variety (estimate = $.36$, $p < .01$, $.16 \leq B-CCI \leq .57$), feedback (estimate = $.26$, $p < .01$, $.12 \leq B-CCI \leq .40$), and developmental opportunities (estimate = $.22$, $p < .05$, $.04 \leq B-CCI \leq .41$) were high, daily work engagement was also high, indicating a positive relationship. This means that **Hypothesis 2** is supported.

Hypothesis 3 states that daily self-management is positively related to daily work engagement through daily job resources. The results of our multilevel structural equation modeling analyses showed that the relationship between daily self-management and daily work engagement was mediated by feedback (estimate = $.13$; $p < .05$; $.06 \leq B-CCI \leq .29$), and developmental opportunities (estimate = $.10$; $p < .05$; $.02 \leq B-CCI \leq .20$), but only marginally by skill variety (estimate = $.16$; $p = .06$). This model fitted well to the data (RMSEA = $.03$; CFI = $.97$; TLI = $.97$; SRMR = $.05$), and explained 18.8% of the variance in daily skill variety, 21.6% in daily feedback, 20.0% in daily developmental opportunities, and 49.8% in daily work engagement. Thus, **Hypothesis 3** is largely supported.

We also tested a model including a direct path from daily self-management to daily work engagement. Adding this path did not result in a significant decrease in χ^2 ($\Delta\chi^2(1) = .37$, *n.s.*), so we prefer our hypothesized, more parsimonious model. Finally, we performed contrast analyses to compare the importance of the different resources in the mediation between daily self-management and daily work engagement. Results showed that there are no significant differences (ranging from $-.04$ to $.03$) and thus, all resources seem equally important. The final model is presented in Fig. 1.

5. Discussion

The present study is the first to examine the relationship between self-management and work engagement. Self-management is especially relevant when there is no daily interaction with the leader, as was the case for the maternity nurses who participated in the study. Maternity nurses work independently and see their leaders irregularly. Within this context, we showed that self-management is positively related to employees' work engagement. Moreover, we showed that people who use self-management strategies have more resources and this is the reason why they are more engaged in their work.

5.1. Theoretical implications

The present study shows that self-management contributes to employee work engagement through its influence on the availability of job resources. Specifically, we showed that the use of self-management strategies differs from day to day and has a differential effect on job resources and work engagement, depending on the day. On days that employees used self-management, they create an environment in which they can use more and different skills, receive feedback from their work on how well they

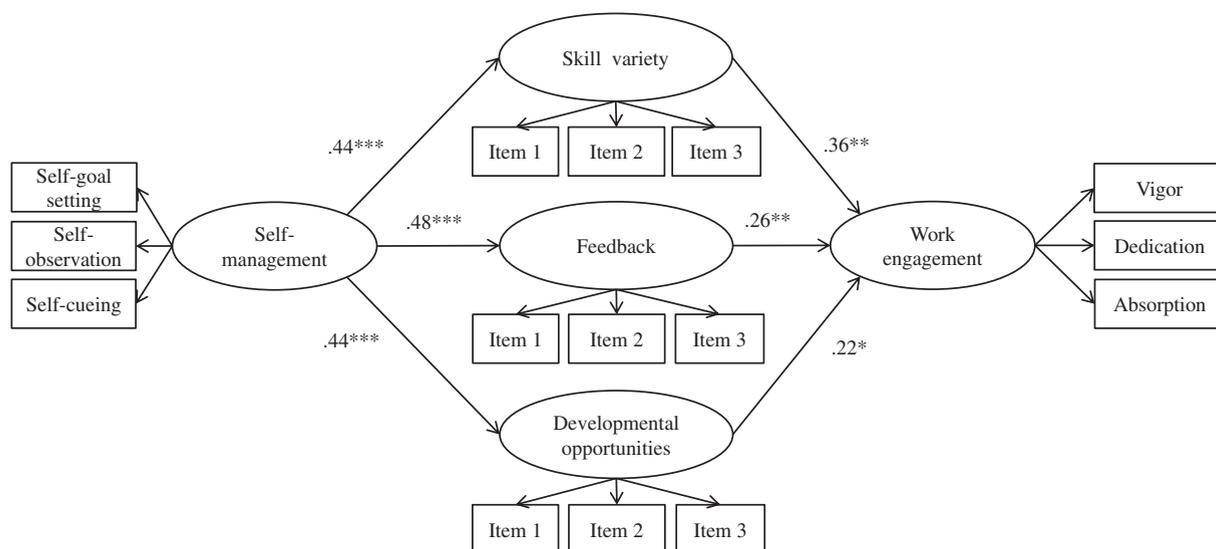


Fig. 1. Proposed self-management model showing standardized estimates. Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

are doing, and have opportunities to grow and develop. In turn and in line with previous research (e.g., Xanthopoulou et al., 2008, 2009), job resources initiate a motivational process, whereby employees are more engaged in their work.

We examined our model using daily diaries. Compared to cross-sectional or longitudinal studies, diary studies have several strengths. Most importantly, diaries allow us to study within-person fluctuations in behaviors. We showed that 30.9% of the variance in self-management could be attributed to within-person differences, indicating that the extent to which individuals use self-management fluctuates from day-to-day. Therefore, this study offers new insights into the manifestation of self-management. We showed that self-reward and self-punishment did not load onto the self-management factor and were unrelated to specific job resources included in the study (i.e., skill variety, feedback, and developmental opportunities). A possible explanation for this finding may be that the self-management questionnaire that we used was originally developed for studying general self-management. It is common practice to adapt existing scales for use in diary studies, for example, by adapting the time frame (i.e., referring to the day) and the number of items. However, as Breevaart et al. (2012) noted, the questions of these existing scales were originally developed to measure general experiences and may therefore be difficult to answer on a day-to-day basis. This may also have been a problem for some of the items meant to measure incentive modification. For example, one of the self-reward items states “When I performed well at work today, I treated myself with something special, such as having dinner at a restaurant, going to the movies, going shopping etc.” Although this is what people sometimes do, it does not seem feasible to do every day. Regarding self-punishment, these items refer to blaming yourself or feeling guilty about not performing well. Maternity nurses may have had difficulties confirming this behavior every day, because they most likely only perform poorly every once in a while and not every day. Indeed, we could see from the means that people generally disagreed with the self-reward ($M = 1.57$) and self-punishment ($M = 2.24$) items. This means that we are in need of different items to measure self-reward and self-punishment on a daily basis.

To our knowledge, the current study is one of the first to approach the antecedents of work engagement from a bottom-up perspective (see also, Tims, Bakker, & Derks, 2013). Although previous research has shown the beneficial effects of daily transformational and empowering leadership on employees' daily job resources and daily work engagement (e.g., Breevaart et al., 2013; Nielsen & Daniels, 2012; Tuckey et al., 2012), we are unaware of any studies that examine how employees' work engagement is affected when leaders and followers do not interact on a daily basis. Thus, we contribute to the literature on daily work engagement by showing that, in the absence of a daily leader, employee self-management can positively influence the resourcefulness of the work environment and consequently, contribute to employees' work engagement. This suggests that self-management can indeed act as a substitute for leadership (Manz & Sims, 1980).

Furthermore, we contribute to the literature on self-management by showing how self-management exerts its positive influence on employees. Most research on self-management focuses on the direct effects of self-management on employees, but we are unaware of any studies examining the underlying mechanisms of self-management. We show that job resources are salient for self-managing individuals, which explains why self-management is positively related to employee work engagement. Besides, although research on self-management has shown that self-managing individuals are satisfied with their work and their career, perform better and have higher self-efficacy (e.g., Murphy & Ensher, 2001; Raabe et al., 2007; Uhl-Bien & Graen, 1998), our study is the first to show that individuals are also more engaged in their work.

5.2. Practical implications

As working independently and without direct supervision from a leader gains momentum, the present study has some important practical implications. Employees are more and more often allowed or even asked to work outside conventional working hours and work places, which means they are no longer under direct supervision by their leader. This not only requires new ways of leadership, but also presents various challenges to employees, the most important of which probably being the amount of autonomy they receive in how and when to perform their work. Therefore, self-management may be especially relevant.

As mentioned earlier, research has shown that self-management can be learned. Frayne and Geringer (2000) developed a training program in which groups of 15 trainees met with a trainer every week during a period of four weeks. During their weekly, two-hour meetings, trainees were provided with lectures, case studies and participated in group discussions targeting specific self-management strategies. Compared to the control group, the self-management training improved employees' self-efficacy and job performance. Strikingly, job performance in the training group kept improving 12 months after finishing the training. Self-management training provides an opportunity for organizations to improve employees' work environment and consequently, enhance employees' work engagement. Furthermore, organizations can save time and money offering self-management training to their employees, because employees who use self-management strategies are less in need of external supervision (Manz & Sims, 1980; Markham & Markham, 1995). As a supervisor is no requirement for self-management, training self-management has sustainable advantages.

5.3. Limitations and implications for future research

The present study is not without limitations. First, our results could be affected by a nonresponse bias. As only 44.4% of all maternity nurses that were approached participated in our study, there is a chance that the respondents are different from those who did not respond. For example, non-respondents may be less engaged compared to respondents. According to Krosnick (1999) and Dillman (1991), when respondent characteristics are representative of non-respondents, low rates of return are not biasing. Yet estimating nonresponse is a challenge given that, in most cases, the identity of non-respondents is unknown (Dey,

1997), which is also the case in the present study. However, because we look at within-person variations in self-management from a person's baseline and we do not focus on between-person differences, it is unlikely that our results are biased by non-responses.

The design of our study does not allow us to rule out reversed causality, namely that on days that employees are more engaged they get more resources at work and consequently are more motivated to employ self-management. However, we consciously chose this particular design, because we were interested in short-term, same day effects of self-management on work engagement. Future research may try to establish causality by using multiple measurement points a day. For example, self-management strategies may be measured just before lunch and job resources and work engagement at the end of the work day. In this situation, it becomes increasingly important to reduce the length of the questionnaire as far as possible to minimize interference with work flow and to maximize response rates.

Finally, we chose to employ self-reports only. In line with recommendations by Conway and Lance (2010), self-reports are best used when researchers study private experiences (i.e., self-management and work engagement), which may be difficult to rate by other sources. Especially for the sample of the present study – maternity nurses who work relatively independent – it may be difficult for colleagues and/or leaders to rate employees' daily work engagement or self-management. Similarly, job resources are best rated by employees themselves, because the constellation of resources may be unique for every employee and therefore, difficult to judge by others (Bakker & Demerouti, 2007).

It would be interesting for future research to examine the hypothesized model in a sample of participants who frequently interact with their leader to examine whether self-management actually substitutes for leadership. Does self-management supersede the impact of transformational or empowering leadership on followers' work engagement? Another possibility may be that certain leadership behaviors determine the degree to which followers use self-management strategies. For example, followers may feel less need to use self-management strategies when their leader shows many transformational leadership behaviors, while the opposite may be true when leaders show few transformational leadership behaviors. Yet another possibility is that, when combined, the effects of leadership behavior and the use of self-management strategies is greater than the sum of its parts. Disentangling these relationships would advance our understanding of boundary conditions of self-management strategies.

Another interesting path to follow in future research is the motivational process that explains how self-management is related to employee work engagement. Optimal work environments are characterized by high job resources, high challenging demands and low hindrance demands (Bakker & Demerouti, 2014). Challenge demands are also termed 'good' demands, because even though they require effort, they contribute to learning and achievement (Cavanaugh, Boswell, Roehling, & Boudreau, 2000). Hindrance demands are called 'bad' demands, because they hinder personal growth and goal achievement (LePine, Podsakoff, & LePine, 2005). It seems likely that self-managing individuals, in control of creating their direct work environment, not only increase their job resources, but also create daily challenges and reduce daily hindering demands whenever possible. This may be most likely on busy days, because Petruo, Demerouti, Peeters, Schaufeli, and Hetland (2012) found that employees particularly made changes in their work environment on days with high work pressure and high autonomy.

6. Conclusion

To conclude, the present study is one of the first to examine bottom-up antecedents of daily job resources and in turn, daily work engagement. To our knowledge, we are the first to show that daily self-management is positively related to daily work engagement. Furthermore, we provide insight into a possible mechanism relating daily self-management to daily work engagement. Job resources explain part of the relationship between daily self-management and daily work engagement. In sum, the present study suggests that self-management is a promising way for employees to motivate themselves on a daily basis in the absence of any direct supervision.

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