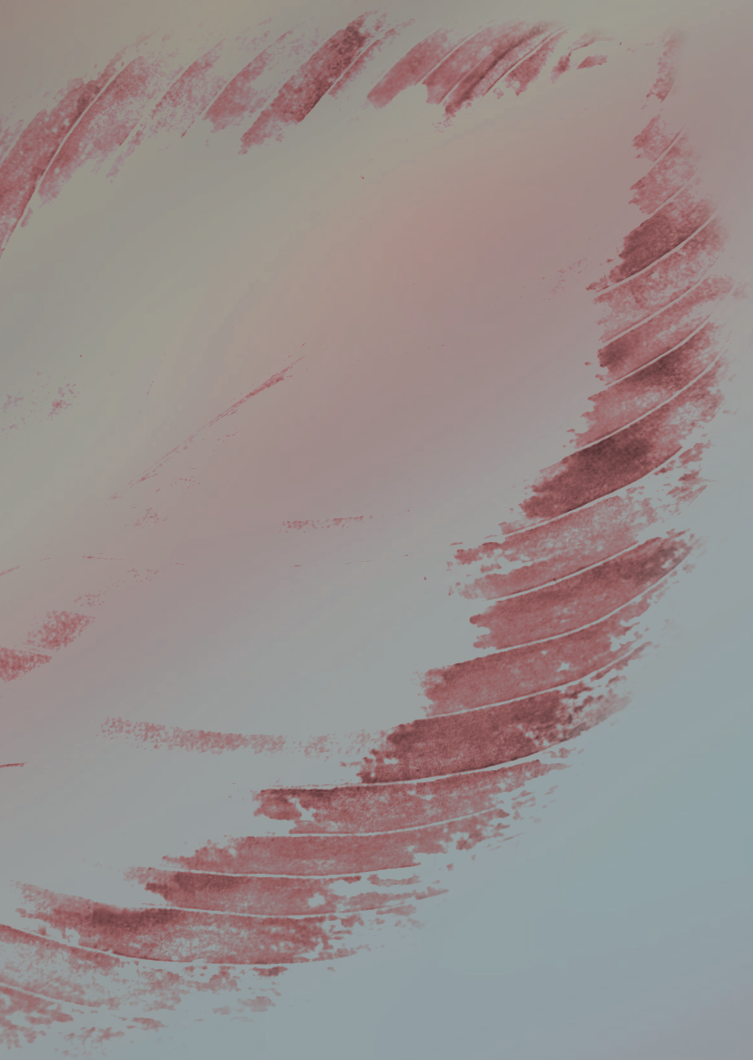
Engaging Leadership



Kimberley Breevaart

Engaging Leadership

Kimberley Breevaart

The work presented in this dissertation was conducted at the department of Work and Organizational Psychology at the Erasmus University Rotterdam and funded by ArboVitale.

Financial support for the publication of this thesis was kindly provided by the J.E. Jurriaanse Stichting.

ISBN: 978-94-6299-067-8
Printed by: Ridderprint B.V.
Cover design: Robert Voogt
Layout: Ridderprint B.V.

Engaging Leadership

Bevlogen leiderschap

Proefschrift

Ter verkrijging van de graad van doctor aan de Erasmus Universiteit Rotterdam
op gezag van de rector magnificus

Prof.dr. H.A.P. Pols

en volgens besluit van het College voor Promoties.

De openbare verdediging zal plaatsvinden op
vrijdag 29 mei 2015 om **11.30** uur

door

Kimberley Breevaart

geboren te Rotterdam

PROMOTIECOMMISSIE

Promotoren:	Prof.dr. A.B. Bakker Prof.dr. E. Demerouti
Overige leden:	Prof.dr. M.Ph. Born Prof.dr. C.V. van Vuuren Dr. D.A. Stam

CONTENTS

CHAPTER 1
General Introduction

INTRODUCTION

Leaders play a profound role in the daily life of their followers. Not only do followers rely on their leader for guidance, leaders also influence how followers feel about their work and how well they perform their work (Skakon, Nielsen, Borg, & Guzman, 2010). Leaders may, for instance, have an impact on how satisfied followers are with their work, how exhausted they are and how stressed they feel. But what exactly is leadership? Although many definitions of leadership exist, they have certain commonalities. Accordingly, leadership is a process (i.e., interaction between leader and follower) in which an individual (i.e., the leader) influences a group of individuals (i.e., followers) to achieve a common goal (Northouse, 2012). For long, researchers have been looking for the most effective person to lead, focusing on personality traits that characterize effective leaders. However, no specific set of traits has been found to characterize all effective leaders. From the mid-nineties, researchers started to focus on effective leadership *behaviors* rather than personality traits to describe effective leaders. This resulted in a broad distinction between task-oriented leader behaviors, such as setting clear performance expectations and defining performance standards; and people-oriented leader behaviors, such as being friendly and being considerate of followers' well-being. These behaviors are still reflected in many contemporary leadership styles such as transformational (people-oriented) and transactional (task-oriented) leadership and leader-member exchange theory, in which leader behaviors range from task-oriented to people-oriented, depending on the quality of the relationship between leader and follower.

In search of the most effective way to lead, transformational leadership behaviors have been the most popular and most often studied leadership behaviors. These behaviors include inspiring followers with an optimistic view of the future, challenging followers to view their work from different perspectives, and being supportive. Transformational leadership behaviors are known to be effective, as reflected by higher follower job performance and job satisfaction (for meta-analyses see Dumdum, Lowe, & Avolio, 2002; Wang, Courtright, & Colbert, 2011). An important question that I try to answer in this dissertation is *how* these behaviors are related to followers' motivation and performance. Understanding the underlying processes that explain how transformational leadership behaviors are related to follower outcomes such as motivation and job performance, advances transformational leadership theory and provides tools for leadership development. Furthermore, although researchers agree that leaders use a variety of behaviors (i.e., both people- and task-oriented behaviors), leadership behaviors are often treated as rather stable. Yet, it seems likely that leaders are more inspirational when they, for example, are more engaged in their work themselves and less inspirational when they have a high workload due to an approaching deadline. In this dissertation I therefore focus on the dynamic part of leadership by studying how fluctuations in leadership behaviors influence followers and by studying different leadership behaviors simultaneously. Finally, I focus on the role of followers in the leadership process. Followers are often treated as passive recipients of leadership, while it has even been shown that leaders adapt their behaviors depending on characteristics of their followers (Dvir & Shamir, 2003). Furthermore, it is becoming increasingly common for followers to no longer work under direct supervision all the time. For example,

employees have more flexibility in when and where they work (Baarne, Houtkamp, & Knotter, 2010) and due to the increased complexity of work, followers expect and are expected to work more autonomously. In an attempt to address these issues, I present a series of studies in this dissertation in which I investigate (1) *how* and (2) *when* leader behaviors affect employee work engagement and performance – in general and within a short term period (i.e., day/week). Before discussing the specific research questions central to this dissertation, the leadership behaviors studied in this dissertation are briefly introduced.

LEADERSHIP

One of the most popular and well-examined approaches to leadership is the transformational leadership approach. Transformational leaders, such as John F. Kennedy, Martin Luther King Jr., Mahatma Gandhi, and Eva Péron, inspire their followers with their positive vision of the future. Working toward the realization of this vision creates a collective identity among followers (Bass, 1985). Furthermore, transformational leaders encourage their followers to be creative and critical within a safe environment and are attentive to the needs of their followers. Transformational leadership behaviors are highly effective; followers perform well, are highly motivated and satisfied with their job and have a high quality relationship with their leader (see for example, Howell & Hall-Merenda, 1999; for a meta-analysis see for example, Judge & Piccolo, 2004).

Burns (1978) introduced the concept of transformational leadership with his book on political leadership. In the book "Leadership", he contrasted purely transaction-based leadership with inspirational and ideological based leadership, which he termed transformational leadership. It was Bass' (1985) revised version of the theory that increased the theory's popularity and influence in the leadership literature. Bass claims that transactional and transformational leadership behaviors are not mutually exclusive, but the most effective leaders use both. Transactional leaders are mainly focused on how well followers perform their work. For example, transactional leaders set rules to prevent followers from making mistakes, correct followers when they make mistakes and/or reward their followers when they perform well (e.g., praise them). Hence, transactional leader behaviors are more task-oriented whereas transformational leader behaviors are more people-oriented. In support of this view, Howell and Hall-Merenda (1999) showed that transactional leadership is often used in low leader-member exchange (LMX) relationships, because exchanges between leaders and followers in these relationships are purely economic and leaders influence their followers in a unidirectional manner. High-quality LMX relationships are characterized by mutual trust, reciprocity and the willingness to put extra effort into work, which is closely related to transformational leadership.

Bass (1985) suggests that leaders use both transformational behaviors and transactional behaviors, but that the most effective leaders use transformational behaviors more frequently. Judge and Piccolo (2004) meta-analyzed the (in)effectiveness of transformational and transactional leadership behaviors and their results support Bass' idea that transformational leadership behaviors are more effective than transactional leadership behaviors. Specifically, Judge and Piccolo showed that transformational leader behaviors were most strongly and

positively related to important outcomes (i.e., satisfaction with the leader, follower motivation, leader job performance and leader effectiveness), followed by one component of transactional leadership (i.e., rewarding followers when they perform well). Furthermore, another transactional leadership behavior (i.e., actively trying to prevent followers from making mistakes) was unrelated to the outcomes, while correcting followers after making mistakes (also a transactional leadership behavior) was negatively related to the outcomes. In this dissertation, I investigate the effectiveness of both task- and people-oriented behavior in enhancing followers' work engagement and performance. To this end, the definition and antecedents of work engagement are now discussed.

WORK ENGAGEMENT

Individuals who are engaged in their work are full of energy. They are very enthusiastic about their work, and are well able to cope with adversities. Moreover, engaged workers often feel that time flies when they are working (Schaufeli & Bakker, 2004). Being engaged in one's work is of great importance, because we spend a lot of our waking hours at work and it is becoming even more important, because in the Netherlands, we all have to continue working until at least the age of 67. Organizations also benefit from having engaged employees, because engaged employees are healthier (e.g., Demerouti, Bakker, De Jonge, Janssen, & Schaufeli, 2001), less often absent (Schaufeli, Bakker, & Van Rhenen, 2009), and less inclined to quit their job (for a meta-analysis, see Halbesleben, 2010) compared to their non-engaged counterparts. Probably most important to organizations, especially in these times of financial turmoil, is that individuals who are engaged in their work are able to invest all their energy and effort in their work, which results in better job performance (for a review, see Christian, Garza, & Slaughter, 2011). So, how can organizations improve their employees' engagement?

Among the most well-known and well-examined predictors of work engagement are job resources. Job resources are the physical, psychological, social or organizational aspects of a job that are functional in achieving work goals, reduce the impact of job demands and/or stimulate personal growth, learning and development (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). Thus, employees become more engaged in their work when they have more resources available, such as decision latitude, feedback on how well they do their job, opportunities to use a variety of skills, and opportunities to grow and develop. For example, in his meta-analysis, Halbesleben (2010) showed that employees become more engaged in their work when they receive social support from their colleagues and when they have decision latitude to decide how and when to perform their work.

A possible explanation for the motivational potential of job resources is that job resources fulfill basic needs. According to self-determination theory (SDT; Deci & Ryan, 2000), each individual has three basic and innate needs. These are the need for autonomy (i.e., the need to act without restrictions), the need for competence (i.e., the need to feel effective in interacting with the environment), and the need for relatedness (i.e., the need to have meaningful relationships). For example, being able to decide in which order to carry out your tasks is likely to contribute to the fulfillment of the need for autonomy. Social support from

colleagues may fulfill your need for relatedness, and learning how to improve your efficiency based on feedback from others probably fulfills the need for competence. In turn, basic need fulfillment allows people to thrive and function optimally, thereby contributing to how engaged people are in their work.

To my knowledge, there are only two studies that examined the relationship between need fulfillment and work engagement. Using an experimental design, Kovjanic, Schuh, and Jonas (2013) showed that fulfillment of the need for competence and relatedness led to higher work engagement. In a cross-sectional survey study among 745 employees, Van den Broeck, Vansteenkiste, De Witte, and Lens (2008) showed that job resources (i.e., task autonomy, skill utilization, and positive feedback) contributed to fulfillment of the basic needs, which in turn, influenced employees' vigor (i.e., a key component of work engagement). The studies included in this dissertation build on this preliminary work. Specifically, in a series of studies (including surveys, other-ratings, and a quantitative diary study), I test the proposition that leaders influence the resourcefulness of the followers' work environment and thereby satisfy followers' needs. It is through the satisfaction of these basic needs that leaders influence followers' work engagement and performance.

Leadership and Work Engagement

Very little is known about leaders' ability to enhance their followers' work engagement. Considering that work engagement is a positive, affective-motivational state, it seems likely that leaders with motivational power and inspirational appeal, such as transformational leaders, are well equipped to contribute to their followers' work engagement. In their cross-sectional survey study, Babcock-Roberson and Strickland (2010) showed that leaders' charisma, a key component of transformational leadership, was positively related to followers' work engagement and consequently, to followers' organizational citizenship behavior (OCB). To my knowledge, only two studies have shown that followers become more engaged in their work when leaders use more transformational leadership behaviors. Zhu, Avolio, and Walumbwa (2009) asked 140 senior managers to rate their executives' transformational leadership, their own work engagement, and their own follower characteristics. They showed that managers were more engaged in their work when their executive showed more transformational leadership behaviors, especially for those followers who scored high on positive follower characteristics (e.g., being an active learner). Tims, Bakker, and Xanthopoulou (2011) showed that transformational leadership was related to follower work engagement through follower optimism.

One of the main goals of this dissertation is to find an explanation for the link between leader behaviors and follower work engagement. How do leaders influence their followers' levels of vigor, dedication, and absorption? Avolio, Zhu, Koh, and Bhatia (2004) have argued that although leadership has been "positively associated with work attitudes and behaviours at both an individual and organizational level (Dumdum et al., 2002; Lowe, Kroeck, & Sivasubramaniam, 1996), . . . the mechanisms and processes by which . . . leaders exert their influence on their followers' motivation and performance have not been adequately addressed in the literature" (p. 951). With the studies presented in this dissertation, I try to fill this void in the literature by examining various

job resources and follower need fulfillment as underlying mechanisms explaining how leader behaviors are related to followers' work engagement and job performance.

Following the management of meaning perspective (Smircich & Morgan, 1982), it is argued that leaders contribute to the resourcefulness of the work environment. According to this perspective, leaders shape and give meaning to the reality in which followers work. One way in which leaders may shape this reality is by their power to influence the resourcefulness of the work environment. In line with this reasoning, some studies show that transformational leaders positively influence job resources such as autonomy, feedback (Piccolo & Colquitt, 2006), and role clarity (Nielsen, Randall, Yarker, & Brenner, 2008). There is also some evidence that certain leader behaviors are able to fulfill followers' basic needs.

Interestingly, Bass (1990) argued that appealing to followers' higher order needs differentiates transformational leaders from transactional leaders. Being a central tenet of transformational leadership theory, surprisingly few studies have tested this proposition (Hetland, Hetland Andreassen, Pallesen, & Notelaers, 2011; Kovjanic, Schuh, Jonas, Van Quaquebeke, & Van Dick, 2012; Kovjanic et al., 2013). For example, in a sample of Norwegian employees, Hetland et al. found that transformational leaders satisfied followers' need for autonomy, competence, and relatedness, whereas leaders who actively try to prevent followers from making mistakes reduced followers' basic need fulfillment.

Building on these findings, I attempt to make a more integrated effort to show how leaders behaviors are related to both employee motivation (i.e., work engagement) and job performance by (1) including both task- and people-oriented leadership behaviors, (2) examining a sequentially mediating mechanism through which leaders influence their followers' work engagement and job performance (i.e., the availability of followers' job resources and the fulfillment of followers' basic needs), (3) studying leader behaviors as a general trait as well as a fluctuating state, and (4) examining the role of follower characteristics in the effectiveness of leader behaviors. Before discussing the specific research questions, the definition and importance of daily work engagement is outlined, followed by a brief discussion of the role of followers in the leadership process.

DAILY WORK ENGAGEMENT

Work engagement has long been considered a trait. Yet, research has shown that although employees may be generally engaged in their work, they may be more or less engaged on certain days, depending on what happens during these days (Xanthopoulou & Bakker, 2012). Rather than focusing on differences in work engagement between people, this type of research looks at differences in work engagement within the same person in a short period of time (Sonnentag, Dormann, & Demerouti, 2010). There are several advantages to approaching work engagement as a state. For example, it allows us to look at work engagement as it occurs (i.e., people only have to think back over a few hours instead of having to think back over the last months/years) and it thereby does justice to the dynamic nature of work engagement. Moreover, looking at within-person variations in work engagement enables us to examine more proximal predictors and outcomes of work engagement. This also offers practical insights,

such as what can be done to increase work engagement on days that it is especially important for employees to be engaged in their work (e.g., days before Christmas for a postman or at the end of the year for car salesmen).

Studying differences and similarities between trait and state work engagement models is important, because it provides information about the breath of the theoretical framework and whether the theory may need refinement. So far, evidence suggests that, like with general work engagement, employees are more engaged in their work on days and weeks that they have more resources available (e.g., Bakker & Bal, 2010; Simbula, 2010; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009a; 2009b). Additionally, employees perform better on days and weeks they are more engaged in their work (e.g., Bakker & Bal, 2010; Sonnentag, 2003; Xanthopoulou et al., 2009b). For example, in a daily diary study among employees working in a Greek fast-food restaurant, Xanthopoulou et al. (2009b) showed that daily fluctuations in autonomy, supervisory coaching and team atmosphere were positively related to state work engagement, which in turn, was positively related to daily fluctuations in financial returns.

To my knowledge, only one study examined the relationship between transformational leaders and followers' work engagement on a daily basis. Tims et al. (2011) performed a daily diary study in which 42 employees filled out an online questionnaire for five consecutive days. Tims and her colleagues showed that followers were more engaged in their work on days that their leader showed more transformational leadership behaviors, such as inspiring followers, being a role model and intellectually stimulating followers. This relationship was explained by followers' optimism – on days that leaders showed more transformational leader behaviors, followers were more optimistic and therefore, more engaged in their work. In this dissertation I examine how fluctuations in both people- and task-oriented leader behaviors are related to both employee work engagement and job performance and I examine the role of followers in this dynamic leadership process. By focusing on the dynamic part of leadership, leadership is viewed as behaviors that can vary from day to day or even within the same day rather than being fixed. That is, leaders may use both task-oriented and people-oriented leadership behaviors, depending on situational contingencies. For example, leaders may be more inclined to use task-oriented behaviors on days that there is an important deadline and use more people-oriented behaviors on days that leaders are in a positive mood state.

Diaries are often used to examine fluctuations in feelings and behaviors. That is, participants fill out the same short questionnaire once (or more) every day for several days or weeks in a row. Likewise, in this dissertation diaries are used to study fluctuations in leadership behaviors, the availability of job resources to followers and followers' work engagement and job performance. Diary studies have multiple advantages. For instance, diary research allows researchers to capture certain phenomena in their natural environment, because they are captured more closely after they have happened. Furthermore, diary studies focus on the dynamic part of certain phenomena and look at proximal predictors and outcomes of these phenomena. Moreover, the interference of diary studies with work is very small. Also, diaries may result in more accurate data, because

participants only have to think back over several hours when filling out the questionnaire instead of having to think back over several months.

FOLLOW THE LEADER

Followers are inherent to leadership, because without followers there is nobody to be led. Surprisingly, most leadership theories consider followers as passive recipients of leadership, in which the influence of leaders on followers is unidirectional. However, work spaces and work hours are becoming increasingly flexible, meaning that followers are no longer always under direct supervision. For example, followers may work from home on certain days or go home early to avoid traffic jams and work some more hours in the evening. This raises questions about whether leaders are able to affect their followers' work engagement and job performance in these kind of situations and what followers can do themselves to become more engaged in their work. I try to answer these questions in this dissertation.

According to substitutes for leadership theory (Kerr & Jermier, 1978), certain characteristics of the task (e.g., routines), the organization (e.g., formalization, inflexibility), and the individual (e.g., ability, experience) are boundary conditions of leadership. Put differently, the effectiveness of certain leadership behaviors is dependent on characteristics of the task, organization, and/or individual. For example, the higher followers' experience and ability, the less they will rely on their leader. Dvir and Shamir (2003) even showed that certain follower characteristics, such as higher self-actualization needs and collectivistic orientation, were predictive of the use of transformational leadership behaviors by the leader. In this dissertation, I examine (1) whether some followers may benefit more from having a transformational leader than other followers; and (2) what followers can do to substitute the positive effects of leadership in the absence of frequent contact with the leader.

To examine whether some followers benefit more from their leaders' transformational leadership behaviors than others, I focus on followers' need for leadership. Could it be that followers are sometimes less in need of their leader to guide them toward goal achievement and therefore, less susceptible for their leaders' behavior? When employees are low in their need for leadership, they act independently and do not respond to interference by their leader, while they rely more heavily on their leader when they have a high need for leadership (De Vries, Roe, & Taillieu, 1998). Thus far, we are aware of only one study that examined followers' need for leadership as a contingency of leadership. De Vries and his colleagues showed that charismatic leadership was more beneficial to followers' satisfaction with their job and their commitment to the organization when followers had a high need for leadership.

PURPOSES AND GUIDING RESEARCH QUESTIONS

The purposes of this dissertation are summarized in three different research questions, which are stated below. These questions will be answered throughout the different chapters included in this dissertation.

Research Question 1: How do leaders influence their followers' (a) work engagement and (b) job performance?

The first goal of this dissertation is to examine an underlying process that can explain why followers are more engaged in their work and perform their work better when their leader shows more transformational leadership behaviors. Research shows that job resources are important predictors of work engagement (for a meta-analysis, see Halbesleben, 2010; for a review, see Christian et al., 2011) and that transformational leaders create a positive work environment (e.g., Nielsen et al., 2008: Piccolo & Colquitt, 2006). Furthermore, it has been suggested that job resources are intrinsically motivating and contribute to followers' engagement by satisfying followers' basic need for autonomy, competence, and relatedness.

In an effort to integrate these different processes and advance our understanding of the workings of transformational leadership**, Chapter 2** describes a study in which I examine whether the relationship between the quality of the leader-member exchange (LMX) relationship and follower job performance can be explained by follower job resources and follower work engagement (sequentially mediating mechanism). **Chapter 3** builds on **Chapter 2** by stating that transformational leaders increase the resourcefulness of followers' work environment, which fulfills followers' basic needs. In turn, fulfillment of followers' basic needs is said to contribute to the extent to which followers are engaged in their work, and consequently to how well followers perform their work.

Research Question 2: Do leader behaviors fluctuate and how does this affect followers' (a) work engagement and (b) job performance?

Following the reasoning of Sonnentag et al. (2010), it is important to look at both transformational leadership in general and fluctuations in transformational leadership behaviors to see whether they have (dis)similar effects. In line with this argument, the second goal of this dissertation is to examine how transformational leaders affect their followers' work engagement in the short term. Although it has been argued that the influence of leadership on followers' well-being is more likely to happen in a short-term period than a long-term period (Van Dierendonck, Haynes, Borrill, & Stride, 2004), surprisingly few studies have actually examined the influence of fluctuations in leadership (see, for a notable exception, Tims et al., 2011). It is likely that, similar to followers' work engagement, leaders' behaviors depend on situational and personal conditions. For instance, leaders may have more difficulties inspiring their followers when they have had an argument with their spouse before work or were stuck in traffic for two hours on their way to work. On these days, leaders may be more likely to just tell followers to do their work and/or distance themselves from

their followers. This implies that although leaders may generally use many transformational leadership behaviors, this may fluctuate from day to day or week to week, depending on what happens on that day or in that week.

Diary questionnaires often arise from questionnaires that were originally developed to measure variables on a general level and not on a daily level. To make these questionnaires suited as daily diary questionnaires, the time frame of the items is adjusted, so the questions refer specifically to the day level. In **Chapter 4**, I argue that it is important to look at the psychometric properties of these adjusted questionnaires. Hence, I perform a multilevel, confirmatory factor analysis to examine the psychometric properties of the adjusted Utrecht Work Engagement Scale (UWES), which is a frequently used measure of daily work engagement.

In **Chapter 5**, I examine three types of behaviors that are used by the same leader to see which types of behaviors are more effective in increasing followers' work engagement on a daily basis. The types of behaviors that are examined are daily transformational leadership behaviors, daily rewarding followers when they perform well, and actively monitoring followers' daily behaviors to prevent mistakes from happening. Similar to **Chapters 2 and 3**, I examine whether leaders' influence on the resourcefulness of the work environment (i.e., autonomy and social support) is able to explain the relationship between leadership and followers' work engagement. Moreover, in **Chapter 5**, I explore whether more controlling and task-oriented leadership styles that lack motivational power and inspirational appeal, are able to influence followers' work engagement through their (positive or negative) impact on followers' work environment. Finally, in **Chapter 7**, I examine how weekly fluctuations in transformational leadership are related to followers' work engagement and consequently, followers' leader-rated job performance.

Research Question 3: Is leaders' influence on their followers' work engagement contingent on follower characteristics?

Finally, the third goal of this dissertation is to explore the role of followers in the effectiveness of transformational leadership behaviors. Many leadership theories consider followers as passive recipients of leadership, while it has been shown that the effectiveness of leadership is, at least to some extent, dependent on characteristics of followers (e.g., De Vries, Roe, & Taillieu, 2002; Hamstra, van Yperen, Wisse, & Sassenberg, 2011; Wofford, Whittington, & Goodwin, 2001).

Chapter 3 provides insight into the role of followers' need for leadership in the transformational leadership process. Need for leadership refers to the extent to which followers need their leader to set goals and provide directions (De Vries, 1997). Specifically, I examine whether transformational leadership behaviors are more likely to influence followers' basic need fulfillment when these followers have a high (vs. low) need for leadership. Taking a somewhat different approach, I also examine how individuals stay engaged in their work when they do not frequently interact with their leader (**Chapter 6** and **Chapter 7**). In **Chapter 6**, using a sample of nurses who had very little contact with their leader, I examine whether employees' daily use of self-management strategies, contributes to their work engagement, because of their effect on the work environment. Self-

management strategies are behavior focused self-leadership strategies, including awareness of why and when you show certain behaviors and rewarding yourself when performing well. **Chapter 7** integrates **Chapter 3** and **Chapter 6** by looking at how both transformational leadership behaviors and employee self-leadership strategies contribute to how engaged employees are in their work and how well they perform their work, and whether the effectiveness of both types of leadership depends on employees' need for leadership.

CHAPTER 2

Leader-Member Exchange, Work Engagement, and Job Performance

This chapter is published as Breevaart, K., Bakker, A. B., Demerouti, E., & Van den Heuvel, M. (in press). Leader-member exchange, work engagement, and job performance. *Journal of Managerial Psychology*.

ABSTRACT
In this study, we investigated the role of employee rated Leader-Member Exchange (LMX) in the Job Demands-Resources (JD-R) model. Based on previous research, we hypothesized that LMX positively influences employee job performance. Integrating the literature on LMX theory and the JD-R model, we hypothesized that this relationship is sequentially mediated by job resources (autonomy, developmental opportunities, and social support) and employee work engagement. Results of multilevel structural equation modeling (MSEM) analyses supported our hypotheses, with the exception of autonomy as a mediator in the sequential mediation process from LMX to job performance. The implications of these findings for future research on the role of leadership within the JD-R model are discussed.

INTRODUCTION

Leader-member exchange theory (LMX theory; Graen & Cashman, 1975; Graen & Uhl-Bien, 1995) is unique in its focus on the dyadic relationship between leader and follower. Rooted in role-making and social exchange theories (Blau, 1964; Graen, 1976; Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964), LMX theory states that followers develop unique exchange relationships with their leader. In turn, the quality of this relationship influences followers' work attitudes and behaviors. Consistent with these ideas, meta-analytic studies show that the quality of the LMX relationship is related to a range of positive follower outcomes, like job satisfaction, task performance, organizational citizenship behavior (OCB), commitment, and role clarity (e.g., Dulebohn, Bommer, Liden, Brouer, & Ferris, 2012; Ilies, Nahrgang, & Morgeson, 2007; Volmer, Niessen, Spurk, Linz, & Abele, 2011). However, although there is a wealth of literature on the proximal effects of LMX on follower outcomes (e.g., Dulebohn et al., 2012; Gerstner & Day, 1997), little is known about the process through which leader-member exchanges influence follower outcomes.

The current study contributes to the LMX literature by examining LMX as a distal predictor of follower job performance. We are among the first to study the process underlying the relationship between LMX and follower job performance and to our knowledge, the first to examine the relationship between LMX and work engagement. Based on conservation of resources theory (Hobfoll, 1989; 2001) and job demands-resources theory (Bakker & Demerouti, 2014; Demerouti, Bakker, Schaufeli, & Nachreiner, 2001), we argue that LMX is positively related to follower job performance, because followers have access to more job resources when they have a high-quality relationship with their leader and are therefore more engaged in their work. We examine these relationships within the hierarchical structure of the Dutch police force, where leadership plays a pronounced role.

LMX AND FOLLOWER JOB PERFORMANCE

LMX theory proposes that leaders have unique social exchange relationships with their followers and that the quality of these relationships (ranging from low to high) differs between employees with the same leader (Graen & Uhl-Bien, 1995; Liden, Sparrowe, & Wayne, 1997). Low-quality LMX relationships are based on economic exchanges, which are exchanges based on the formal requirements of the employment contract in which employees do what they are expected to do and get paid accordingly. In contrast, high-quality exchanges go beyond the formal contract and are based on trust, mutual obligation, and mutual respect, and result in affective attachment. The type of LMX relationship that develops depends on the result of a series of role making episodes in which leaders express their expectations and employees show the degree to which they are able and willing to live up to these expectations.

The quality of the LMX relationship determines the degree to which leaders reciprocate meeting certain job demands by employees with additional resources like autonomy, information, and the opportunity to participate in the decision making process. Graen and Cashman (1975) argue that these additional resources explain why the quality of the LMX relationship contributes to employees' job performance. Put differently, high LMX relationships are

characterized by high expectations regarding followers' performance, in return for the investments made by the leader. Research confirms that members in high-quality LMX relationships perform better. In their meta-analyses, Gerstner and Day (1997) and Dulebohn et al. (2012) showed that LMX is positively related to both subjective and objective performance. The question that we will answer with this study is why this is the case.

LMX, Work Engagement, and Job Performance

We argue that LMX is positively related to followers' job performance, because high-quality LMX relationships enhance followers' work engagement. Work engagement is a positive, work-related state of mind that is characterized by vigor, dedication, and absorption (Schaufeli, Bakker & Salanova, 2006). Thus, engaged employees have high levels of energy, are enthusiastic about, inspired by, and proud of their work, and feel like time flies when they are working. In the current economic situation, having an engaged workforce may provide a competitive advantage, because work engagement is an active state that is positively related to important outcomes such as job performance, commitment and health (for meta-analyses see Christian, Garza, & Slaughter, 2011; Halbesleben, 2010).

According to conservation of resources theory (COR theory; Hobfoll, 1989; 2001), people are motivated to obtain, retain, protect and foster their resources (e.g., autonomy, developmental opportunities, social support). Leaders, in their inherent position of power, are an important source of support and research has shown that social support is positively related to work engagement (Halbesleben, 2010). According to the Job Demands-Resources (JD-R) model, employees are especially engaged in their work when their resources are combined with challenging demands (Bakker & Demerouti, 2007; 2014; Demerouti et al., 2001). Accordingly, it is likely that employees feel more engaged when they have a high-quality exchange relationship, because their leader facilitates their job performance, but also expects high job performance in return.

From a social exchange perspective, high-quality LMX relationships may contribute to employees' intrinsic motivation to do their job well, making it likely that employees in high-quality LMX relationships become engaged in their work. It has been shown that leaders in high-quality LMX relationships give their followers more intrinsic (empowerment, praise) and extrinsic (salary raise) rewards, which result in more positive attitudes toward work (Epitropaki & Martin, 2005). Finally, followers in a high-quality relationship have been found to be optimistic and self-efficacious (Vasudevan, 1993), and such self-beliefs are important predictors of work engagement (Halbesleben, 2010). Therefore, we hypothesize:

> **Hypothesis 1:** Follower work engagement mediates the relationship between LMX and follower job performance.

LMX, Job Resources, Work Engagement, and Job Performance

The assumption that LMX is related to follower outcomes because leaders form a resourceful work environment is in line with some findings that leaders in high-quality LMX relationships provide employees with decision making latitude,

empowerment, and social support (e.g., Keller & Dansereau, 1995; Scandura, Graen, & Novak, 1986; Sparrowe & Liden, 1997). However, when relating LMX to job-related outcome variables, the provision of job resources is often assumed, but not measured. Since the exchange of resources is a central feature of LMX theory, in the current study, we explicitly measure followers' job resources to examine whether they can explain the relationship between LMX and follower job outcomes. We focus on three of the most often studied job resources; autonomy, developmental opportunities, and social support from coworkers (Halbesleben, 2010).

Leaders' investment in high-quality LMX relationships creates positive expectations regarding employees' job performance. LMX theory posits that the leaders' self-image is damaged when these expectations are not met and these leaders therefore often facilitate high performance. Research has indeed shown that leaders in high-quality LMX relationships reduce role conflict, role ambiguity and role overload (e.g., Dunegan, Uhl-Bien, & Duchon, 2002; Lagace, Castleberry, & Ridnour, 1993). Besides, since employees in high-quality relationships are trusted by their leader, they are provided with more decision latitude (Townsend, Da Silva, Mueller, Curtin, & Tetrick, 2002) and empowerment (e.g., Keller & Dansereau, 1995). This provides employees in high-quality LMX relationships the freedom to decide for themselves which work assignments they will focus on, and how they will execute them. Based on these arguments, we expect LMX to be positively related to autonomy.

Next, we expect employees in high-quality relationships to have more developmental opportunities compared to their counterparts. For example, employees in high-quality LMX relationships have a privileged way of communication with the leader and are provided with desirable work assignments, while employees in low-quality relationships rarely meet with their leader and are often provided with undesirable monotonous assignments (Dulebohn et al., 2012). This means that particularly followers in high-quality relationships are able to work on their self-growth. These followers thereby become even more valuable to the leader and maintain the quality of the relationship with their leader. This relationship has also been described as a mentoring relationship (Scandura & Williams, 2004), in which the leader acts as a coach and invests in the career success of the follower (Sosik & Godshalk, 2000).

Finally, we expect LMX to be positively related to social support from coworkers, since relationships in one part of the organization may influence relationships in other parts of the organization (Graen & Uhl-Bien, 1995). Research indeed shows that the quality of the LMX relationship with the leader influences the relationships between coworkers (Sherony & Green, 2002). More specifically, followers in a high-quality relationship with their supervisor had significantly higher quality exchange relationships with coworkers who were also in a high-quality LMX relationship with the same leader. In this case, both coworkers share the same positive experiences, so they are in a similar situation (Heider, 1958; Sherony & Green, 2002). Also, Ilies et al. (2007) showed in their meta-analysis that LMX quality is positively related to organizational citizenship behavior (OCB). This means that employees in high-quality LMX relationships engage in behavior that is not defined in their role description, like helping

colleagues with a high workload or helping colleagues who have been absent. These helping behaviors may create a work environment in which colleagues help and support each other. Based on these arguments and earlier research on the relationship between job resources and work engagement (Xanthopoulou et al., 2008, 2009a; 2009b), we hypothesize:

> **Hypothesis 2:** The relationship between LMX and follower job performance is sequentially mediated by follower job resources (autonomy, developmental opportunities, social support), and follower work engagement (all relationships are positive).

METHOD

Participants and Procedure

Participants were Dutch police officers working within one district of the Dutch police force. After general communications about the research, the invitation to participate in an on-line survey was sent out to all 1780 employees via email. A total of 950 police officers completed the survey (response rate = 53%). The questionnaires were filled in anonymously, but participants were asked to indicate to which team they belonged by selecting their team from a list. Employees were asked to fill out the LMX questions while keeping in mind one specific leader. Finally, this resulted in 847 participating employees from 58 teams. Participants could request a personalized feedback report on their responses.

The sample consisted of 527 male employees (62.2%) and 320 female employees (37.8%). The mean age of the participants was 41.9 years (SD = 10.5) and mean organizational tenure was 16.3 years (SD = 11.41). The majority of the participants was either married, cohabiting or had a steady relationship (89.3%) and 72.2% worked 36 hours or more per week. The mean number of team members in each team was 25.8, meaning that teams had 26 members on average.

Measures

Control variables. We measured and included several demographic (i.e., gender, age, education, and marital status) and work-related (i.e., working hours and tenure) background variables.

Leader-member exchange was measured using the Dutch version (see Le Blanc, 1994) of the Leader-Member Exchange scale (Graen & Uhl-Bien, 1995). This scale consists of five items rated on a 5-point scale (1 = *never*, 5 = *often*). An example item is: 'My supervisor uses his/her influence to help me with problems at work'. The internal consistency of this scale was high (Cronbach's α = .91).

Job resources were measured with items developed by Bakker, Demerouti, Taris, Schaufeli, and Schreurs (2003). All items were measured on a 5-point scale (1 = *never*, 5 = *often*). An example item of each job resource is 'I am able to decide myself how to execute my work' (autonomy), 'My work offers me the opportunity to learn new things' (developmental opportunities), and 'When it is necessary, I can ask my colleagues for help' (social support). Resources were measured with four items each, except for developmental opportunities, which was measured

with three items. Internal consistencies of the scales were .81 for autonomy, .87 for social support and .89 for developmental opportunities.

Work engagement was measured using the nine-item version of the Utrecht Work Engagement Scale (UWES; Schaufeli, Bakker, & Salanova, 2006). Work engagement consists of three dimensions (vigor, dedication, and absorption) that were measured with three items each. Example items are: 'At work, I feel bursting with energy' (vigor), 'I am enthusiastic about my work' (dedication), and 'I am immersed in my work' (absorption), which had to be answered on a 7-point scale (0 = *never*, 6 = *always*). The internal consistency of this scale was high (α = .95).

Job performance was measured with three items from Goodman and Svyantek (1999) to measure task performance. The validity of the selected items was supported by Xanthopoulou et al. (2008). An example item is: 'I perform well on the core aspects of my work'. The items were answered on a 6-point scale (1 = *totally disagree*, 6 = *totally agree*). The internal consistency of this scale was good (α = .86).

Strategy of Analysis

The individuals in our sample were nested within teams, thereby violating the independence assumption underlying many statistical techniques. To account for the nested structure of the data, we used multilevel structural equation modeling (MSEM) using Mplus (Muthén & Muthén, 1998-2010). We have a two-level model with individuals at the first level (Level 1; N = 527), and teams at the second level (Level 2; N = 58). We followed Maas and Hox's (2005) rule of thumb for power in multilevel modeling. This rule states that a minimum of 30 cases at the highest level is required for robust estimations.

The use of multilevel analyses is justified when there is sufficient variability at both levels of analysis. The intra-class correlations (ICC's) indicated that the variance explained by the team level ranged from 2.7% for job performance to 17.6% in autonomy. When multilevel data are analyzed on a single level, parameter estimates can be affected, which may result in inaccurate statistical inferences. Since we were only interested in the first (individual) level, we used multilevel analyses to control for the possible confounding influence of variance at the second (team) level on our results. As alluded to above, we used multilevel analyses because regular structural equation modeling analyses would violate the independence assumption underlying this technique (Hox, 2010).

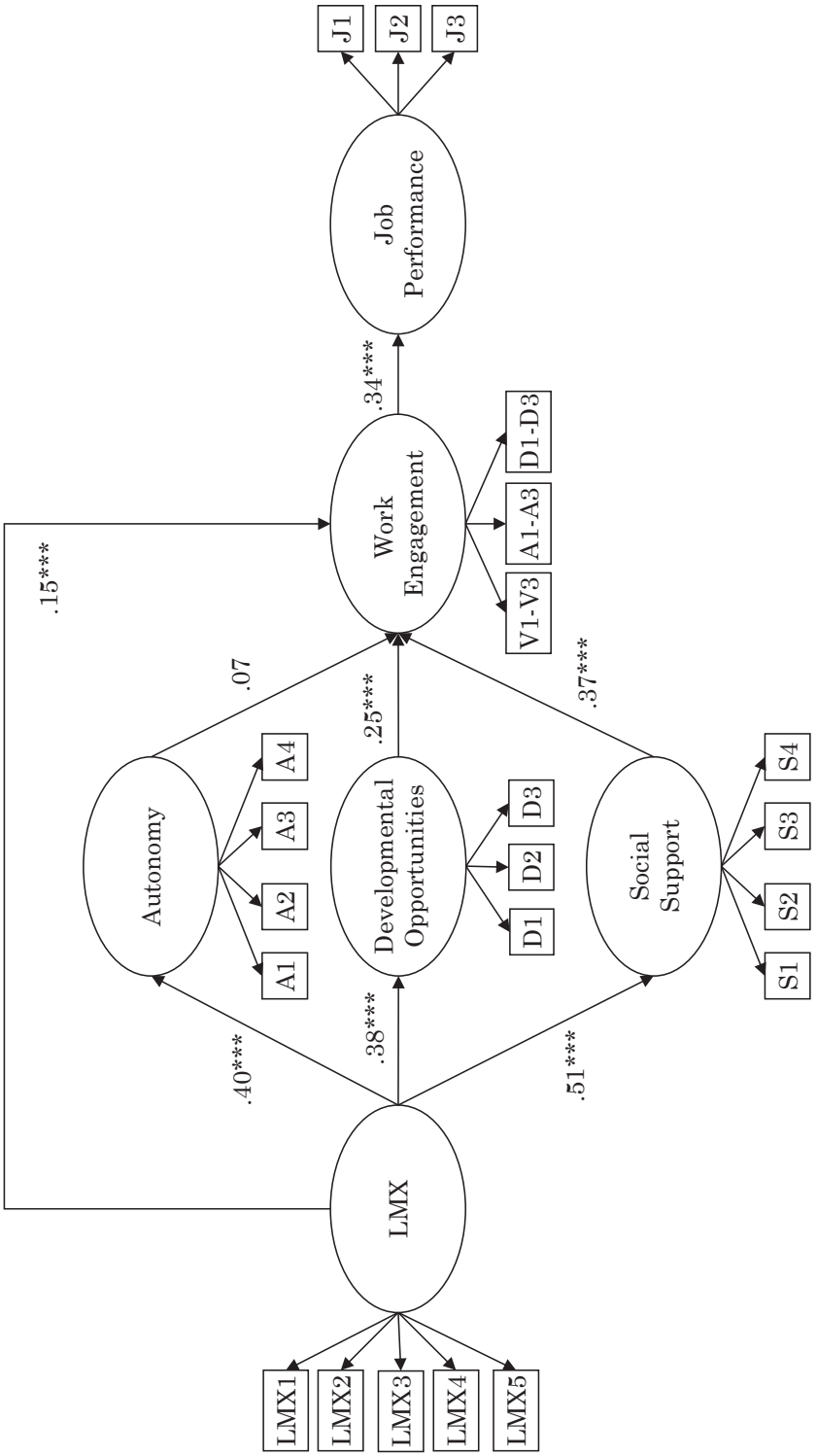


Figure 1. The process model of leader-member exchange showing standardized estimates.

RESULTS

Descriptive Statistics

Table 1 shows the means, standard deviations, inter-correlations, and internal consistencies of the study variables.

Table 1
*Means, standard deviations, inter-correlations and internal consistencies (Conbrach's alphas on the diagonal) between the study variables, N = 58 teams, N = 847 employees). *p < .05; **p < .01; ***p < .001.*

		M	*SD*	1.	2.	3.
1.	Gender	1.36	.48	-		
2.	Age	42.68	10.34	-.29***	-	
3.	Education	3.16	1.06	.04	-.05	-
4.	Working Hours	35.38	7.31	-.43***	-.07*	.10***
5.	LMX	3.03	.89	.07*	.05	.03
6.	Developmental Opportunities	3.46	.81	.09*	.08*	.04
7.	Social Support	3.88	.77	.003	-.20***	-.04
8.	Autonomy	3.27	.76	.02	.17***	.20***
9.	Work Engagement	3.95	.95	.06	.02	-.06
10.	Job Performance	5.02	.50	.10*	.11***	.05

	4.	5.	6.	7.	8.	9.	10.
4.	-						
5.	-.01	(.92)					
6.	.14***	.51***	(.87)				
7.	-.02	.38***	.24***	(.89)			
8.	.11***	.40***	.51***	.19***	(.81)		
9.	.13***	.46***	.55***	.41***	.36***	(.95)	
10.	.12**	.17***	.19***	.10**	.20***	.34***	(.86)

Measurement Model

First, we tested the measurement model to examine the construct validity of our variables. The measurement model consisted of the study variables with scale items reflecting their respective latent construct. Specifically, the measurement model consisted of six factors, including LMX (five items), autonomy (four items), developmental opportunities (three items), social support (four items), work engagement (nine items), and job performance (three items) with scale items tapping the latent construct. This measurement model showed good fit to the data (CFI = .93; TLI = .92; RMSEA = .06; SRMR = .04), and all items had significant loadings on the intended latent factors (.56 - .89, $p < .001$). Next, we compared this measurement model to a one-factor, four-factor (i.e., all job resources combined into one factor) and five-factor (LMX and social support as one factor) model (see Table 2) and found that the proposed measurement model fitted best to the data.

Structural and Alternative Model

Next, we tested our structural models using multilevel structural equation modeling (see Table 3). In all analyses, we controlled for gender, age, marital status, education, working hours per week, and tenure, because they were related to our study variables. To test the significance of the mediation effects, we used the online interactive tool developed by Selig and Preacher (2008). This tool uses the parametric bootstrap method to create confidence intervals without making any assumptions about the distribution of the indirect effect. Hypothesis 1 states that the relationship between LMX and follower job performance is mediated by follower work engagement. The path from LMX to work engagement was .46 ($p <$ .001, 95% CI [.41, .51]) and the path from work engagement to job performance was .34 ($p <$ .001, 95% CI [.26, .41]). Furthermore, there was a significant mediation effect (.15, $p <$ .001, 95% CI [.12, .20]). This model fitted well to the data (CFI = .91, RMSEA = .07, SRMR = .03).

We compared our hypothesized model to the partially mediated model (i.e., including the direct effect from LMX to job performance), but there was no significant decrease in χ^2 ($\Delta\chi^2$ (1) = .01, *n.s.*). Therefore, we prefer our hypothesized, more parsimonious model. Next, we compared our model to the direct effects only model, including paths from LMX and work engagement to job performance. We compared the fit of our hypothesized model to the fit of the direct effects only model, which showed a significant increase in χ^2 ($\Delta\chi^2$ (5) = 31.11, $p <$ .001), meaning that our hypothesized model fits better to the data.

Hypothesis 2 states that the relationship between LMX and follower job performance is sequentially mediated by follower job resources (autonomy, developmental opportunities, and social support) and follower work engagement. The results show that LMX was positively related to autonomy (.40, $p <$ .001, 95% CI [.35, .45]), social support (.39, $p <$ .001, 95% CI [.34, .45]), and developmental opportunities (.51, $p <$ .001, 95% CI [.47, .56]). In turn, autonomy (.12, $p <$ .05, 95% CI [.03, .20]), social support (.29, $p <$ .001, 95% CI [.24, .34]) and developmental opportunities (.41, $p <$ .001, 95% CI [.33, .49]) were positively related to work engagement. Finally, work engagement was positively related to job performance (.34, $p <$ .001, 95% CI [.26, .41]). The results of the structural model supported Hypothesis 2 for autonomy (.01, $p <$ .05, 95% CI [.002, .02]), developmental opportunities (.04, $p <$ .001, 95% CI [.02, .05]) and social support (.02, $p <$ .001, 95% CI [.01, .03]). This model showed a satisfactory fit to the data (CFI = .92, RMSEA = .06, SRMR = .04; Hoyle, 1995, Kline, 2005; MacCallum, Browne, & Sugawara, 1996).

We compared our hypothesized model to a model including the direct paths from LMX to work engagement. There was a significant decrease in χ^2 ($\Delta\chi^2$ (1) = 17.49, $p <$ .001) and therefore we prefer the partially mediated model. Next, we added the direct paths from all job resources to job performance, but this did not result in a better model fit ($\Delta\chi^2$ (3) = 1.5, *n.s.*). Finally, we compared our hypothesized model to the direct effects only model, including paths from LMX, job resources and work engagement to job performance. This comparison showed a significant decrease in χ^2 ($\Delta\chi^2$ (5) = 15.52, $p <$ .01), indicating that our hypothesized model fits better to the data.

Table 2
Fit of the measurement models. In model 2 all job resources were combined into a single factor. In model three LMX and social support were combined into a single factor.

	Fit Indices		
Models	CFI	RMSEA	SRMR
One-Factor Model	.51	.16	.14
Four-Factor Model	.78	.11	.09
Five-Factor Model	.84	.09	.08
Six-Factor Model	.93	.06	.04

Table 3.
Maximum likelihood estimates, standard errors, and confidence intervals for the direct, indirect and contrast effects (N = 58 teams, N = 847 employees).

	Unstandardized			95% CI	
Indirect Effects	Est.	S.E.	*p*	Lower	Upper
1. LMX → Autonomy → WE	.03	.02	*n.s.*	-.001	.06
2. LMX → Developmental Opportunities → WE	.20	.03	$p < .001$	.16	.25
3. LMX → Social Support → WE	.10	.02	$p < .001$	.07	.14
Contrast Effects					
Indirect Effect 1 – Indirect Effect 2	-.18	.03	$p < .001$	-.25	-.10
Indirect Effect 1 – Indirect Effect 3	-.07	.02	$p < .05$	-.12	-.03
Indirect Effect 2 – Indirect Effect 3	-.10	.03	$p < .001$	-.16	-.04
Indirect Effects					
1. LMX → Developmental Opportunities → WE →Performance	.04	.01	$p < .001$	.02	.05
2. LMX → Social Support → WE → Performance	.02	.00	$p < .001$	.01	.03
Contrast Effect					
Indirect Effect 1 – Indirect Effect 2	.02	.01	$p < .001$	.01	.03

We used contrast effects to test the relative importance of the job resources. The contrasts indicated that social support (-.02, $p < .01$, 95% CI [-.03, -.01]) and developmental opportunities (-.03, $p < .01$, 95% CI [.-05, -.02]) were more important mediators compared to autonomy. Besides, there was a significant difference between developmental opportunities and social support as mediators (-.01, $p < .01$, 95% CI [-.02, -.003]). That is, developmental opportunities is a more important mediator compared to social support. Taken together, these results provide partial support for Hypothesis 2. The final model as displayed in Figure 1 explains 25.6% of the variance in autonomy, 28.8% of the variance in developmental opportunities, 20.1% in social support, 39.8% in work engagement, and 13.3% in job performance. The figure shows the standardized estimates of all the paths in the final model. All estimates are significant at $p < .001$, except the estimate of the autonomy-work engagement relationship, which is not significant.

DISCUSSION

This study is one of the first to examine LMX as a *distal* predictor of job performance and relatedly, one of the first to test a sequentially mediating mechanism that can account for the LMX-job performance relationship. In addition, this study is innovative in that it is one of the first to test a sequential mediation model using structural equation modeling. Furthermore, to our knowledge, this is the first study that examines the relationship between LMX and work engagement. Finally, our sample consisted of a large number of police officers, for whom leadership is a very relevant part of everyday work life. The results largely confirm our hypotheses by showing that high-quality LMX relationships initiate a motivational process, whereby the relationship between LMX and subordinates' job performance is sequentially mediated by employees' job resources (developmental opportunities and social support) and work engagement.

Job Resources as Mediators

This study contributes to the literature on LMX theory by showing that leaders can foster the availability of job resources, which enhances followers' work engagement and job performance. In line with COR theory, LMX proved to be an important resource from which other resources can be build (i.e., autonomy, developmental opportunities and social support). Although it has been shown that LMX is directly and positively related to job performance (e.g., Gerstner & Day, 1997) and to job resources (e.g., Sparrowe & Liden, 1997), not much is known about *how* LMX and job performance are related. Our study suggests that leaders can positively influence their followers' work engagement, both directly by the effect of the quality of their relationship and indirectly through their influence on the availability of job resources to their followers (mainly through developmental opportunities). The latter may be especially interesting when followers have difficulties creating their own resources, caused by very strict rules or the individuals' lack of proactive behavior.

In the past, LMX has been considered as a type of coaching from the leader within the JD-R model (e.g., Xanthopoulou et al., 2009b). Although LMX can be considered a job resource, post hoc analyses showed that the model with LMX as an antecedent of other job resources fit the data better than the model with LMX

as a job resource not preceding other resources. This underscores the role of the supervisor in creating resourceful work environments for their followers.

Job Resources and Work Engagement as Sequential Mediators

Having a high-quality relationship not only contributes to followers' work engagement, but indirectly also positively influences the organization at large. This is because the quality of the LMX relationship is positively related to followers' job performance and stimulates the initiation of a motivational process (i.e., the provision of job resources that are positively related to work engagement). This contributes to the LMX literature by showing that there are important intervening processes that account for the LMX-job performance relationship (Dulebon et al., 2011; Gerstner & Day, 1997) and by showing that LMX is also a proximal predictor of follower well-being. In this study, the relationship between LMX and job performance is even fully mediated by job resources and work engagement, suggesting that followers' job performance is a more distal consequence of LMX.

Autonomy appeared to be the least strong mediator compared to social support and developmental opportunities. An explanation could be that autonomy may be less important for employees within the police force than for other less 'protocolled' occupational groups. This is in line with the JD-R model, which assumes that each profession has its own unique combination of job resources and job demands. In the police force, there are strict rules and protocols to be adhered to. Followers may be used to these rules, which could explain why their engagement is less dependent on the amount of autonomy they have within their job.

Practical Implications

The abovementioned results emphasize the importance for followers to have a good relationship with their leader, since the quality of the LMX relationship is associated with the quality of the work environment. It also stresses the importance for leaders of having a good relationship with followers, since this is positively related to followers' work engagement and their appraisals of job performance. Research shows that engaged employees also are healthier and are absent less often (Demerouti et al., 2001; Schaufeli, Bakker, & Van Rhenen, 2009). Graen et al. (1982) showed that it is possible to train leaders in their active listening skills, spending time talking to each subordinate, and sharing expectations. Compared to the control groups, this training led to gains in LMX quality, job satisfaction, and productivity. We acknowledge that this may require smaller spans of control and more contact between leader and followers. Besides, is also requires organizations to support their leaders to invest in their relationship with their followers.

Considering the importance of job resources for improving job performance, it may be fruitful for organizations to invest in building job resources more formally into the organizational system. For example, leaders may set up a job enrichment program in which followers are empowered, while at the same time being supported by their leader, which may provide followers with opportunities to grow and develop. In addition, leaders may organize a meeting with each follower at least twice a year, in which followers can talk about the difficulties they face in

their work and discuss with their leader how to solve this. In this way, followers can receive both opportunities for development and social support from the leader. This approach can also be used when leaders have a large span of control and having a high-quality relationship with each and every follower is challenging. In this case, all followers benefit from the provision of resources, because they are more formally built into the organizational system and therefore available to every follower.

Limitations of the Study

First of all, this is a cross-sectional study, which raises questions about causality. It is also conceivable that followers who are more engaged, have a better relationship with their leader; likewise, followers who perform better may become more engaged in their work. However, our results are in line with the motivational process of the JD-R model (Bakker & Demerouti, 2007; 2008), which has also been studied using longitudinal (Hakanen, Perhoniemi, & Toppinen-Tanner, 2008) and daily diary studies (e.g., Simbula, 2010; Xanthopoulou et al., 2009a; 2009b), suggesting causality. Addressing the causality issue using a longitudinal design to test the present study model would nevertheless be a fruitful avenue for future research.

A second limitation is the use of self-reports only, which raises the concern of common method variance (Podsakoff, Mackenzie, Lee, & Podsakoff, 2003). Although it is unlikely that common method bias invalidates our findings, because it is rarely strong enough (e.g., Doty & Glick, 1998; Spector, 2006), we did use Harman's single-factor test and performed an exploratory factor analysis. Results showed that there is no single factor accounting for the variance in the data ($\chi^2 = 191.89$; $df = 10$; CFI = .87; RMSEA = .15; SRMR = .10), which makes the threat of common method bias unlikely. Furthermore, Conway and Lance (2010) argue that self-reports are appropriate or even the preferred choice in some situations. In the present study, we were interested in how followers experience their relationship with their leader (i.e., LMX) and how engaged they are, which are private experiences. Next, according to the JD-R model, each job and each individual has its own constellation of job resources and job demands. Therefore, followers are the best rater of their job resources. Task performance may be best measured objectively or by other ratings. However, although far from perfect, self-reported and leader-rated task performance are moderately related (Bakker & Bal, 2010).

Implications for Future Research and Conclusion

Despite the limitations, this study contributes to the literature by being one of the first to study the mechanism explaining the relationship between LMX and follower job performance and to explore the relationship between LMX and follower work engagement. COR theory and the JD-R model are useful frameworks for continuing this research. For example, having a high-quality relationship with one's leader may not only increase job resources, but also valued personal resources of the employees, like optimism (Tims, Bakker, & Xanthopoulou, 2011), as well as organization-based self-esteem (OBSE) and meaning-making (Van den Heuvel, Demerouti & Bakker, 2013). It would be interesting for future research to employ a stronger multi-source design by

examining LMX as reported by the leader or to use leaders' ratings of follower performance to prevent common method variance that may influence the results. In a similar vein, colleague ratings of contextual performance may be used to reduce common method bias and to examine the process underlying the relationship between LMX and contextual performance. The same process that was examined in the present study may apply to the relationship between LMX and contextual performance, especially considering that both LMX and work engagement have been associated with higher contextual performance (Christian et al., 2012; Dulebohn et al., 2012).

According to the JD-R model, both job resources and job demands are important predictors of work engagement. In the present study, we only focused on job resources, but future research may also examine whether having a high-quality relationship with the leader facilitates challenge demands and prevents hindrance demands. Challenge demands are also called "good" demands, which are demands that promote the personal growth and achievement of the employee (Podsakoff, LePine, & LePine, 2007), for example workload and time pressure. Hindrance demands are the "bad" demands that may initiate a health impairment process when they are not compensated with sufficient job resources. Examples are role conflict and role overload. Research has already shown that LMX is negatively related to hindrance demands (e.g., Dunegan et al., 2002; Lagace et al., 1993) since leaders in high-quality LMX relationships take away as many obstacles as possible preventing followers from high performance. However, there may be a dark side to challenge demands when the quality of the LMX relationship becomes higher. High-quality LMX relationships are characterized by mutual obligation, meaning that followers have to return the favors from their leader with exceptional performance. Eventually, these demands may become overwhelming and act as a source of stress when workload or time pressure are increasing. Harris and Kacmar (2006) have indeed shown that the relationship between LMX and stress is best described as curvilinear, whereby followers in high-quality relationship experience more stress than followers in moderate-quality relationships. This finding stresses the importance of job resources, since high challenge demands combined with high job resources are optimal work conditions for followers to thrive, i.e., being engaged in their work (Tuckey, Bakker, & Dollard, 2012) and thus prevent followers from experiencing stress. It would be interesting for future research to examine the nature of the relationship between quality of the LMX relationship and challenge demands and the possible moderating role of job resources in this relationship.

CHAPTER 3

Uncovering the Underlying Relationship between Transformational Leaders and Followers' Job Performance

This chapter is published as Breevaart, K., Bakker, A. B., Demerouti, E., & Sleebos, D. M., & Maduro, V. (2014). Uncovering the underlying relationship between transformational leaders and followers' task performance. *Journal of Personnel Psychology, 13,* 194-203. DOI: 10.1027/1866-5888/a000118.

ABSTRACT

The purpose of the present study was to unravel the mechanisms underlying the relationship between transformational leadership, follower work engagement and follower job performance and to investigate a possible boundary condition of transformational leadership. We used structural equation modeling to test our model among 162 dyads consisting of one employee and his/her leader, who both filled out an online questionnaire. Followers reported more job resources and need fulfillment when their leader showed more transformational leadership behavior, and this contributed to followers' engagement and job performance. Consistent with our hypothesis, transformational leaders mainly fulfilled followers' needs when followers were high in need for leadership.

INTRODUCTION

Transformational leaders are effective leaders who influence their followers' job attitudes and behaviors in a positive way (e.g., Judge & Piccolo, 2004). Research attention on the mediating mechanisms of transformational leadership is increasing and although some of these processes seem promising, it is still not well understood how transformational leaders exert their influence on favorable follower outcomes. Several studies propose that transformational leaders are effective, because they influence job characteristics (e.g., Nielsen, Randall, Yarker, & Brenner, 2008; Piccolo & Colquitt, 2006) or fulfill followers' basic needs (e.g., Kovjanic, Schuh, & Jonas, 2013; Kovjanic, Schuh, Jonas, Van Quaquebeke, & Van Dick, 2012).

The present study extends the above-mentioned studies by providing a more integrated effort to understand the underlying mechanisms of transformational leadership by proposing a sequentially mediating mechanism through which transformational leaders influence their followers' task performance. We argue that transformational leaders optimize followers' work environment, which satisfies followers' basic needs, increases employee engagement and consequently increases employees' task performance. Hence, the current study focuses on outcomes that are beneficial to both the employee (work engagement) and the organization (job performance). Finally, we focus on need for leadership as a possible boundary condition of transformational leadership to examine whether some followers benefit more from transformational leadership than others. Hereby we acknowledge that followers are actively involved in the effectiveness of leadership behaviors.

TRANSFORMATIONAL LEADERSHIP

Transformational leaders motivate their followers to transcend their self-interests in favor of the interests of the group, are sensitive to the needs of their followers, and stimulate high performance by increasing the intrinsic value of work and showing confidence in their followers' abilities (Avolio & Yammarino, 2002). Bass (1985) argued that transformational leadership consists of four related components. The first component, idealized influence, means that leaders move their followers' focus from individual needs to the common good. Second, inspirational motivation refers to the leaders' ability to inspire followers with an attractive vision of the future. Third, intellectual stimulation means that leaders challenge followers to look at their problems from different angles and to come up with new ideas, even if these ideas are different from the leaders' own ideas. Finally, leaders showing individual consideration take into account the unique needs and abilities of their followers.

Transformational leaders are valuable to organizations because as meta-analytical studies have shown, transformational leadership is associated with leader effectiveness and follower satisfaction with their leader (Fuller, Patterson, Hester, & Stringer, 1996; Judge & Piccolo, 2004). Furthermore, and probably most importantly in the current economy, transformational leaders are able to enhance their followers' in-role and extra-role performance (Lowe, Kroeck, & Sivasubramaniam, 1996).

Job Resources

According to Smircich and Morgan's (1982) management of meaning perspective, leaders are an important part of the social environment and therefore have a profound influence on the reality in which followers work. In line with this perspective, leaders may provide meaning to the work followers perform because of their influence on the work environment. Besides, Salancik and Pfeffer (1978) state that individuals use information from their social environment when making judgments about their work environment. As part of that social environment, leaders are an influential source of information when judging one's work environment.

Furthermore, specific transformational leadership behaviors may stimulate the availability of job resources. For example, fostering a shared group identity and emphasizing the collective good may improve interpersonal relationships among followers and thereby contribute to social support followers receive from one another. Moreover, followers are likely to feel supported by their leader and have more autonomy to perform their job when their leader pays attention to their needs.

Finally, transformational leaders delegate tasks according to followers' needs and abilities (intellectual stimulation), meaning that they provide each follower with challenging, but feasible tasks, thereby stimulating their followers' growth and development. Research has shown that transformational leaders positively influence the work environment using cross-sectional and longitudinal designs (Nielsen et al., 2008; Piccolo & Colquitt, 2006). The contribution of the present study does not lie in the examination of the relationship between transformational leadership and follower perception of job resources per se, but rather in exploring a new, sequentially mediated model, to explain the effectiveness of transformational leadership. Our first hypothesis states:

> **Hypothesis 1:** Transformational leadership is positively related to follower job resources.

Need Fulfillment

Drawing on self-determination theory (SDT; Deci & Ryan, 2000), job resources are said to be intrinsically motivating when they fulfill employees' basic need for autonomy, competence, and relatedness (Van den Broeck, Vansteenkiste, De Witte, & Lens, 2008). The need for autonomy refers to the need to act free and without restriction, which is likely to be fulfilled when followers are allowed to decide themselves on how they perform their work tasks. The need for competence means that people have the need to understand and explore their environment. This need may be fulfilled when followers are provided with feedback on how to improve their efficiency in performing their work. The need for relatedness refers to the need for meaningful and profound relationships, which can be fulfilled when followers feel their leader supports them in their work.

Sheldon and Elliot (1998) found that students' needs were fulfilled by the achievement of goals that they personally valued (self-concordant goals). In a similar vein, job resources are likely to fulfill followers' needs, because people

strive to obtain, maintain and regain resources (Hobfoll, 2002). In other words, resources are intrinsically valued by people and are therefore likely to fulfill people's needs when they are present. Although several studies have shown that transformational leaders fulfill followers' basic needs (e.g., Kovjanic et al., 2013; Kovjanic et al., 2012), we propose that transformational leaders fulfill followers' basic needs, because they provide their followers with more job resources:

> **Hypothesis 2:** Follower job resources are positively related to follower basic need fulfillment.

Work Engagement

According to SDT, people will thrive and experience some form of autonomous motivation when their basic needs are fulfilled. Research has indeed shown that basic need fulfillment initiates several positive processes. For example, Baard, Deci, and Ryan (2004), showed that employees' basic need fulfillment was positively related to their performance evaluations and psychological adjustment at work. It is likely that followers whose needs are fulfilled are able to direct all their energy and attention toward their work, which would enable them to thrive at work. In others words, followers who have their needs fulfilled, are more likely to be engaged in their work. Work engagement is a motivational, work-related state that is characterized by vigor, dedication, and absorption (Schaufeli & Bakker, 2004). That is, engaged employees have high levels of energy, are enthusiastic about their work and highly concentrated on their work. In their experiment, Kovjanic et al. (2013) found that after reading a transformational leadership vignette, participants reported higher need satisfaction and in turn, fulfillment of the need for competence and relatedness led to higher work engagement. In an attempt to replicate and find support for the ecological validity of these results, we hypothesize:

> **Hypothesis 3:** Follower basic need fulfillment is positively related to follower work engagement.

In-Role Performance

Engaged employees have high levels of energy and are able to direct this energy toward work, are highly concentrated on their work and are able to cope with adversity. It is therefore not surprising that followers in this positive and active state perform better (for meta-analyses, see Christian, Garza, & Slaughter, 2011). Therefore, our next hypothesis is:

> **Hypothesis 4:** Follower work engagement is positively related to leader ratings of follower in-role task performance.

Up to this point, we have provided theoretical arguments that suggest that transformational leaders foster followers' in-role performance because these leaders provide a resourceful work environment that fulfills followers' basic needs, which in turn, enhances follower work engagement. Consequently, engaged followers are able to focus their energy and address their effort to their

work, which is likely to stimulate their in-role performance. Thus, we hypothesize:

> **Hypothesis 5:** Transformational leadership is positively related to leader ratings of follower in-role performance through follower job resources, follower basic need fulfillment, and follower work engagement.

Need for Leadership

Kovjanic et al. (2012; 2013) show, both cross-sectionally and experimentally, that transformational leaders fulfill followers' basic needs. For example, transformational leaders challenge their followers while at the same time showing confidence in their followers' abilities, which contributes to the fulfillment of followers' need to feel competent. However, do transformational leaders fulfill the needs of all their followers?

To date, followers are often considered passive recipients of transformational leadership (Zhu, Avolio, & Walumba, 2009). However, Jermier and Kerr (1997) propose that certain follower characteristics (e.g., need for independence, ability) may neutralize the effects of leadership. Accordingly, we examine the moderating role of followers' need for leadership in the relationship between transformational leadership and followers' need fulfillment. Taking the interactionist perspective of Woodman, Sawyer, and Griffin (1993), we propose that individuals interpret, and perceive their leader's behavior depending on their expectations regarding what a leader should provide them (need for leadership). This subjective evaluation of leadership will then determine whether or not individuals are satisfied with what they receive (need fulfilment). Considering that followers high in need for leadership rely heavily upon interventions by their leader (De Vries, Roe, & Taillieu, 1998), it likely that they rely on their leaders' behavior to have their needs fulfilled. Followers low in their need for leadership act more independently and respond less to interventions by their leader, which makes it likely that these followers will not depend on their leader to have their needs fulfilled. We therefore expect that the relationship between transformational leadership and followers' need fulfillment is stronger for followers high in their need for leadership.

Being a relatively new concept within the leadership literature, there is not much research on the moderating role of need for leadership. One exception is the study by De Vries et al. (1998), in which it was shown that the relationship between charismatic leadership and follower job satisfaction and organizational commitment was stronger for followers with a high (vs. low) need for leadership. Based on our arguments, we hypothesize:

> **Hypothesis 6:** The relationship between transformational leadership and followers' need fulfillment is stronger for followers with high (vs. low) need for leadership.

METHOD

Procedure

We tested our hypotheses in a Dutch sample of dyads consisting of one leader and one follower who filled out an online questionnaire. The participants were recruited by sending emails and making calls to the HR department of companies in different sectors to ask for their participation. Participants were asked to create a code consisting of their initials and their day, month and year of birth to identify the dyads and at the same time ensure anonymity. For example, Anne Janssen, born on October 11th 1990, resulted in the following code: AJ11101990. The person who created the code (leader or follower) was told to pass on this code to the other person in the same dyad (follower or leader). For some companies more than one dyad participated (N=18), resulting in a structure where dyads are nested within companies. Since this may violate the independence assumption of our analyses, we calculated the intra-class correlation (ICC) to check whether there was any variance explained at the company level. The ICC's showed that all variance was explained at the person level and there was no need to perform multilevel analyses.

Participants

In total, 211 dyads completed the questionnaire. However, we were unable to match 49 dyads based on their codes, resulting in 162 dyads. The leader sample consisted of 73 (45.1%) females and 89 (54.9%) males. The leaders' mean age was 44.8, ranging from 19 to 63 (SD = 10.2). Most of the leaders were either married or cohabiting (88.9%). The follower sample consisted of 113 (69.8%) females and 49 (30.2%) males and their mean age was 38.7, ranging from 18 to 62 (SD = 14.5). Most of the employees finished higher education (32%), had a university degree (33.3%) or finished vocational training (24.7%). Followers' marital status was mainly married or cohabiting (72.2%). Most of the dyads worked in the healthcare sector (40.1%) or business services (11.7%).

Measures

All questions were answered by the follower, except for the questions about in-role performance, which was rated by the leader.

Transformational leadership was measured using the Transformational Leadership Inventory (TLI; Podsakoff, MacKenzie, Moorman, & Fetter, 1990). The questionnaire consists of 14 items, tapping from four different subscales (articulating vision, high performance expectations, individual support, and intellectual stimulation), that are most closely related to Bass' (1985) definition of transformational leadership. An example item is "My supervisor inspires me with his/her plans for the future". Employees answered the questions on a 7-point scale ranging from 1 (never) to 7 (always).

Job Resources were measured with the scales for autonomy, feedback and opportunities for development developed by Bakker, Demerouti, Taris, Schaufeli, and Schreurs (2003). Job resources were measured with three items each, which were answered on a 7-point scale (1 = never, 7 = always). Example items are respectively "I could decide myself how to perform my work", "I receive a

sufficient amount of information about the results of my work", and "My job offers me the opportunity to learn new things".

Basic Need Fulfillment was measured using an adapted version of the Basic Need Satisfaction at Work Scale (BNS-W; Van den Broeck, Vansteenkiste, De Witte, Soenens, & Lens, 2010). We explicitly measured followers' needs by adding the sentence "To what extent are your following needs at work fulfilled?" to the original items and added the word "need" to the statements. Example items are "The need to be myself at my job" (need for autonomy), "The need to feel competent at my job" (need for competence), and "The need to feel part of a group at work" (need for relatedness). Each need was measured with three items, which employees could answer on a 7-point scale ranging from 1 (not at all) to 7 (completely).

Need for leadership was measured with the need for leadership scale developed by De Vries, Roe, and Taillieu (2002). The questionnaire consists of 17 items, including "I need my supervisor to set goals" and "I need my supervisor to help solve problems". Followers could react to these statements using a 5-point scale (1 = completely disagree, 5 = completely agree).

Work engagement was measured with the 9-item Utrecht Work Engagement scale (UWES; Schaufeli, Bakker, & Salanova, 2006). The UWES captures the three dimension of work engagement (vigor, dedication and absorption). Example items are "At my work, I feel bursting with energy" (vigor), "I am proud of the work that I do" (dedication), and "I feel happy when I work intensively" (absorption). Followers could answer the items on a 7-point scale (1 = never, 7 = always).

In-role task performance was measured with four items from Williams and Anderson (1991). The fourth item was reversed and resulted in a very low scale reliability (.35). We therefore removed this item from our analyses. An example item is "This follower adequately completes assigned duties." Each of the items was answered on a 7-point scale ranging from 1 (never) to 7 (always).

Strategy of Analysis

We used structural equation modeling (SEM) to test our mediation hypotheses and moderated structural equation modeling (MSEM) to test our moderation hypothesis using IBM SPSS AMOS 20 (Arbuckle, 2011). Following Cortina, Chen, and Dunlap's (2001) suggestions, we first tested our mediation hypotheses and then continued testing our moderation hypothesis. We tested our mediation hypotheses in three steps. First, we tested the measurement model to examine the construct validity of our study variables. The measurement model consisted of the scale items or dimensions tapping their latent variable. Next, we examined the structural models. Finally, we used bootstrapping to test whether the mediation was significant. To test the fit of our model to the data, we used the chi-square statistic, root-mean-square error of approximation (RMSEA) and the comparative fit index (CFI).

To test the moderation hypothesis, we used the latent variables (i.e., transformational leadership and need for leadership) and the standardized scores of these variables as indicators of the latent variables. The interaction variable also had one indicator; the multiplication of the standardized scores of the two interacting variables. The paths from the variables to their indicator were fixed

at the square root of the scale reliability. We fixed the error variances of the indicators at the product of their variance and one minus their reliability. To calculate the reliability of the interaction variables we used the formula suggested by Mathieu, Tannenbaum, and Salas (1992; see Cortina et al., 2001). To examine the significance of the interaction, we looked at the path from the interaction variable to the latent variable need for leadership and we compared model fit of the model with and without the path from the interaction variable to the latent variable need for leadership (see Figure 2).

RESULTS

Descriptive Statistics

Table 1 shows means, standard deviations, internal consistencies and inter-correlations between the study variables. All variables showed good reliability (.87 or higher).

Results of SEM

We performed a confirmatory factor analysis (CFA) to examine the construct validity of our variables. The model consisted of five factors; transformational leadership (four dimensions), job resources (three resources), need fulfillment (three needs), work engagement (3 dimensions), and task performance (3 items). The measurement model showed a good fit to the data ($\chi^2(94) = 167.32$; CFI = .94; RMSEA = .07) and all indicators had significant factor loadings ($p < .01$).

The fit indices show that our proposed transformational leadership model fits well to the data: $\chi^2(100) = 223.62$; CFI = .90; RMSEA = .09. Transformational leadership was positively related to follower perception of resources ($\beta = .63$, $p < .001$), and follower perception of resources was positively related to followers' need fulfillment ($\beta = .45$, $p < .001$). In turn, follower need fulfillment was positively related to follower work engagement ($\beta = .64$, $p < .001$). Finally, follower work engagement was positively related to leader-ratings of follower job performance ($\beta = .21$, $p < .05$). This means that Hypothesis 1 to 4 are all supported.

Next, we tested Hypothesis 5, stating that transformational leadership and leader ratings of follower task performance are related through follower perceptions of job resources, follower need fulfillment, and follower work engagement. We used the bootstrapping option in AMOS to obtain estimates and bias-corrected confidence intervals. Results offered support for Hypothesis 5: estimate = .10; $p < .01$; $.03 \leq$ B-CCI $\leq .19$.

Table 1
*Means, standard deviations, internal consistencies (Cronbach's α on the diagonal), and correlations among the observed variables (N = 162). **p < .01, *p < .05.*

	M	*SD*	1.	2.	3.	4.	5.	6.
1. Transformational Leadership	4.67	.94	(.91)					
2. Need for Leadership	2.54	.64	.51**	(.90)				
3. Job Resources	4.00	.58	.51**	.25**	(.90)			
4. Need Fulfillment	5.32	.73	.27**	-.01	.29**	(.87)		
5. Work Engagement	5.06	1.03	.53**	.20*	.50**	.49**	(.94)	
6. Task Performance	6.03	.85	.13	.02	.24**	.26**	.18*	(.88)

Table 2
*Results of the moderated structural equation modeling analysis (N = 162 dyads). UPC, unstandardized path coefficient; SPC, standardized path coefficient. ***p < .001, **p < .01, *p < .05.*

	Need Fulfillment		
Predictor	UPC	S.E.	SPC
Transformational Leadership	.25	.07	.51***
Need for Leadership	-.28	.12	-.32*
Transformational Leadership x Need for Leadership	.11	.05	.21**
R^2	17.9%		

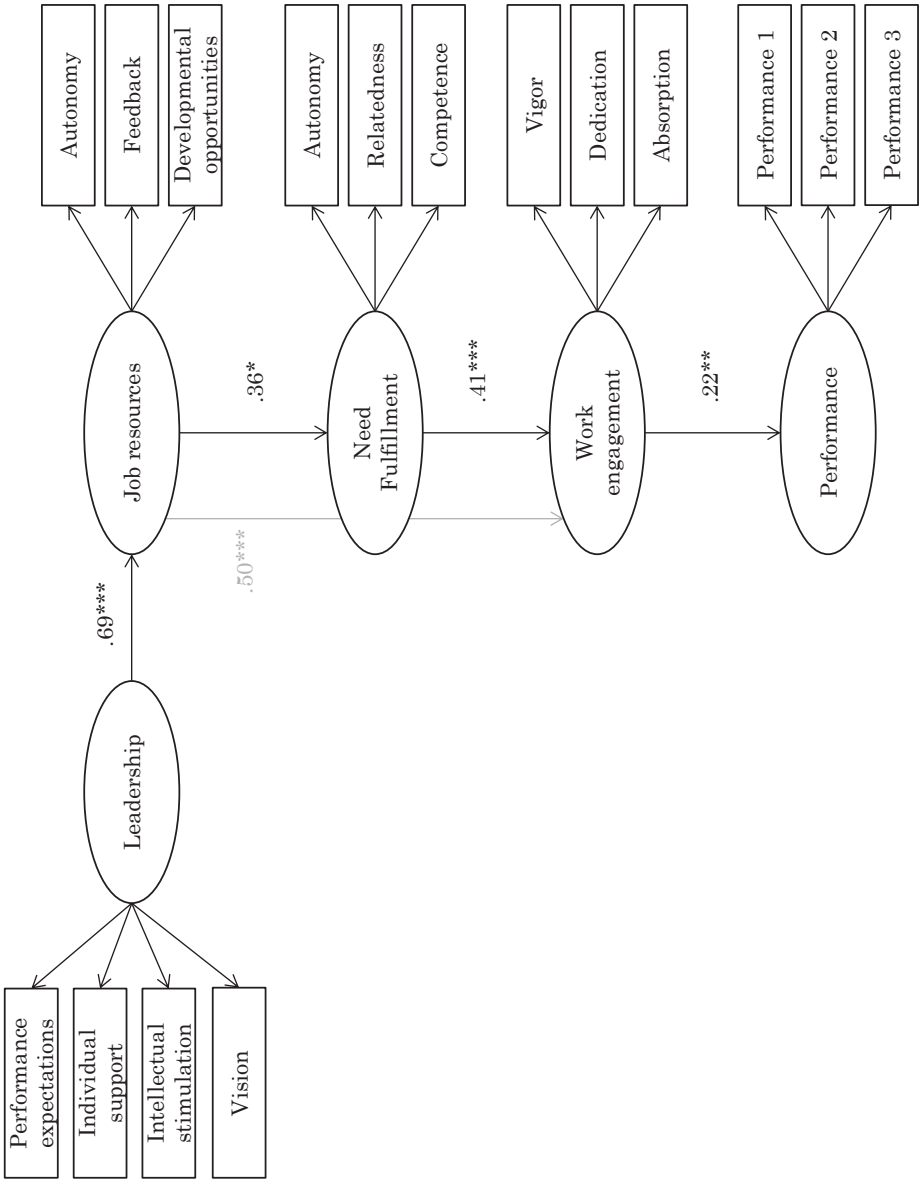


Figure 1. The process model of transformational leadership showing standardized estimates.

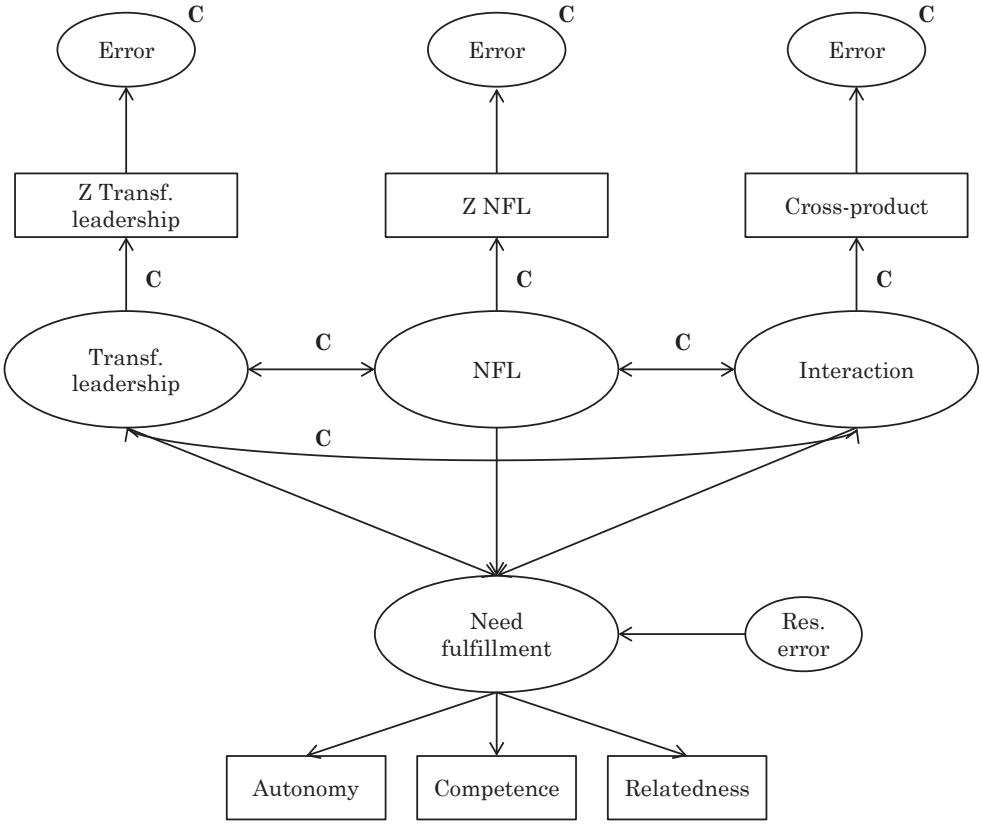


Figure 2. Need for leadership as a moderator between transformational leadership and basic need fulfillment. All constrained paths and error variances are marked with C.

Alternative models

Additionally, we tested several alternative models. First, we tested the direct effects model, including paths from transformational leadership, job resources, need fulfillment and work engagement to follower task performance. We compared the fit of the direct effects model to our hypothesized model and the results showed a significant increase in chi-square ($\Delta\chi^2(2) = 149.84$, $p < .001$), indicating that our hypothesized model fits better to the data.

We continued testing a model including the direct effect from transformational leadership to leader-rated job performance, because previous research has shown a direct positive effect of transformational leadership on task performance (Lowe et al., 1996). The direct relationship between transformational leadership and leader-rated job performance was not significant (estimate = .01, *n.s.*) and there was no significant decrease in chi-square ($\Delta\chi^2(1) = .02$, *n.s.*), so we prefer our hypothesized, more parsimonious model.

Next, we tested a model including a direct effect from follower job resources to follower work engagement, as they have been directly and positively associated in previous research (Crawford, LePine, & Rich, 2010). The results showed a direct and positive relationship between follower job resources and follower work engagement (estimate = .50, p <.01) and a significant decrease in chi-square ($\Delta\chi^2(1) = 36.45$, $p < .001$), indicating that the model including one direct effect (from resources to work engagement) fits best to our data. Therefore, we included this direct effect in our final model (see Figure 1). This final model explained 42.9% of the variance in job resources, 20.5% of the variance in need fulfillment, 41.6% of the variance in work engagement and finally, 4.5% of the variance in task performance.

Finally, we tested a reversed causation model. We also included a path from follower work engagement to transformational leadership, because followers who are engaged in their work may view their leader more positively. Because the degrees of freedom in this model do not differ from the degrees of freedom in our final model (Figure 1), we cannot compare these two models using the regular fit indices. Therefore, we used Akaike's Information Criterion (AIC), which is useful for comparing non-nested models. Lower AIC values indicate better fit. Comparing the AIC values of our final model (262.25) to the reversed causation model (297.65) indicated that our final model fits better to the data.

Results of MSEM

Table 2 shows the results of the moderation analysis. Transformational leadership was positively related to need fulfillment, while need for leadership was negatively related to need fulfillment. Importantly, as predicted in Hypothesis 6, the interaction between transformational leadership and need for leadership was significantly related to need fulfillment. This model fits well to our data (χ^2 (9) = 14.26; CFI = .97; RMSEA = .06).

Furthermore, this model fits better to our data compared to the model without the path from the interaction factor to the endogenous factor ($\Delta\chi^2$ (1) = 5.61, p < .001). The moderation is graphically represented in Figure 3. The slope for followers low in need for leadership was non-significant (t = .87, *n.s.*), meaning that the need fulfillment of these followers is not dependent on their leaders' transformational leadership. In contrast, the slope for followers high in need for leadership was positive and significant (t = 2.23, p < .05), indicating that the needs of these followers are more fulfilled when their leader shows many transformational leadership behaviors. This means that hypothesis 6 is accepted.

DISCUSSION

The present study aimed to shed light on the underlying mechanism explaining how transformational leaders contribute to their followers' task performance. We hereby answer Yukl's (2010) call for more research on both mediating and moderating variables that are associated with the outcomes of transformational leadership.

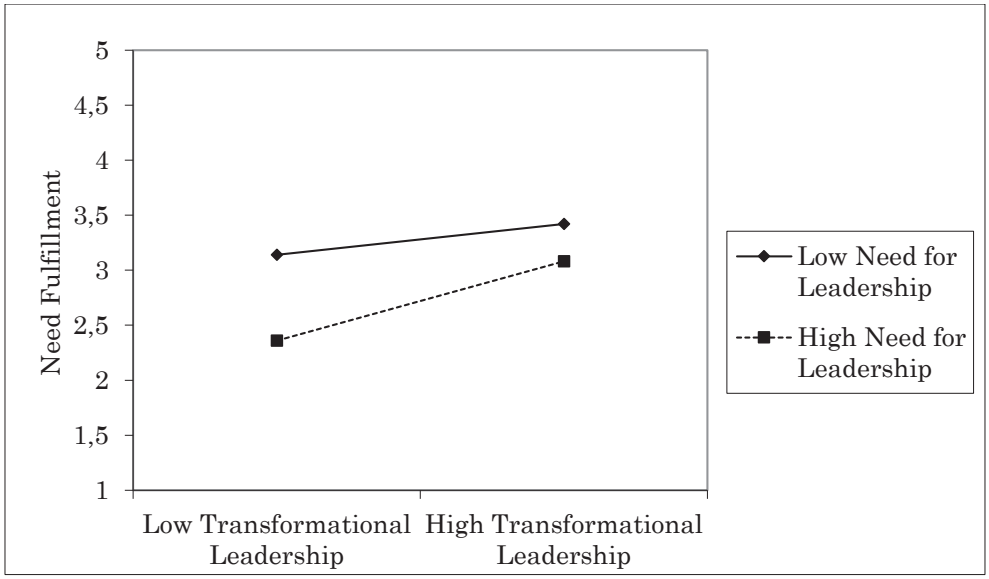


Figure 3. Need for leadership as a moderator in the relationship between transformational leadership and basic need fulfillment.

Theoretical Contributions

The processes through which transformational leaders exert their influence on followers' task performance are still referred to as the "black box" of transformational leadership (Ilies, Judge, & Wagner, 2006). In an attempt to make a more integrated effort to show how transformational leadership and followers' task performance are related, we proposed a new, sequential and promising mechanism to explain why followers perform better when their leader shows more transformational leadership behavior. In line with the management of meaning perspective, we found that transformational leaders have a positive influence on followers' work environment. Followers who rated their leader as more transformational indicated that they worked in a more resourceful environment. This positive and stimulating work environment, in turn, contributed to follower basic need fulfillment. Consequently, this need fulfillment allowed followers to thrive and become engaged in their work. Finally, this active, engaged state, enabled followers to direct their energy toward their work and therefore contributed to followers' task performance as indicated by their leader.

We also contribute to the literature because we treated followers as active recipients of transformational leadership, while most other studies on leadership treat followers as passive recipients of leadership (Zhu et al., 2009). In other words, we proposed that the interaction between transformational leaders and their followers determines the effectiveness of transformational leadership. Indeed, we showed that need fulfillment of followers high in their need for leadership is dependent on the amount of transformational leadership behavior shown by the leader, while the need fulfillment of followers low in need for leadership was not dependent on the amount of transformational leadership

behavior shown by the leader. In other words, leaders are only able to influence their followers to a certain extent and some followers are able to manage without their leader. We show that it is important to acknowledge that the effectiveness of transformational leadership is, at least to some extent, dependent on certain follower characteristics.

Practical Implications

We showed that followers were more engaged and performed better when their leaders showed more transformational leadership behaviors. Therefore, it is important for organizations to stimulate their leaders' transformational leadership behavior. According to Barling, Weber, and Kelloway (1996) leaders can be trained to show more transformational leadership behavior within a relatively short-time period. Barling et al. developed a transformational leadership training. After the training, managers received higher scores from their followers on intellectual stimulation, charisma and individual consideration compared to the control group that did not receive any training, and compared to their transformational leadership behavior two weeks before they started the training.

We showed that the need fulfillment of followers low in need for leadership is unaffected by transformational leadership behaviors. Thus, when the majority of followers is low in their need for leadership, for example when followers are independent workers, other leadership styles may contribute to the need fulfillment of these followers. For example, empowering leaders may be able to fulfill the needs of followers low in their need for leadership, because these leaders encourage and facilitate followers to lead themselves (Pearce & Sims, 2002). Empowering leaders encourage follower to take responsibility, work independently, seek learning opportunities and view problems as challenges. It has been shown that empowering leaders are able to stimulate followers' work engagement (Tuckey, Bakker, & Dollard, 2012), but this may be especially true for followers low in their need for leadership.

Limitations and Future Research

Despite its strengths, one of the limitations of our study is its cross-sectional design. Since the results of our study are promising, it is worthwhile to test these relationships using a longitudinal or experimental design to establish causality. Although it seems unlikely that followers have more resources because their needs are fulfilled, it has been shown that work engagement builds job resources, because resources often come in tandem (e.g., Hobfoll, 2002). Future research could also examine these relationships on a daily basis using a daily diary design, since it has been suggested that leadership effects operate primarily within a short time-period (Van Dierendonck, Haynes, Borrill, & Stride, 2004).

According to Conway and Lance (2010), authors should be able to provide arguments for the use of self-reports. We believe that self-reports are appropriate in our study, because we focus on private events (i.e., work engagement and need fulfillment) that are best reported by followers themselves. Furthermore, we focus on how transformational leadership is *perceived* and how it influences followers' *perceived* work environment. Conway and Lance also argue that authors should provide information about the construct validity of their

measures to reduce the impact of common method bias. In the present study, the validity of our constructs is reflected in the fit of the measurement model and the significance of the factor loadings. Finally, we took precautions to prevent common method to bias the results by using different sources to obtain measures for the predictor and criterion variable, and ensuring participants' anonymity by using a code to identify the different dyads.

Piccolo and Colquitt (2006) state that there has not been much research attention for job-related factors that mediate the relationship between transformational leadership and follower outcomes, which is surprising considering that leaders are in a position of power and are role models to their followers. It is likely that transformational leaders influence multiple job resources. Hence, it would be interesting to include also other resources in future research, such as skill variety, to examine whether some resources are more strongly influenced by the leader than others. In a similar vein, it would be interesting for future research to examine whether some resources fulfill all three basic needs, while others may only fulfill one or two needs.

A final interesting path for future research to follow is that of leader behaviors and followers' need for leadership. According to De Vries et al. (2002), the need for leadership may change with circumstances. For example, when someone is lacking a needed competence, that person is said to have a higher need for leadership. On the one hand, transformational leaders may actually reduce followers' need for leadership by inducing feelings of competence. That is, transformational leaders stimulate their followers' individual development and encourage followers to think independently, which may enhance followers' feelings of competence and consequently, reduce their need for leadership. On the other hand, transformational leaders may actually increase followers' need for leadership, because they stimulate their followers to grow and develop. This may increase followers' dependency on their leader and followers' need to develop themselves further. Previous research supports this paradox: transformational leaders both empower their followers and increase followers' dependence on the leader (Kark, Shamir, & Chen, 2003). In line with the interactionist perspective of Woodman et al. (1993), whether or not followers become more empowered by their leader or become more dependent on their leader, may depend on the expectations that followers have about their leader.

CHAPTER 4

The Measurement of State Work Engagement: A Multilevel Factor Analytic Study

This chapter is published as Breevaart, K., Bakker, A. B., Demerouti, E., & Hetland, J. (2013). The measurement of state work engagement: A multilevel factor analytic study. *European Journal of Psychological Assessment, 28,* 305-312. DOI: 10.1027/1015-5759/a000111

ABSTRACT
While diary studies gain popularity, the validity of measures utilized in such studies remains an under researched issue. This study examines the factor structure of the Utrecht Work Engagement Scale (UWES) at both between-person (trait) and within-person (state) levels of analysis. A multilevel confirmatory factor analysis was performed to confirm that the between-level factor structure also operates at the within-level of analysis. Data from 271 employees who filled in a state version of the UWES on five consecutive days was used to perform the analysis. Results showed that the UWES can be used to measure both trait and state work engagement. The three-factor multilevel model appeared to be the best fitting model to the data. Implications for future research on engagement are discussed.

INTRODUCTION

According to Bakker and Leiter (2010), contemporary organizations need employees who are psychologically connected to their work. The information and service economy of the 21st century requires employees who are willing and able to invest themselves fully in their roles. Organizations need employees who are energetic and dedicated – i.e., who are engaged in their work. It is therefore not surprising that since the turn of the century, work engagement has gained significant popularity in the management (e.g., Macey, Schneider, Barbera, & Young, 2009) and scientific literatures (e.g., Bakker & Leiter, 2010).
Most scholars use Schaufeli and Bakker's (2010; Schaufeli, Salanova, González-Romá, & Bakker, 2002) definition of work engagement. Accordingly, work engagement is a positive, fulfilling, work-related state characterized by vigor, dedication, and absorption. Vigor means that employees have high energy levels and mental resilience. Dedication means being strongly involved in work and being enthusiastic and proud. Finally, absorption means being fully concentrated on the work tasks and having the feeling that time flies. Schaufeli and Bakker (2003; Schaufeli et al., 2002) developed the Utrecht Work Engagement Scale (UWES) to enable the assessment of enduring work engagement. Some researchers have adapted the UWES to measure work engagement on a daily basis (e.g., Sonnentag, 2003; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009a), and their research has confirmed that there is substantial variation in work engagement within persons. However, the UWES was originally developed to measure work engagement in general and not to measure work engagement on a daily basis. Although most diary studies show good internal consistencies of the UWES subscales, the factor structure of the state version of the UWES has never been established using multilevel analysis.

Recently, Sonnentag, Dormann, and Demerouti (2010) raised some concerns about the factor structure of the UWES when adapted to be used on a daily basis. Therefore, the central aim of the present study is to examine both the between-person (trait) and the within-person (state) factor structure of the state version of the UWES. The three-factor structure of the nine-item version of the UWES has been confirmed in many different countries and occupations, although the three factors appear to be very closely related (Schaufeli & Bakker, 2010; Schaufeli, Bakker, & Salanova, 2006). Therefore, this article will test both the three-factor model and the one-factor model. Further, we will show how to examine the factor structure of multilevel data by performing a multilevel confirmatory factor analysis (MCFA; Muthén, 1994). This may justify future research on daily work engagement using this adapted version of the UWES, and guide future research on the psychometric properties of organizational psychological phenomena with a multilevel structure.

STATE WORK ENGAGEMENT

State work engagement (SWE) has been defined as a transient, work-related experience that fluctuates within individuals over a short period of time (Sonnentag et al., 2010). While trait work engagement focuses on inter-individual differences, SWE focuses on intra-individual differences in work engagement. Recent diary studies investigating SWE have found that 30-40% of the variance in work engagement is explained within persons over the working week (e.g.,

Sonnentag, 2003; Xanthopoulou et al., 2009a; 2009b).Therefore, examining SWE and its predictors can explain why even generally engaged people sometimes have an off-day. In other words, the diary methodology uncovers the dynamic part of work engagement and allows for examining more proximal predictors of work engagement. For example, Xanthopoulou et al. (2009b) examined the relationship between job resources, personal resources and work engagement. They found that coaching on a specific day had a positive effect on work engagement the next day through its effect on optimism the next day. Besides, SWE data are more reliable, since SWE is captured much closer to real life than trait work engagement. Furthermore, studying both trait and state work engagement is important, since their predictors appear to be different. For example, research shows that job demands are positively related to SWE (Bakker, van Emmerik, Geurts, & Demerouti, 2008), while they drain energy in the long term and are therefore negatively associated with enduring work engagement.

However, SWE cannot be measured with the original UWES, because this instrument averages experiences of work engagement over a longer period of time, thereby ignoring possible short-term, within-person differences in engagement. Thus, researchers have adjusted the UWES-items and the timeframe of the scale anchors (see Table 1). Sonnentag et al. (2010) recently stated that 'there is a strong need to theoretically and empirically investigate the structural similarities of state- and trait- engagement models' (p. 28). They argue that more research is needed to examine whether the quality and configuration of SWE is identical to the quality and configuration of trait work engagement. One of their main concerns is whether state engagement can be assessed with a modified scale for the assessment of enduring work engagement.

It is unclear whether the experience of SWE is really similar to the experience of trait work engagement. When they are not similar, this reduces the factorial invariance and consequently the factorial validity of the adapted scale to measure SWE. Factorial invariance refers to the degree to which a construct is measured similarly across levels, whereas factorial validity refers to the degree to which the measurement of a construct conforms to the theoretical definition of that construct (Hoyle & Smith, 1994). For example, it is conceivable that the enduring work engagement items include feelings and attitudes that cannot change or develop from one day to another, or that some features of engagement are more important on some days than on others. When feelings and attitudes cannot change from day to day, responses would be stable across days. This is not desirable from a methodological point of view, because it would minimize the within-person variance and maximize between-person variance and it would therefore measure trait work engagement instead of SWE. Related to this is the more general problem with measuring state variables with diary studies. Participants may want to appear consistent in their behavior and may therefore be reluctant to report behavior inconsistent with their previous responses (Visser, Krosnick, & Lavrakas, 2000). This desire to respond consistent may reduce real changes in behavior over time. However, this does not seem to be a problem with work engagement, because 30-40% of the variance can be explained by the within-person level.

This could also mean that some of the items cannot be answered on a daily basis, which could lead to fewer extracted factors in factor analysis. This would result in a conceptually different measure of SWE as compared to trait work engagement. Finally, one of the vigor items refers specifically to the morning ('This morning, I felt like going to work'), which may not necessarily reflect the amount of vigor experienced on that day, but which may also be a reflection of the vigor experienced before going to work. Therefore, it is important to look at both the between-person and within-person factor structure of the state version of the UWES before using it to measure SWE.

Such research should be conducted using software appropriate for multilevel data since SWE scores are nested within people. This means that the scores of the same person on different days are dependent. When observations are dependent, but the data are analyzed on a single-level, the independence assumption is violated. This can affect parameter estimates such as factor loadings which may lead to inaccurate statistical inferences. According to Chan (1998), we often do not know whether a construct has an identical structure across different levels of analysis, or whether it varies across levels. This is important because some statistical analyses assume that constructs have an identical structure at each level of analysis. According to Mumford (1998), any effect found in single-level analysis may only reflect a methodological artifact when aggregate and disaggregate measures do not have similar reliabilities and a similar pattern of item loadings.

MULTILEVEL CONFIRMATORY FACTOR ANALYSIS

In the present study, a multilevel factor analysis will be conducted on the state version of the UWES to examine the factor structure of work engagement at both the within-person and between-person level of analysis simultaneously. The between-person factor structure refers to differences between individuals, which is work engagement aggregated across days. Compared to work engagement measured at a single time point, aggregating the work engagement scores over five days reduces measurement error (Shiffman, 2007), providing a statistically more reliable and powerful measure of trait work engagement. The within-person factor structure refers to differences within individuals. This is the deviation of a persons' mean on each day and is referred to as state or daily work engagement. The analysis will be confirmatory, since there is some evidence suggesting that SWE is not substantially different from the trait work engagement. This evidence will be discussed below.

Sonnentag et al. (2010) argue that it is important to integrate theoretical models of trait and SWE. A challenging question that remains to be answered in order to integrate these models is whether trait and SWE have the same predictors and outcomes. According to Chen, Bliese, and Mathieu (2005), homologous models are a logical first step to consider multilevel relationships, because they tell us something about the breadth and possible boundaries of theories. An important assumption of homologous models is that the predictors and outcomes of similar variables have to be similar across levels. Research indicates that trait and state work engagement are both affected by the availability of resources and affect similar outcomes (Bakker & Leiter, 2010).

Although not conclusive, there is some evidence indicating that the relationship between job resources and work engagement is highly consistent across levels. A meta-analysis from Halbesleben (2010) showed that trait work engagement was positively related to the job resources social support (ρ = .37) and autonomy (ρ = .27), to the personal resources self-efficacy (ρ = .59) and optimism (ρ = .44), as well as to job performance (ρ = .36). Comparing these results to the studies that examined these relationships on a daily basis, it appears that correlations are highly similar. Based on the research of Xanthopoulou et al. (2008) and Xanthopoulou et al. (2009b), it appears that SWE is positively related to the job resources social support (r = .37) and autonomy (r = .25), to the personal resources self-efficacy (r = .28/ .52) and optimism (r = .42) as well as to job performance (r = .34/ .39).

A second reason to expect the factor structure to be invariant across levels of analysis is that research shows a positive relationship between trait work engagement and SWE. Sonnentag (2003) reported a correlation of .66 between trait work engagement and SWE. Similarly, Xanthopoulou et al. (2009b) found a correlation of .76 between trait and SWE. Although this positive relationship is not perfect, these results indicate that employees who are most engaged in general - are also most likely to be most engaged on a specific day. Therefore, daily measures of work engagement will only have minor influences on inter-item correlations, since it is unlikely for a generally engaged person to be not engaged at all at one out of five days. This means that SWE is not conceptually different from trait work engagement, but how engaged someone feels (the mean level) may still differ depending on the day. Despite the concerns raised by Sonnentag et al. (2010), there is some evidence that the factor structure of the state UWES may be similar on both the between-person level and within-person level. Therefore, we decided to conduct a confirmatory factor analysis.

Most techniques used to analyze diary data assume compound symmetry across days, i.e., the work engagement scores of all days (day 1, 2, 3,…k) are correlated equally strong with each other. However, it is conceivable that the effects of events affecting work engagement on one day do not decay immediately, but also influence work engagement on the following day(s). In the current article, we argue that the effect of these events on next days' work engagement will be minimal and we can therefore assume compound symmetry. For example, in routine jobs, the events affecting work engagement are more or less the same every day. In our view, the work engagement of an employee with a non-routine job is also unlikely to be influenced by the work engagement experienced on previous days. This is because every day there are different circumstances determining the work engagement experienced on that day. Besides, as discussed before, work engagement fluctuates from day to day as a function of the available job resources on the specific day. This implies that it is likely that there will be no systematic pattern of correlations between work engagement scores over the days. For example, an employee may be generally very engaged over a working week with the exception of Tuesday, because on that day social support was low due to sick leave of several colleagues. Consequently, we assume that correlations between work engagement scores on different days will be very similar for individuals in different kind of jobs.

METHOD

Participants and Procedure

Data from three different studies using SWE as one of the variables were combined and used in the present study. Data from these three studies were gathered by students working on their master thesis at a Dutch University. They examined the relationship between leisure activities and work engagement, leadership and follower work engagement, and the crossover of work engagement between colleagues. All participants were asked to fill in the diary on five consecutive days. They filled out the questions about daily work engagement at the end of each workday.

The sample consisted of 271 employees; 159 men and 112 women. The youngest employee was 20 and the oldest 64 (M = 36.75, SD = 10.49). Most employees were married (62.4%), highly educated (72.3%), and worked in business services (23.2%), government (26.6 %) or in another sector, like education, health and welfare, and transport.

Measure

Work Engagement. The Dutch version of the nine-item UWES (Schaufeli et al., 2006) was used to measure work engagement. The questions were adapted in order to measure work engagement on a daily basis, thereby measuring SWE (see Table 1). The questionnaire used in the different studies were measured on a 7-point scale (0 = *strongly disagree*, 6 = *strongly agree*). Sample items are: 'Today, my job inspired me' and 'Today, I was very enthusiastic about my job'. The internal consistency of the total scale is .93 and ranges from .81 to .89 for the three dimensions separately.

Strategy of Analysis

Researchers usually perform either a factor analysis based on the total covariance matrix of the entire sample or a factor analysis based on the sample between-person matrix when looking at the factor structure of a person level construct (Dyer, Hanges, & Hall, 2005). However, according to Muthén (1994), both procedures are problematic. To counter the problems associated with these procedures, Muthén developed the multilevel confirmatory factor analysis (MCFA) procedure, which uses the within- and between-person covariance matrices simultaneously. Mplus (Muthén & Muthén, 2002) will be used to perform the analysis.

The normative chi-square statistic, the comparative fit index (CFI), the root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR) were used to assess the fit of the models. CFI values of .90 to .95 are acceptable and values of .95 to 1.00 are high, RMSEA values less than .08 are acceptable and less than .05 are high, and SRMR values up to .10 show acceptable fit (Schweizer, 2010). Since the sample in this study is large (i.e., 271 participants x 5 days = 1,355 cases for the within-person level) and the chi-square statistic is affected by sample size, the main focus is on the other fit indices. Bayesian Information Criterion (BIC) was used to compare the fit of the different models, because it adjusts for the number of parameters that are

estimated (Schwartz, 1978). Therefore, unlike the chi-square test, BIC can be used to compare models that are not nested. Lower BIC indicates a better fit.

RESULTS

Descriptive Statistics

Table 1 shows the means, standard deviations, and inter-correlations for the nine items at the between-level of analysis and the within-level of analysis.

Multilevel Confirmatory Factor Analysis

First, we used the intra class correlation (ICC) to determine whether the use of multilevel analysis was justified. The ICC reflects the amount of between-person variability compared to the amount of total variability. Since the ICC's in this study range from .36 to .55, they can be classified as normal (James, 1982), justifying the use of multilevel analysis.

Next, we performed the MCFA. Table 2 shows that for the multilevel model, the three-factor model shows a better fit to the data than the one-factor model, with BIC values being lower for the three-factor model. For the three-factor model, the CFI and SRMR values indicate good fit and the RMSEA value indicates acceptable fit. For the one-factor model, only the SRMR value shows good fit and the CFI shows acceptable fit.

To test for the equality of factor loadings across levels, additional models were tested. First, we tested a model constraining all factor loadings to be equal across the two levels. This model was compared to the freely estimated multilevel three-factor model. The constrained model showed a significant increase of chi-square ($\Delta\chi^2$ (6) = 47.7, $p < .001$), indicating that the factor loadings are not equal across levels for all items. Since vigor item 3 is the only item referring to the morning, we tested another model with all the factor loadings constrained except for the factor loading of vigor item 3. It appeared that there was no significant increase of chi-square when this model was compared to the freely estimated model ($\Delta\chi^2$ (5) = 7.4, *n.s.*). This means that all factor loadings are equal across levels except for vigor item 3, which has a lower factor loading at the within level of analysis.

Figure 1 shows that, overall, the factor loadings at the between-level are higher (.67 - .98) than at the within-level (.59 - .88). Correlations between the three factors are also higher at the between-level (.89-.99) than at the within-level (.78-.97), indicating that discriminant validity is better for the subdimensions of work engagement at the within-level of analysis.

Table 1

Means, standard deviations, between-level and within-level (between brackets) inter-correlations for the nine SWE items, N = 271. Vi = vigor, De = dedication, Ab = absorption.

Items	M	*SD*	1.	2.	3.	4.
1. Today, I felt bursting with energy. *(Vi)*	5.01	1.22				
2. Today, I felt strong and vigorous at my job. *(Vi)*	5.09	1.23	.94 (.77)			
3. When I got up this morning, I felt like going to work. (*Vi)*	4.93	1.42	.82 (.51)	.83 (.51)		
4. Today, I was enthusiastic about my job. *(De)*	5.13	1.26	.84 (.57)	.88 (.59)	.86 (.41)	
5. Today, my job inspired me. *(De)*	4.88	1.32	.80 (.56)	.87 (.55)	.83 (.40)	.93 (.63)
6. Today, I was proud of the work that I do. *(De)*	5.09	1.29	.75 (.45)	.77 (.47)	.71 (.38)	.89 (.56)
7. Today, I felt happy when I was working intensely. *(Ab)*	5.10	1.23	.79 (.49)	.82 (.52)	.81 (.46)	.92 (.55)
8. Today, I was immersed in my work. *(Ab)*	4.72	1.41	.62 (.53)	.66 (.51)	.64 (.39)	.81 (.55)
9. Today, I got carried away when I was working. *(Ab)*	3.91	1.48	.59 (.36)	.56 (.36)	.60 (.24)	.65 (.40)

	5.	6.	7.	8.	9.
6.	.85 (.51)				
7.	.87 (.54)	.87 (.59)			
8.	.74 (.54)	.82 (.61)	.76 (.53)		
9.	.69 (.38)	.70 (.42)	.66 (.39)	.69 (.53)	

Table 2

Model fit for a priori multilevel models for one-factor and three-factor solutions, N = 271. df = degrees of freedom, CFI = comparative fit index, RMSEA = root means square error of approximation, BIC = Bayesian Information Criterion, SRMR = standardized root mean square residual, W = within-person portion of the model, B = between-person portion of the model.

	χ^2	*df*	Normative χ^2	CFI	RMSEA	BIC	SRMR
Models							
One-Factor Model							
Multilevel	791.8	54	14.66	.90	.10	31117.6	W = .05, B = .05
Three-Factor Model							
Multilevel	317.4	48	6.61	.96	.06	30686.5	W = .04, B = .04

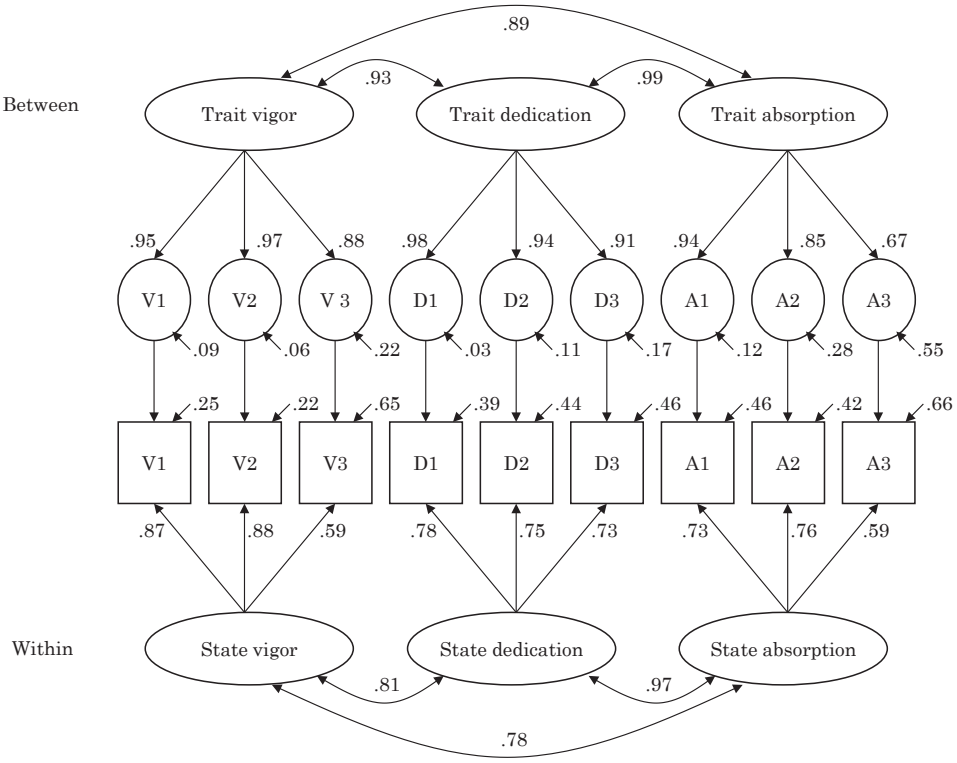


Figure 1. Path Diagram of the Final Three-Factor Model

DISCUSSION

The aim of this study was to test the factorial validity of the adapted UWES to measure SWE by using diary data and statistical methods for modeling both within-person variability (state) and reliable between-person variability (trait). This study is unique in that it is the first to test the validity of the measurement of SWE and to our knowledge one of the first to test the validity of a state measure in general. The UWES was originally developed to measure trait work engagement, but recently researchers have started to adapt the UWES to measure SWE. However, the use of the UWES on a daily basis had not yet been justified as the factorial multilevel structure and invariance had not yet been examined. Therefore, in this study a MCFA was performed (Muthén, 1994).

The results supported our hypothesis that the best fitting model is the multilevel, three-factor model. This means that the adapted version of the UWES captures both trait and SWE and there is no need for a conceptually different measure to assess SWE. Regarding the concerns expressed by Sonnentag et al. (2010), this study empirically tested the structural similarities of measures of trait and SWE. It appears that the adapted version of the UWES is satisfactory,

since the three-factor structure holds both at the between- (trait work engagement) and the within-level (SWE) of analysis.

It appeared that the relationships of the items to their corresponding factor were not different at between- and within-level of analysis, with the exception of one of the vigor items, thereby supporting the construct validity of almost all the items. Apparently, the third item of the vigor factor better reflects the construct at the between-level of analysis compared to the within-level of analysis. As outlined in the introduction, this item is the only item that does not specifically refer to the day, but refers to the morning, which may be an explanation for the results. Feeling like going to work in the morning may also be a reflection of the vigor experienced the working day before or the vigor experienced during breakfast. A solution may be to choose another item from the 17-item version of the UWES that can be adapted to refer to the specific day (e.g., 'Today at work, I was very resilient, mentally').

These results may also be an answer to another concern raised by Sonnentag et al. (2010) about capturing trait work engagement. They argued that SWE reflects a vivid experience while trait work engagement is more likely to reflect an attitude. This is because when measuring trait work engagement, people have to think back over a longer period of time, thereby introducing the risk of memory bias. This study shows that the adapted version of the UWES also captures trait work engagement. Therefore, 'real' trait work engagement may be captured by measuring work engagement every day or every week over a longer period of time.

The results also showed that the three engagement factors are closely related on both between-level and within-level of analysis. This means that there is one general factor, work engagement, which consists of three different factors (vigor, dedication, and absorption) on both levels of analysis. This study thereby supports the original view that the three factors of work engagement can be distinguished, but also the more recent notion that the three factors can be combined into one single measure of work engagement (Schaufeli et al., 2006). Researchers could use the former approach when the three factors are theoretically expected to be differently related to a certain outcome variable, and use the total score when the three factors are not expected to be differently related to an outcome variable. Using the total score when expecting different relationships between the three factors and predictors and/or outcomes, may lead to loss of information.

Considering the results of this study, future research using the adapted UWES to measure work engagement on a daily basis is justified. It would be interesting to focus on more detailed measures of work engagement in future research, since we have focused on SWE measured once every day. How about the factor structure when SWE is measured three times a day or every hour? It could be that the concerns raised by Sonnentag et al. (2010) become prominent with these more detailed measures of SWE. It could be that employees do not feel very energetic in the morning, but this effect may be less apparent if they receive some very good news in the afternoon, which boosts their energy levels. Having multiple measures on one day may result in a conceptually different measure of SWE, because it also captures feelings and thoughts that have a low day-level frequency.

Finally, future research should focus on the integration of models of trait work engagement and SWE. Although there is some research on the same antecedents and consequences of trait work engagement and SWE, there is little integration. This study shows that there is reason to expect that models of trait work engagement and SWE can be integrated and there is no need to develop new models for SWE. One important proposition of the Job Demands-Resources model (Bakker & Demerouti, 2007) is that job resources particularly influence work engagement when job demands are high. Although research has supported this interaction for trait work engagement (e.g., Hakanen, Bakker, & Demerouti, 2005), research on SWE has not yet paid attention to this interaction effect on a daily basis. It would be interesting to know if daily job resources particularly boost SWE when daily job demands are high.

Of course, the present study also has some limitations. Although MCFA has many advantages, there is an important limitation to this method: there is no rule of thumb about the amount of observations needed to perform a MCFA. One study, described in Mok (1995), indicates that 800 observations or more are needed to perform a MCFA. Although more research is needed to explore this question, the present study clearly had more than 800 observations (1830). Another potential limitation in this study could be the implicit assumption that the correlations between the work engagement items are equal for all days, because parameter estimates are biased when these correlations are not equal. However, this cannot be solved in any statistical software package that is currently available. Fortunately, as we argued in the introduction, there appeared to be no systematic pattern of correlations between the work engagement scores across days. Another limitation may be that in this study, SWE was measured only once every day. As indicated earlier, it is important for future research to look at the factor structure of the adapted version of the UWES when SWE is measured multiple times every day.

Despite these limitations, a major strength of this paper is that it used an innovative statistical method to analyze daily diary data. Most researchers using daily diaries have not addressed the psychometric properties of their adjusted measures. This study is one of the first to analyze the factorial validity of an adjusted trait measure to measure a state construct. In the future, we recommend researchers to use the method applied in this study to test the validity of their adjusted trait measures for measuring states.

CHAPTER 5

Daily Transactional and Transformational Leadership and Daily Employee Engagement

This chapter is published as Breevaart, K., Bakker, A. B., Hetland, J., Demerouti, E., Olsen, O.K., & Espevik, R. (2014). Daily transactional and transformational leadership and daily employee engagement. *Journal of Occupational and Organizational Psychology, 87,* 138-157. DOI: 10.1111/joop.12041

ABSTRACT

This diary study adds to the leadership literature by examining the daily influence of transformational leadership, contingent reward, and active management-by-exception (MBE-active) on followers' daily work engagement. We compare the unique contribution of these leadership behaviors and focus on the work environment to examine *how* these leadership behaviors influence followers' daily work engagement. While travelling by sail ship, 61 naval cadets filled out a diary questionnaire for thirty-four days. Multilevel regression analyses revealed that, after controlling for followers' work engagement the previous day, cadets were more engaged on days that their leader showed more transformational leadership and provided contingent reward. MBE-active was unrelated to followers' work engagement. As predicted, transformational leadership and contingent reward contributed to a more favorable work environment (more autonomy and support), while MBE-active resulted in a less favorable work environment (less autonomy) for the cadets. This study highlights the importance of daily leadership for followers' daily work engagement.

INTRODUCTION

A key proposition of Bass' theory (1985) of transformational and transactional leadership is that transformational leadership contributes unique variance to outcome variables after controlling for the influence of transactional leadership. Transactional leaders ensure that expectations are met, which is the foundation on which transformational leaders build to motivate their followers to perform beyond expectations. The few studies that examine the effect of transformational and transactional leadership simultaneously mainly used cross-sectional or longitudinal survey designs (Judge & Piccolo, 2004). These studies have shown that differences between leaders are related to follower outcomes like job satisfaction and commitment. However, these studies did not address how day-to-day fluctuations in leadership behaviors affect follower outcomes. This is important, because it brings us closer to the process through which leaders exert their influence on follower outcomes and allows us to examine this process in its natural work context.

The present study takes a within-person approach to examine the daily influence of transactional and transformational leadership on followers' work engagement. In our sample of naval cadets who received leadership training during their 34 days stay on a sail ship, we furthermore examine whether transformational and transactional leaders contribute to their followers' work engagement because of their daily contribution to a favorable work environment.

THEORETICAL BACKGROUND

According to Bass (1985; 1999), transactional leaders motivate their followers to fulfill their leaders' expectations, while transformational leaders motivate their followers to perform beyond what is expected of them. In other words, although transactional leaders can be effective (e.g., promote follower job performance), transformational leaders are even more effective (e.g., promote follower job performance beyond transactional leaders). Bass argued that every leader uses both transactional and transformational leadership to some extent, but the most effective leaders use transformational leadership more frequently than transactional leadership.

Transactional leadership consists of multiple components that differ in their effectiveness. First and most effective is contingent reward. Contingent reward means that followers receive incentives after they accomplish their tasks in order to stimulate followers' task motivation. Contingent reward is transactional when these incentives are material (e.g., bonus), but can also be transformational when the incentive is psychological in nature (e.g., praise). More ineffective compared to contingent reward is management-by-exception (MBE). MBE-active is about the anticipation of mistakes and the enforcement of rules that may prevent mistakes from happening. In contrast, MBE-passive refers to confronting followers with their mistakes and expressing disapproval about the mistakes that have been made. Since MBE-passive is most likely to occur when leaders have a large span of control (Bass & Riggio, 2006), we focused on the MBE-active component of transactional leadership.

Transformational leadership is characterized by the four I's; idealized influence, inspirational motivation, individual consideration, and intellectual stimulation. Idealized influence means that followers identify with their leaders

and respect and trust them. Inspirational motivation refers to creating and communicating an appealing vision of the future and to the leaders' own optimism about this future. Next, individual consideration means that leaders are mentors and acknowledge that every employee has his/her own needs and abilities. Finally, intellectual stimulation refers to challenging followers to rethink some of their ideas and to take a different perspective on the problems they face in their work.

In their meta-analysis, Judge and Piccolo (2004) examined the unique contribution of transformational and transactional leadership in predicting different outcomes. The results indicated that transformational leadership and contingent reward were important predictors of several outcome variables (i.e., satisfaction with the leader, motivation, leader job performance, and leader effectiveness). MBE-active had a positive, but very small impact on the outcome variables and MBE-passive and laissez-faire leadership had a negative, but also rather small impact on the outcome variables. In the current study, we examine the day-to-day influence of transformational and transactional (i.e., contingent reward and MBE-active) leadership on follower work engagement.

State Work Engagement

In the present study, we focus on followers' daily (state) work engagement. State work engagement is a transient, positive, fulfilling and work-related state of mind that may change from day to day, and is characterized by vigor, dedication and absorption (Breevaart, Bakker, Demerouti & Hetland, 2012). Vigor refers to high levels of energy and mental resilience, dedication means being enthusiastic about work and inspired by the work tasks, and absorption refers to being fully concentrated on work and feeling like time flies when working (cf. Schaufeli & Bakker, 2004). As a state, work engagement fluctuates within individuals over short periods of time (Sonnentag, Dormann, & Demerouti, 2010). This dynamic approach allows us to examine how leaders influence followers' work engagement in their natural work context. What happens on the days that leaders stimulate their followers' work engagement? Furthermore, a dynamic day-to-day approach may reflect leaders' behaviors more accurately, because followers only have to think back over several hours when they rate their leaders' behaviors instead of having to think back over several weeks or months (cf. Ohly, Sonnentag, Niessen, & Zapf, 2010).

Only a handful of studies examined the influence of leadership behavior on followers' work engagement. For example, Zhu, Avolio, and Walumbwa (2009) found that transformational leadership predicted follower work engagement, especially for individuals with positive characteristics (e.g., active learners). We are only aware of one study that examined the relationship between daily leadership behavior and daily follower work engagement (Tims, Bakker, & Xanthopoulou, 2011). Tims and her colleagues found that followers were more engaged on days that their leader showed more transformational leadership behavior, because followers were more optimistic on these days.

To our knowledge, there are no studies that examined the relationship between transactional leadership and follower work engagement. Tims and her colleagues argue that transactional leaders lack the "motivational power and inspirational appeal" (2011, p. 122) that is needed to stimulate followers' work engagement. In

line with Bass' theory (1985; 1999), we argue that followers will be more engaged on days when their leader uses more transactional leadership behaviors, but to a lesser extent compared to when their leader uses more transformational leadership behaviors.

LEADERSHIP PROCESS

A question that often remains unanswered in leadership research is *how* leaders influence follower outcomes. This an important question, because it contributes to the understanding of the processes underlying the influence of leadership behavior and hereby advances leadership theory. Yukl (2010) therefore called for more concentrated efforts to understand mediators that link leadership behaviors to follower outcomes. According to Smircich and Morgan (1982), leaders define and shape their followers' work environment. Hence, it is surprising that there are only a few studies that examined job resources as a mechanism to explain how transformational leaders influence follower outcomes. For example, Piccolo and Colquitt (2006) and Purvanova, Bono, and Dzieweczynski (2006) both found that the relationship between transformational leadership and organizational citizenship behavior was mediated by core job characteristics, such as autonomy and feedback.

Job resources are social, organizational, or task-related aspects of the job that reduce job demands, are functional in achieving work-related goals, and/or stimulate personal growth and development (Bakker, 2011). Examples are autonomy, social support, and constructive feedback. Research has shown that such job resources have motivating potential, leading to higher work engagement (for meta-analyses see Crawford, LePine, & Rich, 2010; Halbesleben, 2010). On a daily basis, this means that employees are more engaged on days when they have more job resources (e.g., Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009b; Xanthopoulou, Bakker, Heuven, Demerouti, & Schaufeli, 2008). To our knowledge, only one study examined whether leaders influence their followers' work engagement because of their impact on the work environment. In their survey study among volunteer firefighters, Tuckey, Bakker, and Dollard (2012) showed that empowering leaders influence followers' work engagement because they positively influence their followers' cognitive job demands and job resources. However, it is still unclear whether job resources can explain how transformational and transactional leaders influence their followers' (general or state) work engagement.

DAILY LEADERSHIP BEHAVIOR AND STATE WORK ENGAGEMENT

Engaged employees perform their work because they enjoy it and are pulled towards it - they are intrinsically motivated (Schaufeli & Bakker, 2010). Transformational leaders contribute to followers' intrinsic motivation, because they provide a meaningful rationale for their followers' work (Avolio & Yammarino, 2002). That is, transformational leaders communicate an appealing vision of the future and show confidence in their followers' ability to contribute to the realization of this vision (Seibert, Wang, & Courtright, 2011). Besides, transformational leaders stimulate followers to prefer the interests of the group over their self-interests (Avolio & Yammarino, 2002). On the sail ship, this means for example that leaders emphasize how conducting daily deck services and

maintenance work contributes to the shared objectives and mission. Furthermore, this means that leaders stimulate the cadets to help and learn from other cadets during their "off-duty" period, in order to achieve the common goals. It also means that leaders stimulate cadets to perform to the best of their abilities and delegate tasks that match cadets' seamanship skills. This makes it likely that followers feel energetic, are dedicated to, and immersed in their work.

Although contingent reward lacks the inspirational appeal of transformational leadership, it does not lack motivational power. Leaders who use contingent reward set clear goals and communicate what followers can expect when they reach these goals, which motivates followers (Bass & Avolio, 1995). This is in line with the results of Judge and Piccolo's (2004) meta-analysis, which showed that contingent reward contributes to followers' work motivation. Leaders who use contingent reward acknowledge that the cadets performed well in sailing the ship and developing their seamanship skills. This may provide meaning to the work, which is likely to increase the cadets' work engagement on that day. Furthermore, research has shown that constructive feedback is an important predictor of work engagement (Halbesleben, 2010). Leaders who use contingent reward do lack inspirational appeal and we therefore expect that transformational leaders influence their followers' work engagement after controlling for the influence of contingent reward.

Bass and Avolio (1994) claim that MBE-active is neither effective nor ineffective. It therefore seems unlikely that leaders who use MBE-active are able to influence their followers' work engagement. Clearly, leaders who use MBE-active lack both inspirational appeal and motivational power. However, Judge and Piccolo (2004) showed that MBE-active was positively related to followers' work motivation, although not as strongly as transformational leadership and contingent reward. We therefore expect leaders who use contingent reward are able to influence their followers' work engagement after controlling for leaders' use of MBE-active. These arguments lead to the following hypotheses:

> **Hypothesis 1a:** Daily transformational leadership is positively related to followers' daily work engagement after controlling for daily transactional leadership (i.e., contingent reward and MBE-active).

> **Hypothesis 1b:** Daily contingent reward is positively related to followers' daily work engagement after controlling for daily MBE-active.

Daily Leadership and Autonomy

We argue that transformational leadership behavior is positively related to followers' daily autonomy, because on days that leaders show more transformational leadership, followers are allowed to approach their problems from different perspectives, even if these perspectives are different from the leader's ideas. For example, when the cadets have difficulties planning an anchoring operation, they can decide to distance themselves from the problem for a while, to ask another cadet for help, or to spend some time trying different solutions. This makes it likely that followers will experience more autonomy on days that their leader uses more transformational leadership. Research indeed supports that transformational leadership is positively related to follower

autonomy (e.g., Jung & Sosik, 2002; Piccolo & Colquitt, 2006). However, these studies did not employ a diary design and did not study whether autonomy can explain the relationship between transformational leadership and follower work engagement.

Although leaders who use transformational leadership may stimulate followers' autonomy more explicitly, we propose that leaders who use contingent reward also provide followers with more decision latitude to decide how and when to perform their tasks. Leaders who use contingent reward value the achievement of working goals. Autonomy contributes to the achievement of working goals, because it allows followers to perform their work in the most efficient way. Therefore, it seems likely that they provide the cadets with autonomy. For example, cadets can decide to switch the order of their deck duties when the weather suddenly turns and first perform those duties that can be done under the current weather conditions. Besides, leaders who use contingent reward communicate clear expectations. When these expectations are communicated at the start of the day, this may decrease the necessity to control what and how cadets perform their work during the day.

Finally, we argue that leaders who use MBE-active influence followers' autonomy in a negative way. It is likely that followers have less autonomy to perform their work when their behavior is constantly being monitored. For example, when the cadets try new ways to perform their work, there is a possibility that these are less effective and this increases the likelihood that mistakes are being made. Leaders who use MBE-active try to actively prevent mistakes from happening and thus, it is likely that they do not provide followers' with any latitude to decide when and how to perform their work. Based on these arguments and the aforementioned literature showing a positive relationship between autonomy and work engagement (Halbesleben, 2010; Xanthopoulou et al., 2009b), we hypothesize:

> **Hypothesis 2a:** Daily transformational leadership is positively related to followers' daily autonomy after controlling for daily transactional leadership (i.e., contingent reward and MBE-active).
>
> **Hypothesis 2b:** Daily contingent reward is positively related to followers' daily autonomy after controlling for daily MBE-active.
>
> **Hypothesis 2c:** Daily autonomy mediates the relationship between daily (a) transformational leadership, (b) contingent reward, and (c) MBE-active on the one hand, and followers' daily work engagement on the other hand.

Daily Leadership and Social Support

We further argue that followers will also receive more social support from their leader on the days that their leaders use more transformational leadership. Transformational leaders pay attention to every follower and listen to each follower carefully. Hence, on days that leaders use more transformational leadership, leaders will pay more attention to the needs of each follower. For example, leaders will take some time to privately talk to the cadets who are home sick or mediate in an argument between two cadets. This makes it likely that

transformational leaders contribute to followers' daily social support. Research has shown that support provided by the transformational leader has positive implications for followers, because it protects followers from experiencing stress and burnout (for a review see Skakon, Nielsen, Borg, & Guzman, 2010).

Furthermore, we argue that contingent reward positively influences followers' work engagement, because followers receive more social support when their leader uses contingent reward. Leaders who use contingent reward pay attention to their cadets and praise them when they are, for example, able to take the sails up and down in ten minutes. That is, followers' performance is recognized and appreciated by leaders, which are well-known types of social support (e.g., Carlson & Perrewé, 1999; Etzion, 1984).

With regard to the supervisory support followers receive, again, we claim that MBE-active is less effective compared to transformational leadership and contingent reward. We argued that recognition and appreciation are important indicators of social support and that leaders who use MBE-active do not recognize or appreciate followers' performance. They rather show what they do not appreciate, namely mistakes being made. Furthermore, social support implies that there is at least some form of exchange and mutuality (Baumeister & Leary, 1995). Whereas the contingent reward component of transactional leadership is based on mutuality (i.e., praise in exchange for high performance), followers of leaders who use MBE-active are expected to perform well and not make any mistakes, but followers are not rewarded in any way when they perform well. Together with the aforementioned literature showing a positive relationship between social support and work engagement (Halbesleben, 2010; Xanthopoulou et al., 2009b), these arguments lead to our final hypotheses (see Figure 1 for an overview of all hypotheses):

> **Hypothesis 3a***:* Daily transformational leadership is positively related to followers' daily social support after controlling for daily transactional leadership (i.e., contingent reward and MBE-active).
>
> **Hypothesis 3b:** Daily contingent reward is positively related to followers' daily social support after controlling for daily MBE-active.
>
> **Hypothesis 3c:** Daily social support mediates the relationship between daily (a) transformational leadership, (b) contingent reward, and (c) MBE-active on the one hand, and followers' daily work engagement on the other hand.

METHOD

Participants and Procedure

Sixty-one naval cadets from a Military University College participated in our study. As part of their leadership training, they traveled from northern Europe to North America by sail ship. The cadets received a booklet with diary questionnaires for the 40 days of their stay on the sail ship. During six days of their travel, the cadets went ashore and enjoyed their free days. We checked for missing data during this period and found out that almost all cadets did not fill

out the diary during these days. Since these missing values are not at random, we removed these six days from our analyses. We requested the cadets to fill out the questionnaire at 5 pm on each day. The cadets were part of one of eight teams and most teams had multiple leaders on most of the days, so we asked them to rate the daily leadership behavior of their nearest leader. The sample consisted of 46 male participants (75.4%) and 7 female participants (11.5%). Eight participants did not fill in their gender (13.1%). The mean age of the participants was 23.8 years (*SD* = 3.15).

Measures

We used daily diaries to measure our study variables. All day-level questionnaires were adapted versions of existing scales. We adapted the time frame of the scales and the number of questions so the questions could be answered on a daily basis (cf. Ohly et al., 2010). Moreover, the questionnaires were reduced in length when possible, because we asked the cadets to fill out the diary on all thirty-four days of their stay on the boat.

Day-level Transformational Leadership Behavior was measured with five items from the multifactor leadership questionnaire-form 5X (MLQ 5X; Bass & Avolio, 1995). An example item is "Today, my supervisor spoke enthusiastically about what had to be achieved". Participants could respond to the items on a 5-point scale, ranging from 1 (totally disagree) to 5 (totally agree). The average internal consistency of the scale across the days was .79.

Day-level Transactional Leadership Behavior was measured with six items from the multifactor leadership questionnaire-form 5X (MLQ 5X; Bass & Avolio, 1995); contingent reward and MBE-active were assessed with three items each. Example items are "Today, my supervisor expressed satisfaction when I met expectations" (contingent reward) and "Today, my supervisor directed my attention towards failures to meet standards" (MBE-active). Participants could respond to the items on a 5-point scale, ranging from 1 (totally disagree) to 5 (totally agree). The average internal consistency of the contingent reward scale ranged was .61. On average, the internal consistency of the MBE-active scale was .74.

Day-level Job Resources. Daily autonomy and daily social support were measured with three items each. Both scales were based on scales from Bakker, Demerouti and Verbeke (2004). An example item for both resources is: "Did you have control over how your work was carried out today?" (autonomy), and "If necessary, I could ask my supervisor for help today" (social support). The items could be answered on a 5-point scale, ranging from 1 (not at all) to 5 (a very large degree). The average internal consistency of autonomy was .78 and the average internal consistency of social support was .76.

Day-level Work Engagement was measured with the state version (Breevaart et al., 2012) of the 9-item Utrecht Work Engagement Scale (UWES; Schaufeli, Bakker, & Salanova, 2006). Example items are "Today, I felt strong and vigorous at my work" and "Today, I was proud of the work that I do". The statements could be answered on a 5-point scale (1 = totally disagree, 5 = totally agree). Work engagement showed an average internal consistency of .90.

Strategy of Analysis

We performed multilevel analyses using Mplus (Muthén & Muthén, 1998-2010) to account for the nested structure of the data (i.e., days nested within persons and persons nested within teams). If we analyze our multilevel data on a single level, the independence assumption underlying many statistical techniques is violated, which can affect parameter estimates and results in inaccurate statistical inferences. We have a three-level model with days at the first level (Level 1; $N = 2440$), persons at the second level (Level 2; $N = 61$), and teams at the third level (Level 3; $N = 8$). According to Maas and Hox (2005), a minimum of 30 cases at the highest, team level of analysis is needed for adequate power in multilevel modeling. Following this rule of thumb, we do not have a sufficient amount of cases at the highest, third level ($N = 8$) required for robust estimations. Furthermore, the use of multilevel analyses is justified when there is sufficient variability at two or more levels of analysis. The intra-class correlation (ICC) indicated that there was only variance on the third level for one predictor variable, namely autonomy. Therefore, we did not need to include the third level in the estimation of our models. Instead, we used the two-level model with days at the first level and persons at the second level. At the person level, the variance ranged from 20-33% for the predictor variables, indicating that most of the variance (67-80%) is explained by the day-level.

To test for the significance of the mediation effects, we used the parametric bootstrap method recommended by Preacher, Zyphur, and Zhang (2010) to create confidence intervals. This method does not make any assumptions about the distribution of the indirect effect, while the delta method confidence intervals in Mplus do not take into account the asymmetric nature of the indirect effect. We used the online interactive tool developed by Selig and Preacher (2008) that generates an R code to obtain confidence intervals for the indirect effect. Since this tool does not allow specification of more than two paths, we adjusted the generated R code to test our sequential mediation hypothesis by adding an extra path from the second mediator to the outcome variable.

RESULTS

Descriptive Statistics

Table 1 shows the means, standard deviations, and internal consistencies of the study variables averaged over thirty-four days. Inter-correlations below the diagonal reflect correlations on the within (day) level. Inter-correlations above the diagonal reflect correlations on the between (person) level.

Hypotheses Testing

The first hypothesis states that daily transformational leadership is positively related to followers' daily work engagement after controlling for daily contingent reward and MBE-active (1a) and that daily contingent reward is positively related to followers' daily work engagement after controlling for daily MBE-active (1b). We tested a model including paths from all leadership styles to followers' work engagement to examine the unique contribution of each leadership style. The path from daily transformational leadership to daily work engagement was .15 ($p < .001$, 95% CI [.06, .24]), the path from daily contingent reward to daily

work engagement was .07 ($p < .05$, 95% CI [-.01, .14]), and the path from daily MBE-active to daily work engagement was .03 (*n.s.,* 95% CI [-.02, .08]) after controlling for followers' work engagement the previous day (.28, $p < .001$, 95% CI [.17, .39]). Furthermore, we tested a model including only the path from MBE-active to followers' work engagement. This model explained 0.3% of the variance in followers' work engagement. Next, we added the path from contingent reward to followers' work engagement, which increased the explained variance in followers' work engagement with 2.1%. Finally, the path from transformational leadership to followers' work engagement was included and explained an additional 2.2% in followers' work engagement. Together with work engagement the previous day, leadership explained 12.1% of the variance in followers' work engagement. This means that Hypothesis 1a and 1b were both supported.

Job Resources as Mediators

Hypothesis 2a states that daily transformational leadership is positively related to followers' daily autonomy after controlling for daily transactional leadership (i.e., contingent reward and MBE-active), and Hypothesis 2b states that daily contingent reward is positively related to followers' daily autonomy after controlling for followers' daily MBE-active. In a similar vein, Hypothesis 3a states that daily transformational leadership is positively related to followers' daily social support after controlling for daily transactional leadership (i.e., contingent reward and MBE-active) and Hypothesis 3b states that daily contingent reward is positively related to followers' daily social support after controlling for followers' daily MBE-active. In line with our hypotheses, transformational leadership was positively related to both autonomy (.10, $p < .05$, 95% CI [.01, .19]) and social support (.33, $p < .001$, 95% CI [.25, .41]). Contingent reward was also positively related to autonomy (.10, $p < .01$, 95% CI [.02, .17]) and social support (.14, $p < .001$, 95% CI [.06, .21]). MBE-active was negatively related to autonomy (-.06, $p < .05$, 95% CI [-.13, .01]), but unrelated to social support (-.03, *n.s.*). Furthermore, we tested a model including the paths from MBE-active to autonomy and social support. This model explained no variance in social support and only 0.2% of the variance in autonomy. Next, we added the paths from contingent reward to autonomy and social support. This model explained 6.6% of the variance in social support and an additional 1.6% of the variance in autonomy. Finally, we added the paths from transformational leadership to autonomy and social support. Transformational leadership was able to explain an extra 1.1% in autonomy and 9.7% in social support.

We continued testing our mediation hypotheses. Hypothesis 2c states that the relationship between daily (a) transformational leadership, (b) contingent reward, and (c) MBE-active on the one hand and daily work engagement on the other hand is mediated by daily autonomy. Hypothesis 3c states that the relationship between daily (a) transformational leadership, (b) contingent reward, and (c) MBE-active on the one hand and daily work engagement on the other hand is mediated by daily social support. We tested a model including the double mediation by autonomy and social support, controlling for previous day work engagement. Social support (.08, $p < .05$, 95% CI [.01, .15]) and autonomy (.37, $p < .001$, 95% CI [.30, .43]) were both positively related to work engagement.

Table 1

*Means, standard deviations, inter-correlations and internal consistencies (Cronbach's alphas on the diagonal) between the study variables, N = 61 persons, N = 2440 days. Correlations below the diagonal are correlations on the within (day) level and correlations above the diagonal are correlations on the between (person) level. *p < .05, **p < .01, ***p < .001.*

	M	*SD*	1.	2.	3.	4.	5.	6.
1. Transformational Leadership	3.42	.26	(.79)	.89***	.12	.39***	.36**	.54***
2. Contingent Reward	3.43	.28	.51***	(.61)	.23	.24	.35**	.47***
3. MBE-Active	2.49	.44	.05	.14***	(.74)	.21	-.04	-.02
4. Autonomy	2.78	.40	.15***	.14***	-.04	(.78)	.04	.48***
5. Social Support	3.56	.29	.39***	.30***	.003	.16***	(.76)	.38**
6. Work Engagement	3.05	.38	.19***	.15***	.05**	.43***	.18***	(.90)

Table 2

Indirect pathways from leadership to work engagement.
UPC = Unstandardized path coefficient; SE = Standard error; WE = Work engagement.

			95% Confidence interval		
	UPC	SE	Lower	Upper	*p*
Indirect Effect x → m → y					
1. Transformational Leadership → Autonomy → WE	.04	.02	.01	.08	.02
2. Transformational Leadership → Social Support → WE	.03	.01	.001	.06	.01
3. Contingent Reward → Autonomy → WE	.04	.02	.01	.07	.01
4. Contingent Reward → Social Support → WE	.01	.01	.0001	.02	.06
5. Management-by-Exception → Autonomy → WE	-.02	.01	-.05	.01	.04
6. Management-by-Exception → Social Support → WE	-.003	.003	-.01	.004	.20

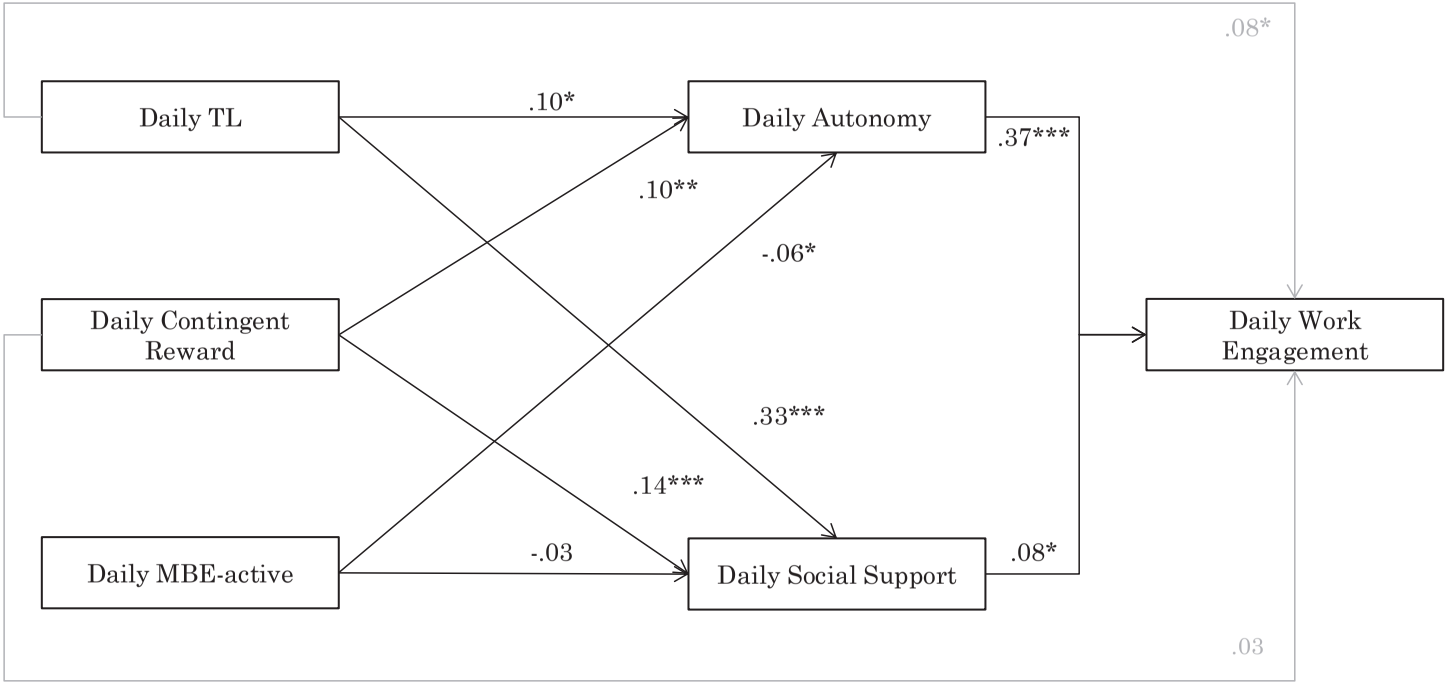


*Figure 1. Final model of daily leadership and employee work engagement, standardized solution including direct and indirect pathways. Note. * p < .05; **p < .01; *** p < .001; TL = Transformational Leadership.*

Table 2 shows the results of the mediation effects. Autonomy mediated the relationship between transformational leadership, contingent reward and MBE-active on the one hand and work engagement on the other hand. Social support mediated the relationship between transformational leadership and work engagement. Contrary to our expectations, the relationship between contingent reward and MBE-active on the one hand and work engagement on the other hand was not mediated by social support. Next, we compared the fit of our hypothesized model to the fit of the partially mediated model including direct effects from transformational leadership and contingent reward to followers' work engagement. Results showed a significant decrease in χ^2 ($\Delta\chi^2 = 8.72$ (2), $p < .05$), indicating that the alternative model including the direct effects fits better to the data. Although the relationship between contingent reward and work engagement is no longer significant (.03, *n.s.*) after including the mediators, there was a small, but significant direct effect from transformational leadership to work engagement (.08, $p < .05$, 95% CI [.003, .16]). The final model (see Figure 1) fits well to the data (CFI = .99; RMSEA = .04; SRMR = .01) and explains 3.1% of the variance in autonomy, 16.7% of the variance in social support and 25.7% of the variance in work engagement.

DISCUSSION

The aim of our study was threefold. First, we wanted to examine the daily influence of transformational and transactional leadership on followers' work engagement. Second, we wanted to examine whether transformational leadership adds to transactional leadership in explaining followers' work engagement. Finally, we focused on two job resources (i.e., autonomy and social support) to explain *how* leaders influence their followers' work engagement on a day-to-day basis.

Contributing to the uniqueness of this study is the specific context in which the proposed relationships were tested, allowing us to examine our study model on a daily basis. During their stay on the boat, the cadets were trained to sail the boat, practice seamanship skills, and use transformational and transactional leadership. This meant that the cadets switched leadership positions, which allowed us to examine the influence of deviations in leadership compared to the baseline (average transformational and transactional leadership over the thirty-four days) in a natural, but highly controlled work context. In general, the results were in line with our expectations. We will now discuss our findings in more detail.

Daily Leadership and Work Engagement

In line with Bass' (1985; 1999) theory, we found that, after controlling for transactional leadership, transformational leadership contributes to followers' work engagement. We showed that, despite their lack of inspirational appeal, leaders who use contingent reward are also able to influence their followers' work engagement in a positive way after controlling for daily MBE-active. MBE-active was unrelated to followers' work engagement, which is in line with Bass' (1999) contention that MBE-active is neither effective nor ineffective. Although all three types of leadership explained a small amount of variance in followers' daily work engagement, contingent reward explained additional variance in followers' work

engagement after controlling for MBE-active. In a similar vein, transformational leadership explained additional variance in followers' work engagement after controlling for transactional leadership (i.e., contingent reward, MBE-active).

Job Resources as Mediators

This study focused on job resources to examine how transformational and transactional leadership behaviors influence followers' daily work engagement. We showed that daily autonomy is a promising mechanism through which leaders influence their followers' daily work engagement. Transformational leadership and contingent reward positively influenced followers' daily autonomy, which consequently influenced followers' work engagement. MBE-active decreased followers' daily autonomy and consequently, reduced followers' work engagement. Again, results were in line with Bass' contention that transformational leadership adds to the effect of transactional leadership. Daily contingent reward explains additional variance in followers' daily work engagement compared to daily MBE-active. Furthermore, daily transformational leadership explains additional variance in followers' daily work engagement after controlling for daily transactional leadership (contingent reward and MBE-active).

In line with results for autonomy, transformational leadership and contingent reward were both positively related to social support, the former explaining additional variance over the latter, and MBE-active was unrelated to social support. Surprisingly, the mediation of social support in the relationship between contingent reward and follower work engagement was only marginally significant ($p = .06$). This may be due to the combination of the relatively small direct relationships between contingent reward and social support, and between social support and work engagement

Theoretical Implications

This study contributes to the literature in a number of ways. First and most importantly, we are one of the first to examine the influence of daily fluctuations in leadership behavior on followers' work engagement. Diary studies are important because they bring us closer to the process through which leadership is related to follower work engagement. Furthermore, diary studies reduce the risk of recall bias (Ohly et al., 2010), because followers rate their leader's behavior much closer to when it happens. With diary studies, followers only have to think back over a few hours instead of weeks or months. Therefore, transformational and transactional leadership measured on a daily basis may be a more accurate reflection of the leadership behaviors shown by the leader compared to leadership behavior measured at one point in time. Moreover, ratings of general leadership behavior may be more likely be a reflection of someone's attitude instead of a true reflection of leadership behavior (Sonnentag et al., 2010). The present study shows the importance of monitoring leadership behavior more closely when studying its effects, because most of the variance in transformational and transactional leadership was explained at the day-level. This shows that the degree to which leaders vary in their leadership from day to day may differently influence employees depending on the day. For example, on some days leaders

may predominantly use transformational leadership, while on other days they combine transformational leadership with contingent reward or MBE-active.

Furthermore, this is one of the few studies that examined the influence of transformational leadership and different components of transactional leadership simultaneously and the first to examine the relationship between different forms of transactional leadership and work engagement. Tims et al. (2011) argued that transactional leaders are unable to influence followers' work engagement, but we showed that some transactional leadership behaviors (i.e., contingent reward) are able to stimulate followers' work engagement. In line with the augmentation effect, transformational leadership adds to the influence of transactional leadership. It has often been questioned whether contingent reward is different from transactional leadership behavior (e.g., Avolio, Bass, & Jung, 1999). Although this study does not provide an answer to this question, it does suggest that it is worthwhile to study its effect on follower outcomes separately from transformational leadership and other transactional leadership behaviors (e.g., MBE-active).

Finally, the present study responds to the call for more research on the underlying mechanisms of the relationship between leadership and work outcomes (Yukl, 2010) and more specifically, for more research on the mediating role of mechanisms rooted in the job (Piccolo & Colquitt, 2006). We showed that daily autonomy and daily social support mediated the relationship between daily leadership and followers' daily work engagement. Furthermore, we contribute to the leadership literature because we focus on the effect of transformational and transactional leadership on a positive affective, motivational employee outcome – work engagement, while most other studies focus on stress and burnout or organizational outcomes like performance and organizational citizenship behavior (for a review see Skakon et al., 2010).

Practical Implications

This study also has some important practical implications. Leaders would benefit from stimulating followers' work engagement, because previous research has shown that engaged employees are creative, proactive, healthier and last, but not least, perform better (e.g., Christian, Garza, & Slaughter, 2011; Sonnentag, 2003; Xanthopoulou et al., 2009b). Since job resources are the most important predictors of work engagement (Halbesleben, 2010), it is important for leaders to create a resourceful work environment to make followers enthusiastic about, inspired by and concentrated on their work. In light of our findings, it would be most effective for organizations to stimulate leaders' transformational leadership behavior.

Research has shown that transformational leadership can be trained (Barling, Weber & Kelloway, 1996; Dvir, Eden, Avolio & Shamir, 2002). Barling et al. (1996) designed a transformational leadership training that consisted of two phases. In the first phase, a group-based training session was held. In this 1-day session, bank managers were taught more about transformational leadership and its positive outcomes. After that, the second phase took place, which consisted of four individual booster sessions. During these sessions, managers received feedback on their leadership style, developed personal action plans for the coming month and these personal action plans were monitored and adapted over time

when needed. Managers in the training group were rated by their followers as more intellectually stimulating, charismatic, and individual considerate five months after the training sessions compared to two weeks before the training and compared to the no-training control group. This means that transformational leadership behaviors can be trained within a short amount of time.

Furthermore, the present study shows the importance of day-to-day fluctuations in leadership behavior. For example, on days that leaders actively monitor their followers' behavior for mistakes, they indirectly reduce followers' work engagement on that day. Besides, when leaders have an "off-day" and show less transformational leadership or contingent reward, they are unable to positively influence followers' work environment and work engagement on that day. Because leaders may not always be aware of how their behavior affects followers, it may prove useful to provide leaders with feedback about their behavior. For example, the leaders on the sail ship were provided with feedback about their transformational and transactional leadership behaviors based on their followers' ratings. Subsequently, this feedback was used to set up development plans, which were then implemented by the leaders. Leaders could also use this direct and positive effect of transformational leadership to their benefit. For example, it is especially important that leaders show transformational leadership when followers' engagement is of high importance (e.g., when there is an important deadline).

Limitations of the Study and Implications for Future Research

Although this study has clear strengths due to its research design, it is not without limitations. The use of self-reports may potentially increase the risk of common method variance (Podsakoff, Mackenzie, Lee, & Podsakoff, 2003). However, common method is most probably not a major issue in the present study, since the relationships between the construct can be best qualified as "moderate".

Another limitation is that for some scales, on some days, the internal consistency was quite low. This is an important issue, also for diary studies in general, that warrants further attention. In diary studies, the time frame of existing scales is often adapted. For example, state work engagement is measured by reframing the items used to measure general levels of work engagement in such a way that they refer to the day. However, it is possible that some items refer to experiences that cannot be answered every day, resulting in lower inter-item correlations and consequently, lower internal consistency for the scale on that day (Sonnentag et al., 2010). Although the internal consistencies for some scales were low on some days, on average, the internal consistencies in our study meet Nunnaly's (1967) internal consistency of .60 for early stages of research. Furthermore, unreliable measures attenuate relationships between predictors and outcomes in such a way that the relationships are underestimated. This may imply that the relationships found in the present study can be considered as conservative. However, future research on the psychometric properties of daily diary measures is necessary.

Another limitation of our study may be that we did not include the MBE-passive component of transactional leadership. One of the main aims of our study was to show that it is important to differentiate between the different

components of transactional leadership, because some transactional leadership behaviors may be positively related to follower outcomes, while others are not. We did not include MBE-passive, because Bass and Riggio (2006) argue that leaders will use MBE-passive when they have a large number of subordinates, because that makes it difficult to actively monitor mistakes. Considering the setting of our study, we expected that leaders would prefer the use of MBE-active to the use of MBE-passive. Since the only difference between MBE-active and MBE-passive is the moment of intervening, we expect results to be similar for MBE-active and MBE-passive. Future research could test this assumption by including transformational leadership and all categories of transactional leadership behavior (i.e., contingent reward, MBE-active and MBE-passive).

The specific sample and context in which our proposed relationships were examined may restrict the generalizability of our findings. Although the findings were in line with theoretically derived hypotheses, the results need to be replicated in other samples of employees working under different conditions. Note, however, that because of its specificity (i.e., being trained on a sail ship for a longer period of time), the context of this study provided a very special opportunity to examine the proposed relationships in a highly controlled (i.e., few influences from the outside), but at the same time dynamic (e.g., switching positions, learning new skills) work context.

In this study, we only focused on the process of the leadership behavior - follower work engagement relationship. However, it is also important to study possible contingencies of leadership behavior. Under which circumstances are certain leadership behaviors more or less effective? For example, it is conceivable that leaders' influence on followers' work environment is reduced when followers craft their own resources (Tims, Bakker, & Derks, 2012; Wrzesniewski & Dutton, 2001). Another example is that MBE-active may be more effective compared to contingent reward and transformational leadership in high-risk professions such as those of aircraft pilots or nuclear plant workers.

CONCLUSION

The present study contributes to the literature in several ways. To our knowledge, this is the first study to examine the impact of transformational leadership and different components of transactional leadership on followers' work engagement simultaneously and on a daily basis. We showed that both transformational leadership and contingent reward are positively related to followers' work engagement, the former explaining additional variance in followers' work engagement over the latter. Moreover, we examined *how* leaders' daily leadership behavior is related to followers' daily work engagement. It appeared that transformational leaders and leaders who use contingent reward contribute to a favorable work environment (i.e., higher autonomy and social support), while MBE-active contributes to a less favorable work environment (i.e., lower autonomy). To conclude, the present study shows that different types of daily leadership behaviors have an important direct and indirect influence on followers' work engagement.

CHAPTER 6

Daily Self-Management and Employee Engagement

This chapter is published as Breevaart, K., Bakker, A. B., & Demerouti, E. (2014). Daily self-management and employee engagement. *Journal of Vocational Psychology, 84,* 31-38. DOI: 10.1016/j.jvb.2013.11.002.

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.

INTRODUCTION

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, 2009b). 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 employees' 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, 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.

THEORETICAL BACKGROUND

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).

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., 2009b). 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., 2014c; 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).

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 (Wrzesnewski & Dutton, 2001; Tims & Bakker, 2010). 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), provides 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. (2009b) 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; 2009b), 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).

METHOD

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%).

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.

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*).

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*).

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*).

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 intra-class 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.

RESULTS

Descriptive Statistics

Table 1 shows the day-level inter-correlations and the means, standard deviations, ICC's, 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 daily work engagement.

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). *p < .001.*

	M	*SD*	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)

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 (χ^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 (χ^2 (104) = 136.80; CFI = .97; RMSEA = .03; SRMR = .05), and this time all factors had significant factor loadings ($p < .01$).

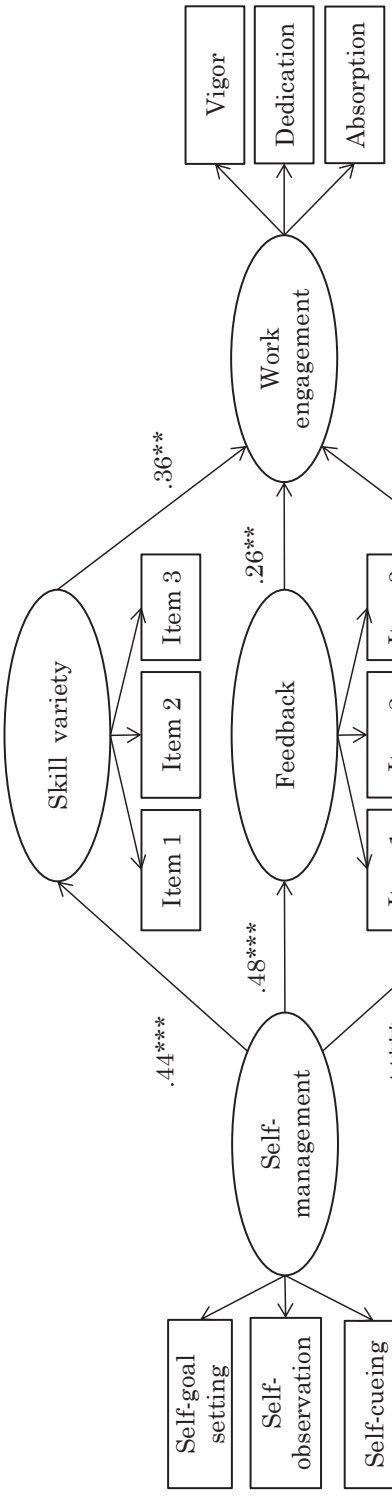


*Figure 1. Proposed self-management model showing standardized estimates. *p < .05, **p < .01, ***p < .001.*

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 Figure 1.

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.

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 use self-management, they create an environment in which they can use more and different skills, receive feedback from their work on how well they are doing, and have opportunities to grow and develop. In turn and in line with previous research (e.g., Xanthopoulou et al., 2008; 2009b), 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 seems impracticable 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., 2014c; Tuckey et al., 2012; Nielsen & Daniels, 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 followers. 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.

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.

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 minimalize 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 Petrou, 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.

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.

CHAPTER 7

Who Takes the Lead? A Multi-Source Diary Study on Leadership, Work Engagement and Job Performance

This chapter is submitted for publication as Breevaart, K., Bakker, A. B., Demerouti, E., & Derks, D. (2014). Who takes the lead? A multi-method diary study on leadership, work engagement and job performance.

ABSTRACT

Transformational leadership is known to be associated with a range of positive outcomes. Yet, according to substitutes for leadership theory, there may be circumstances under which it is difficult, if not impossible, for leaders to inspire and challenge followers. Therefore, we hypothesize that transformational leadership behaviors as well as follower self-leadership strategies contribute to follower work engagement and job performance. Furthermore, we hypothesize that transformational leadership behaviors are more effective when followers have a high need for leadership, whereas self-leadership strategies are more effective when followers have a low need for leadership. A sample of 57 leader-follower dyads filled out a quantitative diary survey at the end of each week, for a period of five weeks. The results of multilevel structural equation modeling showed that followers were more engaged in their work and received higher performance ratings from their leader when leaders used more transformational leadership behaviors, and when followers used more self-leadership strategies (such as focusing on the rewarding aspects of the job, and positive self-talk). Furthermore, we showed that transformational leadership behaviors were more effective when followers had a high (vs. low) need for leadership and the opposite was true of follower self-leadership. These findings contribute to our understanding of the role of followers in the transformational leadership process.

INTRODUCTION

It is well-known that transformational leadership behaviors such as inspiring followers with an optimistic vision of the future and stimulating followers to challenge the status quo, have a positive influence on how engaged followers are in their work (Bass, 1999; Kovjanic, Schuh, & Jonas, 2013), and how well they perform their work (for a meta-analysis, see e.g., Wang, Courtright, & Colbert, 2011). Yet, due to recent changes in ways of working, such as a higher flexibility in work hours and work spaces (e.g., working from home; Baarne, Houtkamp, & Knotter, 2010), it is becoming increasingly common for followers to no longer work under direct supervision all the time. Research on inconsistent leadership suggests that under these circumstances, the generally positive effects of transformational leadership behaviors are reduced (e.g., Mullen, Kelloway, & Teed, 2011). It is therefore important to not only focus on how leaders motivate their followers to perform their work, but also on how followers motivate themselves. Are followers always in need of their leader to guide and motivate them or can they do it themselves? In the present study, we examine how both transformational leadership behaviors and follower self-leadership are related to how follower engagement and work performance (as rated by the leader). Furthermore, we focus on followers' need for leadership as a contextual variable to examine under which circumstance (low vs. high need for leadership), either type of leadership is best used.

Our study contributes to the literature in several notable ways. Considering the increased complexity of work and the changing work environment, leaders are required to be more reliant on their followers. Also, employees nowadays expect to receive more autonomy from their leader, because they not only work to make living, but also value the quality of working life. Accordingly, our first contribution lies in furthering our understanding of leadership by studying leadership from both a top-down (i.e., transformational leadership) and a bottom-up (i.e., follower self-leadership) perspective. Second, we focus on the dynamic part of leadership by studying weekly fluctuations in leadership. The way in which leadership behaviors are commonly studied suggests that these behaviors are rather stable, while it is evident that leaders use different types of behaviors (e.g., Bledow, Frese, & Mueller, 2011; Mullen et al., 2011). Moreover, leaders use the same types of behaviors to a different extent (Breevaart et al., 2014c; Tims, Bakker & Xanthopoulou, 2011), depending on what happens on a specific day or in a certain week. Finally, although different contingency theories (e.g., Hersey & Blanchard, 1984; House, 1971) have tried to explain in which situations certain aspects of leadership are more or less effective, characteristics of the follower "seem to have been forgotten as a fruitful area of leadership contingency research" (Yun, Cox, & Sims, 2006; p. 376). We contribute to the leadership literature by looking at how followers' need for leadership affects the effectiveness of transformational leadership behaviors as well as followers' use of self-leadership strategies.

THEORETICAL BACKGROUND

Engaged employees have high levels of energy, are enthusiastic about their work, are able to bounce back from adversity, and feel like time flies when they are working (Schaufeli & Bakker, 2004). Research findings suggest that it is

important to stimulate engagement in organizations, because engaged employees are able to direct all their effort and energy into their work, which enables them to perform their work well (for a meta-analysis, see Christian, Garza, and Slaughter, 2011). For example, in a sample of Dutch teachers, Bakker and Bal (2010) showed that in the weeks that teachers were more engaged in their work, they showed higher levels of in- and extra-role performance. In a similar vein, Xanthopoulou, Bakker, Demerouti, and Schaufeli (2009b), in a sample of Greek employees working in the fast-food industry, showed that financial returns were higher on the days that employees were more engaged in their work. One of the main aims of the current study is to examine what employees, as well as their leaders, can do to increase their engagement in their work and consequently, their job performance.

Transformational Leadership

Transformational leaders are inspirational leaders who increase the meaningfulness of work, enhance group cohesion, and instill trust in their followers (e.g., Arnold, Turner, Barling, Kelloway, & McKee, 2007; Dirks & Ferrin, 2002; Jung & Sosik, 2002). Bass (1985; 1999) argues that transformational leaders are role models to their followers, communicate an optimistic and desired vision of the future toward their followers, are attentive to the needs and abilities of their followers, and stimulate their followers to think out of the box and to be innovative within a safe environment. Several meta-analyses provide support for the positive effects of transformational leadership on how satisfied followers are with their work (Judge & Piccolo, 2004), and how well followers perform in their work (Dumdum, Lowe, & Avolio, 2002; Wang et al., 2011).

It is likely that followers become more engaged in their work when their leaders use more transformational leader behaviors, because transformational leaders inspire their followers with their optimistic vision of the future, which provides a meaningful rationale for the work that followers perform (Avolio & Yammarino, 2002). This sense of purpose, combined with leaders' reassurance that every follower contributes to the realization of this vision (Seibert, Wang, & Courtright, 2011), makes it likely that followers are more enthusiastic about their work and willing to fully concentrate on their work tasks. Furthermore, transformational leaders create a resourceful work environment (e.g., Breevaart et al., 2014c; Nielsen, Randall, Yarker, & Brenner, 2008; Piccolo & Colquitt, 2006), which is an important requisite for employees to become more engaged in their work (Bakker & Demerouti, 2014; Crawford, LePine, & Rich, 2010; Halbesleben, 2010). Indeed, several studies have shown that followers feel more vigorous, dedicated, and absorbed (i.e., engaged) on the days they are inspired and intellectually stimulated by their leader (e.g., Breevaart et al., 2014c; Tims et al., 2011). Employees who are engaged in their work are able to direct all their energy toward work, allowing them to perform to the best of their abilities (Christian et al., 2011). Therefore, our first hypothesis states:

> **Hypothesis 1:** Transformational leadership is positively related to followers' leader-rated job performance, through followers' work engagement (all at the week level).

Follower Self-Leadership

Self-leadership is a self-influence process that people use to guide and motivate themselves to behave and perform in desirable ways (Manz, 1986; Manz & Neck, 2004). Self-leadership stems from the larger theoretical framework of self-regulation (Carver & Scheier, 1981; 1998). Whereas self-regulation theory tries to explain why people behave the way they do, and acknowledges possible dysfunctions in self-regulation, self-leadership theory specifies behavioral and cognitive strategies that people may use to enhance their self-regulatory effectiveness. These strategies can be divided in three categories. First, behavior-focused strategies are used to stimulate desirable behaviors and at the same time suppress undesirable behaviors, in order to achieve successful job performance (e.g., rewarding or correcting oneself when performing well or poorly). Next, natural reward strategies are aimed at increasing motivation by the inherently rewarding aspects of a task. This can be achieved by either/or including more enjoyable aspects in a certain activity or redirecting attention toward the more enjoyable aspects of a certain activity. For example, a postman may listen to her favorite music while delivering the mail or focus her attention on being outside. Finally, constructive thought pattern strategies refer to strategies that create and maintain constructive thought patterns, including positive self-talk, mental imagery of successful performance, and awareness and substitution of dysfunctional beliefs and assumptions.

Self-leaders are said to experience more self-determination, purpose, and a sense of ownership over their work, which may be linked to positive outcomes such as self-efficacy, job satisfaction, and productivity (for reviews, see Neck & Houghton, 2006; Stewart, Courtright, & Manz, 2011). For example, research on self-management (i.e., behavioral-focused strategies) training shows that self-management training is related to better subjective and objective job performance in insurance salespeople (Frayne & Geringer, 2000) and higher job attendance (Latham & Frayne, 1989). Furthermore, in a sample of undergraduate students, Prussia, Anderson, and Manz (1998) showed that self-leadership increased performance (i.e., exam, written assignment, and oral presentation) because it enhanced students' self-efficacy.

Originally, Manz and Sims (1980) proposed self-leadership as a substitute for formal leadership. However, most research has focused exclusively on employee self-leadership and did not examine the role of external leadership. A notable exception is the study by Yun et al. (2006), which showed that followers' use of self-leadership is influenced by the external leaders' behavior. Using a two-wave panel design, Yun and colleagues showed that empowering and directive leadership influenced followers' self-leadership in a positive and negative way respectively. Furthermore, empowering leadership had a stronger positive effect and directive leadership had a stronger negative effect, when followers were high on the need for autonomy. In the present study, we try to detangle transformational leadership behaviors by the external leader from followers' self-leadership, and investigate the unique contribution of each type of leadership to explaining variance in engagement and performance.

At the core of self-leadership is the feeling of self-control and self-determination (Manz, 1986; Neck & Houghton, 2006) and we know from the literature that being able to decide yourself how and when to perform your work

is an important predictor of work engagement (see Crawford et al., 2010; Halbesleben, 2010). Furthermore, feelings of control and self-determination are requisites for employees to make changes in their job and consequently, become more engaged in their work (Petrou, Demerouti, Peeters, Schaufeli, & Hetland, 2012; Tims, Bakker, & Derks, 2013). Also, self-leadership is about creating positive thoughts about work, focusing on the intrinsically rewarding aspects of your job and extrinsically rewarding yourself when you perform your job well, which gives meaning to the job and makes it likely that employees become more vigorous, dedicated and immersed in their work (Wrzesniewski & Dutton, 2001). Recently, Breevaart, Bakker, and Demerouti (2014a) examined the effects of self-managing strategies on employees' work engagement. In a sample of 72 maternity nurses, who filled out an online diary for five days, Breevaart and her colleagues found that employees were more engaged in their work on the days that they monitored their own behavior, worked with self-set goals, and used reminders to help them focus on what they wanted to achieve. Following this reasoning, our second hypothesis states:

> **Hypothesis 2:** Self-leadership is positively related to followers' leader-rated job performance, through employees' work engagement (all at the week level).

Need for Leadership

Hitherto, we have argued that both weekly transformational leadership behaviors and followers' weekly self-leadership strategies have a positive influence on how engaged employees are in their work and how well they perform their work. An important question that we try to answer is when, under which circumstances, either one of these types of leadership is more or less effective. We propose that transformational leadership behaviors may be more effective in those weeks that followers have a high need for leadership, whereas self-leadership may be more effective in those weeks that followers have a low need for leadership. Need for leadership is an employee characteristic that refers to the extent to which followers wish for guidance toward individual, group, and/or organizational goal achievement by their leader (De Vries, 1997). Need for leadership is not a basic need, but rather a need that is evoked by circumstances (i.e., contextual need). For example, followers may have a higher need for leadership when they feel insecure or lack a needed competence to perform a certain task. In these situations, followers may wish their leader to intervene and help them to achieve their work goals.

When followers have a low need for leadership, they act more independently and do not respond to interference by their leaders (De Vries, Roe, & Taillieu, 1998), whereas followers rely more heavily on interventions by their leader when they are high in their need for leadership. Accordingly, it seems likely that self-leadership strategies are less motivating to followers when they are high in their need for leadership. Under this circumstance, followers need their leader to guide them toward goal achievement, which makes it likely that self-leadership strategies are not very effective. Rather, transformational leadership behaviors may be more effective, because followers high (vs. low) in need for leadership rely more heavily on their leader and are therefore more receptive to their leaders'

behaviors. On the other hand, when followers have a low need for leadership, transformational leadership behaviors may be less motivating, because under these circumstance, employees do not respond to interventions by their leader. Thus, when followers are low in their need for leadership, self-leadership strategies may be more effective, because in this situation, followers are able to work more independently.

Need for leadership has not often been studied as a contingency of leadership. A notable exception is the survey study by De Vries et al. (1998), in which they showed that charismatic leadership had stronger effects on followers' job satisfaction and organizational commitment when followers were high in their need for leadership. Another exception is the survey study by Breevaart, Bakker, Demerouti, Sleebos, and Maduro (2014b), showing that transformational leadership was positively related to followers' basic need fulfillment (i.e., autonomy, competence, and relatedness), especially when followers had a high need for leadership. In line with our arguments, we formulate our final two hypotheses (see Figure 1 for the proposed overall model):

> **Hypothesis 3a:** The relationship between transformational leadership and employee work engagement is moderated by followers' need for leadership, such that the relationship is stronger when followers are high (vs. low) in their need for leadership (all at the week level).
>
> **Hypothesis 3b:** The relationship between self-leadership and employee work engagement is moderated by followers' need for leadership, such that the relationship is stronger when followers are low (vs. high) in their need for leadership (all at the week level).

METHOD

Participants and Procedure

Dyads consisting of one leader and one follower were asked to fill out a short questionnaire at the end of each working week, for a period of five weeks. The participants were recruited by students, using texts that were prescribed by the authors, explaining the aims of the study and the registration procedure (see Demerouti & Rispens, 2014, for the use and advantages of student-recruited data). Dyads that were willing to participate could register in two ways: (1) by sending an email to the first author, or (2) by filling out an online questionnaire requesting the email addresses of the leader and the follower. In this way, dyads could be given a unique code that allowed us to identify the leader and follower belonging to the same dyad and to identify the different questionnaires filled out over several weeks by the same individual. All questionnaires were filled out by the follower, except for the questionnaire regarding followers' job performance, which was filled out by the leaders on a weekly basis.

Our sample consisted of 57 leader-follower dyads. The follower sample consisted of 24 men and 33 women with a mean age of 38.47 (ranging from 19 to 60; $SD = 11.19$). About half of the followers (54.4%) were highly educated and most employees were cohabiting (73.7%). On average, followers had 17.33 years ($SD = 11.26$) of work experience, of which they worked 8.31 years ($SD = 7.18$) in

the current organization. About half of the leaders who participated in our study were men (52.63%). Leaders' mean age was 35.41, ranging from 21 to 59 (*SD* = 10.65). Most of the leaders were highly educated (75.1%) and cohabiting (85.7%). The dyads in our study were working together for 4.40 years on average (*SD* = 4.45), and most worked in the business service or the health care sector (56.1%).

Measures

All questionnaires are adapted versions of existing questionnaires. Specifically, we adapted the time frames of the questions, so that they referred to the week and could be used to measure our study variables on a weekly basis (cf. Ohly, Sonnentag, Niessen, & Zapf, 2010). All questions could be answered on a 7-point scale, ranging from 1 (*totally disagree*) to 7 (*totally agree*).

Week-Level Transformational Leadership was measured using the 15 items from the Dutch version of the Multifactor Leadership Questionnaire (MLQ; Bass & Avolio, 1990; Stuart, 2005). Example items are: "This week, my leader served as my role model", and "This week, my leader stimulated me to solve my own problems".

Week-Level Self-Leadership was measured with the six-item self-leadership questionnaire developed by Yun et al. (2006). Example items are: "This week, I assumed responsibilities on my own", and "This week, I took initiatives on my own".

Week-Level Need for Leadership was measured with the 17-item need for leadership scale by the De Vries, Roe, and Taillieu (2002). Some example items are "This week, I needed my supervisor to set goals", and "This week, I needed my supervisor to help solve problems".

Week -Level Work Engagement. Week-level work engagement was measured using the 9-item version of the Utrecht Work Engagement Scale (UWES; Schaufeli, Bakker, & Salanova, 2006). Example items are: "This week, I felt bursting with energy" (vigor), "This week, I was inspired by my job" (dedication), and "This week, I was immersed in my work" (absorption).

Week-level Leader-Rated Job Performance was measured using the seven items developed by Williams and Anderson (1991) to measure task performance. Example items are: "This week, my employee adequately completed assigned duties", and "This week, my employee performed tasks that were expected of him/her".

Strategy of Analysis

We used Mplus software to test our multilevel, structural equation models (Muthén & Muthén, 1998-2010). Since we repeatedly measured our study variables within the same individuals, we have a two-level design, with weeks (N = 285) nested within individuals (N = 57). The intra-class correlations (ICCs) showed that most variance in our predictor variables was explained at the week level, ranging from 50.3% in need for leadership to 57.4% in transformational leadership (see Table 1). The variance explained at the week level in our outcome variable, job performance, was 38.5%. We used the Mplus "TYPE = COMPLEX" option to partial out the variance attributable to between-person differences and analyzed our data on the within-person (i.e., week) level. Finally, we used the software developed by Dawson and Richter (2006) to plot our moderation effects.

RESULTS

Descriptive Statistics

Table 1 shows the correlations, means, standard deviations, and internal consistencies of our study variables averaged over five weeks, as well as the ICC's.

Measurement Model

First, we tested our measurement model to examine the construct validity of our study variables. This model consisted of five latent variables and their indicators: transformational leadership (5 dimensions), self-leadership (2 dimensions), need for leadership (5 items), work engagement (3 dimensions), and job performance (7 items). Although this model fitted well to our data, two of the seven job performance measures did not load significantly on the intended factor. Examining these items revealed that these were the reversed-formulated job performance items. Dalal and Carter (2014) have recently argued and shown that negatively worded items often have another meaning than positively worded items, and therefore have a negative impact on the validity of measurement instruments. We therefore decided to test an alternative measurement model, whereby we removed the two reversed job performance indicators. The new five-factor model showed a satisfactory fit to the data ($\chi 2$ (160) = 293.82; CFI = .93; RMSEA = .05; SRMR = .08), and all indicators loaded significantly on the intended factor ($p < .001$). The internal consistencies of our study variables range from acceptable to good across the days (see Table 1).

Mediation Hypotheses

We continued by testing Hypothesis 1 and 2. Hypothesis 1 states that weekly transformational leadership is positively related to followers' weekly job performance through followers' weekly work engagement. Results from our multilevel structural equation modeling showed that weekly transformational leadership was indeed positively related to followers' weekly work engagement (estimate = .52, $p < .001$, $.36 \leq$ B-CCI $\leq .68$), and followers' weekly work engagement was positively related to followers' weekly leader-rated job performance (estimate = .20, $p < .05$, $.02 \leq$ B-CCI $\leq .37$). Finally, there was a significant indirect effect; weekly transformational leadership was positively related to followers' weekly job performance, through followers' weekly work engagement (estimate = .10, $p < .05$, $.003 \leq$ B-CCI $\leq .19$), thereby supporting Hypothesis 1.

Hypothesis 2 states that weekly self-leadership is positively related to followers' weekly job performance through followers' weekly work engagement. Weekly self-leadership was positively related to followers' weekly work engagement (estimate = .24, $p < .05$, $.02 \leq$ B-CCI $\leq .45$). Furthermore, the indirect effect was marginally significant; weekly self-leadership was positively related to followers' weekly job performance, through followers' weekly work engagement (estimate = .05, $p = .06$, $.001 \leq$ B-CCI $\leq .12$). Thus, during the weeks that followers used more self-leadership strategies, they were more engaged, and performed better. These results offer support for Hypothesis 2.

Table 1
*Means, standard deviations, inter-correlations and internal consistencies (Cronbach's alphas on the diagonal) between the study variables, N = 57 Dyads, N = 285 Weeks). *p < .05, **p < .001.*

	M	*SD*	ICC	1.	2.	3.	4.	5.
1. Weekly Transformational Leadership	4.47	.98	57.4%	(.79-.99)				
2. Weekly Self-Leadership	5.81	.85	57.2%	-.02	(.84-.99)			
3. Weekly Need for Leadership	3.19	1.32	50.3%	.36**	-.47**	(.83-.89)		
4. Weekly Work Engagement	4.86	.96	55.9%	.41**	.19**	-.03	(.81-.86)	
5. Weekly Job Performance	5.78	.76	38.5%	.13*	.16**	-.13	.06	(.73-.93)

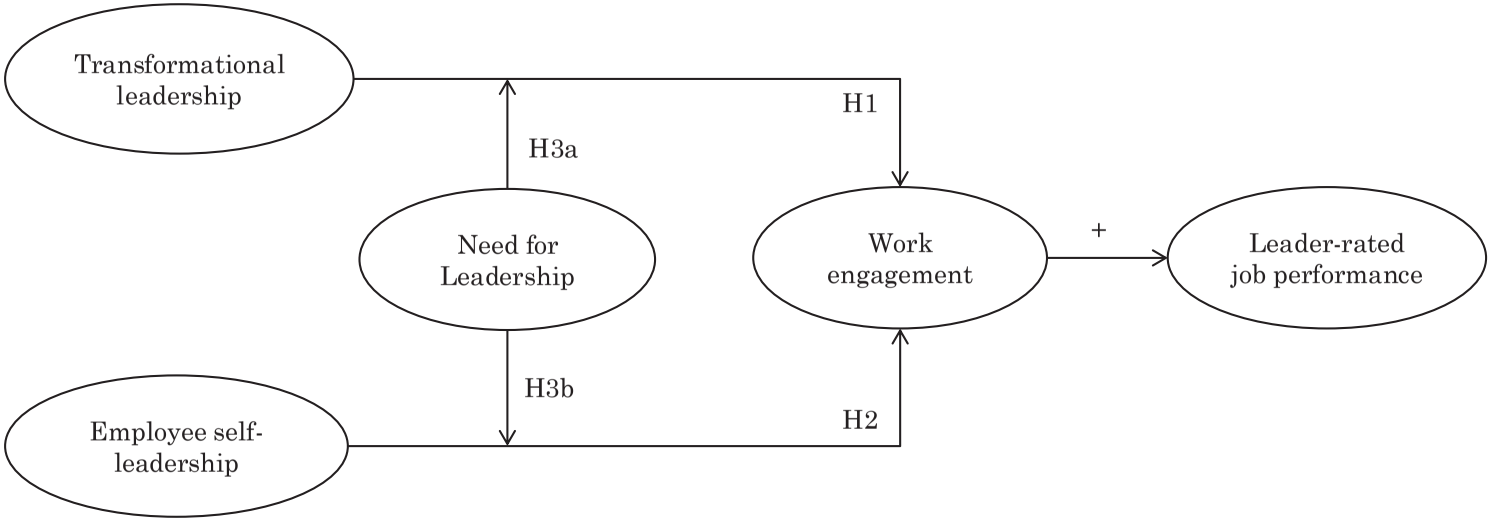


Figure 1. Hypothesized weekly leadership model.

Moderation Hypotheses

Hypothesis 3a and 3b state that the relationship between weekly transformational leadership (H3a) and weekly self-leadership (H3b) on the one hand and followers' weekly work engagement on the other hand, is moderated by followers' weekly need for leadership. The results were in line with Hypothesis 3a, showing that the relationship between weekly transformational leadership and followers' weekly work engagement was stronger when followers' need for leadership was higher (estimate = .25, $p < .01$, $.05 \leq$ B-CCI $\leq .46$). As can be seen in Figure 2, transformational leaders positively influence their followers' work engagement during the weeks in which followers have a high need for leadership. Moreover, consistent with hypothesis 3b, the positive relationship between weekly self-leadership and followers' weekly work engagement was stronger when followers' need for leadership was lower (estimate = -.18, $p < .01$, $-.29 \leq$ B-CCI $\leq -.06$; see Figure 3). Self-leadership is mainly positively associated with followers' work engagement in those weeks that followers have a low need for leadership.

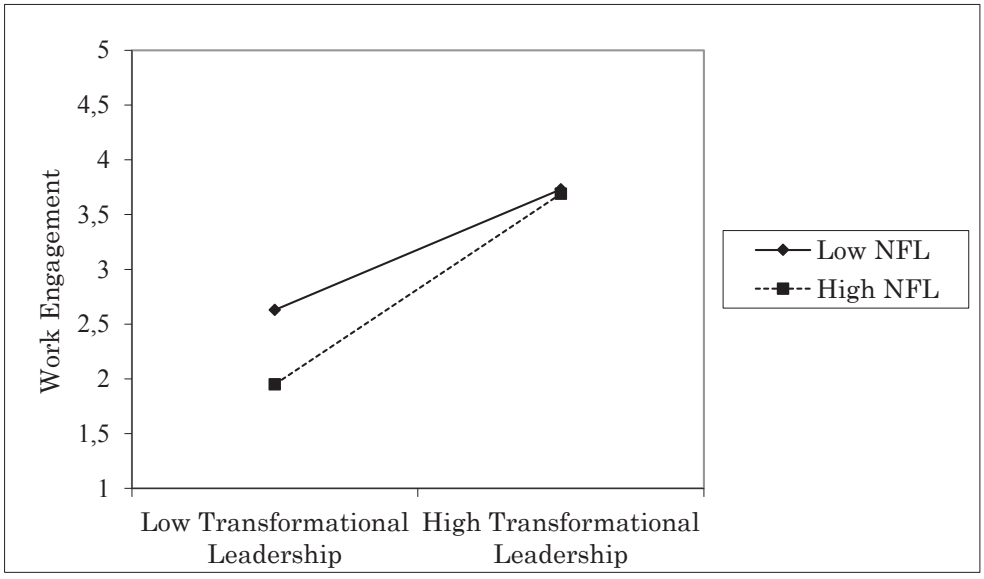


Figure 2. Weekly need for leadership (NFL) as a moderator of the relationship between weekly transformational leadership and weekly work engagement.

DISCUSSION

Research on transformational leadership behaviors is very much leader-centered and the role of followers remains underexplored. Furthermore, transformational leadership behaviors are often considered as rather stable, while there is evidence suggesting that dynamic leadership behaviors and dynamic relationships with outcomes is a fruitful research area (e.g., Bledow et al., 2011; Tims et al., 2011). In response to these concerns, we focused on the dynamic part of leadership from both a top-down (i.e., transformational leadership) and a

bottom-up (i.e., follower self-leadership) perspective, and examined followers' need for leadership as a contingency of both types of leadership.

Transformational Leadership and Follower Self-Leadership

Our study shows that followers are not just passive recipients of leadership, but are active agents in the leadership process. That is, followers can take the lead by using strategies such as consciously focusing on the rewarding aspects of a task and correcting oneself when performing poorly (i.e., self-leadership). In those weeks that followers take the lead, they are more likely to become engaged in their work and to perform their work better. Originally, Manz and Sims (1980) proposed self-leadership as a substitute for leadership. In line with this reasoning, we show that followers may use several self-leadership strategies to become motivated and perform their work well when their leader is not around or does not use transformational leadership behaviors. The present study is one of the first to look at the circumstances under which transformational leadership may be more or less effective (Yukl, 2010) and specifically, to look at the interaction between leadership behaviors and follower characteristics (i.e., need for leadership).

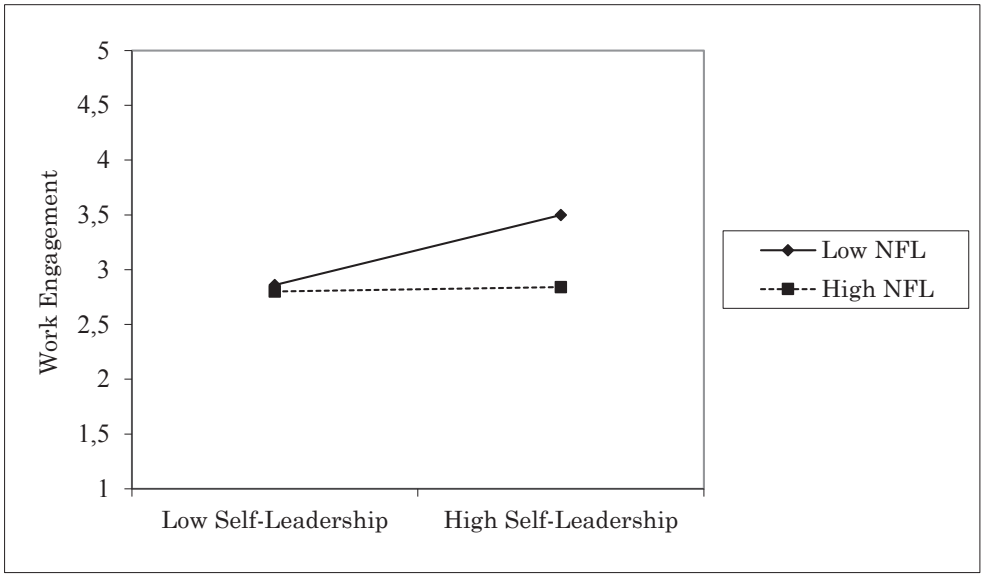


Figure 3. Weekly need for leadership (NFL) as a moderator of the relationship between weekly self-leadership and weekly work engagement.

Although the concept of self-leadership stems from the late nineties (Manz, 1983; 1986), empirical evidence for the effectiveness of self-leadership is slowly building. According to the most recent review on self-leadership (Stewart et al., 2011), over the last three decades, only ten studies have examined how self-leadership is related to individual-level outcomes. These studies show, for example, that self-leadership is positively related to employees' self-efficacy (e.g., Latham & Frayne, 1989) and job satisfaction (e.g., Neck & Manz, 1996), and

negatively related to employees' absenteeism (e.g., Frayne, & Latham, 1987) and stress (Saks & Ashforth, 1996). In a similar vein, clearly illustrating the effectiveness of self-leadership, we showed that followers are more engaged in their work and perform their work better in the weeks that they use more self-leadership strategies. These results are not only interesting from a theoretical point of view, but also from a practical point of view. Due to the changing work environment, followers are more and more required to work independently, for example, when working from home or when working in an autonomous team. Under these circumstances, where an external leader is not always around, followers may benefit from the use of self-leadership strategies.

Need for Leadership as a Contingency of Leadership

We showed that transformational leadership behaviors and follower self-leadership are beneficial to both followers (i.e., higher work engagement) and organizations (i.e., higher job performance). Yet, we showed that either one of these two types of leadership may be more effective, depending on the week. Specifically, transformational leadership behaviors seem to be more effective in those weeks that followers have a high need for leadership – i.e., when they need their leader to guide them toward goal achievement, whereas the opposite is true for self-leadership. That is, self-leadership seems to be more effective in those weeks that followers do not need guidance and inspiration from their leader (i.e., have a low need for leadership). These results are meaningful for the leadership literature, because characteristics of the follower remain an underexplored area of leadership contingency research (Yun et al., 2006). Even more so, transformational leadership is generally considered to be an effective way to lead. However, it seems that transformational leaders' inspirational and challenging behaviors are less likely to influence followers when followers have a low need for leadership, for example, when they work on a routine task or feel very competent.

Dynamic part of Leadership

Although it is generally agreed that leaders use different types of behaviors to lead their followers, dynamic leadership behaviors and their impact are very rarely empirically studied. Transformational leadership behaviors are most often studied at one single point in time or at multiple points in time with a significant time lag. The underlying assumption in these studies is that leaders generally consistently show certain stable levels of transformational leadership behaviors. Yet, it seems likely that transformational leadership behaviors fluctuate within the same leaders in a short period of time, depending on personal and/or situational contingencies. It may be more difficult for leaders to use transformational leadership behaviors when, for example, they have a high workload, are preoccupied with conflicts within the team, or when they are travelling abroad. Therefore, we argue that the dynamic part of leadership deserves more research attention. By looking at the temporal patterns of leadership behaviors, we are able to answer questions such as when do individuals use transformational and/or self-leadership, how do fluctuations in leadership influence follower outcomes and under which circumstances (e.g., high versus low need for leadership) are certain leadership behaviors more or

less effective? In the present study, we show that both transformational leadership behaviors and followers' use of self-leadership strategies fluctuate from week to week, indicating that the extent to which people use these types of leadership varies from week to week within the same person. Moreover, both types of leadership have different effects, depending on the week. Put differently, followers are more engaged in their work and perform their work better in those weeks that they use more (compared to less) self-leadership and their leaders use more transformational leadership behaviors.

Practical Implications

From a practical point of view, the results of the present study show that it is important to not only invest in leadership training for the formal leaders within an organization, but also in (self-)leadership training for followers. Followers' autonomy in their work is growing as they work outside of conventional work hours and workspaces, which poses challenges to both followers and leaders. On the one hand, followers are challenged to become more proactive and to motivate themselves to do their job in a different work environment, for example, when they work from home without the possibility to talk to colleagues or their leader face-to-face. Leaders, on the other hand, are also faced with new challenges, because they are responsible for the work that their followers perform, but they are not always around to make sure that followers are motivated to do their job and perform their work well. Teaching followers how to use different self-leadership strategies provides them with tools to become more engaged in their work in a short time period, which they may use for example, in those weeks that they do not frequently interact with their leader.

Research has shown that transformational leadership, as well as self-leadership, can be learned. For example, Barling, Weber, and Kelloway (1996) showed that leaders receiving transformational leadership training were considered to be more intellectually stimulating, charismatic, and individual considerate by their followers at T2 compared to T1 and compared to the no-training group. Neck and Manz (1998) showed that, compared to the control group, the self-leadership training group scored higher on opportunity thinking, job satisfaction and positive affect and lower on negative affect. However, when offering employees the opportunity to engage in a self-leadership training, it is important to stress why they need this training, because Steward, Carson, and Cardy (1996) showed that employees who believe they need self-leadership training are more motivated and therefore benefit more from the training.

Our results imply that the use of transformational leadership behaviors may be more effective when followers have a high need for leadership, whereas followers' self-leadership is more beneficial when followers have a low need for leadership. De Vries et al. (2002) argue that certain contexts, such as those with a low degree of competence, limited autonomy, and little feedback, may evoke a high need for leadership. Thus, to optimize followers' work engagement and job performance, it may be best when leaders use more transformational leadership behaviors under circumstances that evoke a high need for leadership. For example, leaders should use transformational leadership behaviors especially in the weeks that followers are working on a new task (i.e., low feeling of competence) or have a strict deadline (i.e., restricted autonomy). On the contrary,

in those weeks that followers feel competent, have high levels of autonomy, and/or receive a sufficient amount of feedback from their tasks, leaders may stimulate their followers to use more self-leadership strategies.

Limitations and Implications for Future Research

As with every study, the present study is not without limitations. Despite the strength of our weekly diary design, we cannot rule out reversed causality. It is possible, for example, that engaged employees use more self-leadership strategies, because engaged employees show more proactive behaviors (e.g., Sonnentag, 2003). However, we consciously chose this particular design, because we were interested in weekly fluctuations in transformational leadership and self-leadership and their influence on fluctuations in followers' work engagement and job performance. It would be interesting for future research to examine gain cycles of self-leadership and work engagement, for example, by looking at how self-leadership in one week influences work engagement in the next week, and how work engagement influences self-leadership in the next week and so on.

We showed that both followers and leaders are able to contribute to followers' feelings of work engagement. Yet, more research is needed to shed light on the interplay between transformational leadership behaviors and follower self-leadership. In addition to constructive leadership behaviors, future research should also look at the interplay between destructive leadership behaviors and follower self-leadership. Destructive leadership behaviors, such as passive-avoidant leadership, are known to be detrimental to followers' well-being (for a meta-analysis see Heiman, Vincent-Höper, Gregersen, & Nienhaus, 2014), and it would be interesting to see whether self-leadership can buffer the negative impact of destructive leadership on followers' work engagement.

In our study we focused specifically on transformational leadership behaviors. Yet, it is likely that leaders also use other behaviors (e.g., more task-oriented behaviors) besides transformational leadership behaviors. For example, research on inconsistent leadership shows that the positive outcomes of transformational leadership are diminished when alternated with passive leadership (e.g., Mullen et al., 2011). Could follower self-leadership buffer these negative effect of inconsistent leadership on follower outcomes? Regarding need for leadership, De Vries et al. (1998) showed that task-oriented leadership contributes to followers' job stress, especially for followers who have a low need for supervision. The work stress of followers with a high need for leadership was not affected by their leaders' task-oriented behaviors. So it seems that when high in their need for leadership, followers benefit from their leaders' people-oriented behaviors (e.g., transformational leadership), and are unaffected by their leaders' task-oriented behaviors. On the other hand, it seem that followers are unaffected by their leaders' people-oriented behaviors and even negatively influenced by their leaders' task-oriented behaviors when they are low in their need for leadership. Following this reasoning, it seems likely that inconsistent leadership is especially detrimental to followers when they have a low need for leadership.

CONCLUSION

Who takes the lead? The present study shows that transformational leadership and self-leadership both have a positive relationship with follower work engagement and performance, on a weekly basis. This means that both leaders and followers can take the lead. During weeks that leaders inspire their followers and stimulate them intellectually, followers are more dedicated to their work and perform better. During weeks that leaders are not available, followers can use self-leadership strategies to motivate themselves and perform well. Need for leadership qualifies these relationships: during weeks that followers are challenged and really need their leaders, transformational leadership is most effective. During other weeks, followers may take the lead themselves.

CHAPTER 8

Summary and General Discussion

INTRODUCTION

The studies included in this dissertation were conducted to answer three main research questions, namely: (1) How do leaders influence their followers' (a) work engagement and (b) job performance?; (2) Do leader behaviors fluctuate from day to day and how does this affect followers' (a) work engagement and (b) job performance?; and (3) Is leaders' influence on their followers' work engagement contingent on follower characteristics?

Answering these questions contributes to the literature in several ways. First, this dissertation advances transformational leadership theory by examining an underlying process to explain the effectiveness of transformational leadership and looking at boundary conditions of the effectiveness of transformational leadership. Furthermore, this dissertation contributes to the leadership literature in general by its focus on followers as active agents in the leadership process and by its focus on leadership as a dynamic process. Rather than considering leadership as a "style" or a "trait", the studies in this dissertation focus on leadership *behaviors* and how leaders may use behaviors from different "styles" to guide and motivate their followers. Finally, this dissertation contributes to the literature on work engagement, because of its focus on how both leaders and followers contribute to followers' enduring and state work engagement. Despite of the popularity of work engagement in both research and practice, surprisingly few research exists on the role of leaders in followers' work engagement.

I will first provide an answer to the central questions of this dissertation with a summary of the main findings. Next, these findings will be positioned within the leadership literature and challenges and ideas for future research will be discussed.

SUMMMARY OF MAIN FINDINGS

How do leaders influence their followers' work engagement and job performance?

Avolio, Zhu, Koh, and Bhatia (2004) argue that although leadership has been "positively associated with work attitudes and behaviours at both an individual and organizational level (Dumdum, Lowe, & Avolio, 2002; Lowe, Kroeck, & Sivasubramaniam, 1996), . . . the mechanisms and processes by which . . . leaders exert their influence on their followers' motivation and performance have not been adequately addressed in the literature" (p. 951). In a similar vein, Piccolo and Colquitt (2006) state that more researchers should focus on job-related factors that explain the effectiveness of transformational leadership. This dissertation contributes to the leadership literature by exploring how different leadership behaviors relate to followers' work engagement and job performance via their impact on the work environment and followers' basic need fulfillment.

In a sample of 950 police officers and in line with previous research, in **Chapter 2** I showed that followers in high-quality leader-member exchange (LMX) relationships reported their own performance on core tasks to be higher. Being one of the first to examine LMX as a more distal predictor of follower job performance, I showed that followers in high-quality LMX relationships received more latitude to make decisions about how and when to perform their work (i.e.,

autonomy), received more opportunities to grow and develop (i.e., developmental opportunities), and received more social support from their colleagues. In turn, these resources contributed to how engaged followers felt in their work and consequently, how well they performed their core tasks.

In **Chapter 3**, using a convenience sample consisting of 162 unique dyads (one leader, one follower), I showed that followers have more resources available when their leader is inspiring and attentive of individual needs, and challenges followers on an intellectual level (i.e., transformational leadership). These resources initiated a motivational process, whereby followers became more engaged in their work, because their basic needs were fulfilled. Finally, followers who were more engaged in their work, were rated higher on their in-role performance by their leader.

In sum, **Chapters 2** and **3** make an integrated effort to show how leader behaviors contribute to followers' work engagement, and self- and leader-rated in-role performance. From these chapters it can be concluded that a high-quality relationship with the supervisor, as well as inspiring and considerate leader behaviors are beneficial to followers, because they positively influence the resourcefulness of the work environment (e.g., more decision latitude and feedback). These resources set into motion a motivating process leading to higher in-role performance, because they fulfill followers' basic needs, which enables followers to thrive and become more engaged in their work. Although both studies used a cross-sectional research design, these findings tentatively suggest that the availability of job resources and the fulfillment of basic needs are an underlying mechanism that can explain why followers are more engaged in their work and perform their work better when their leader uses certain behaviors. Although we recognize that there may be other ways in which leaders influence their followers, our proposed model seems to be a promising mechanism to explain the positive outcomes of transformational leadership behaviors.

Do leader behaviors fluctuate and how does this affect followers' (a) work engagement and (b) job performance?

Previous research has shown that on average, 42% of the variance in work engagement can be explained by daily fluctuations in work engagement within the same person (Xanthopoulou & Bakker, 2012). We know that leaders are an important part of everyday working life and followers have a profound influence on how followers feel and behave (Skakon, Nielsen, Borg, & Guzman, 2010). Yet, little is known about fluctuations in leadership behavior and its influence on followers' work engagement. Therefore, one of the aims of this dissertation was to examine whether leader behaviors can account for these fluctuations in followers' daily work engagement. In **Chapter 4**, I first examined the psychometric properties of the Utrecht Work Engagement Scale (UWES). Specifically, I performed a series of multilevel confirmatory factor analyses (MCFA's) to examine the factor structure of the UWES on both a general (between persons) and daily (within persons) level. Results from the MCFA showed that the three-factor model (i.e., vigor, dedication, and absorption) fitted best to the data. I also found that one of the items ("When I got up this morning, I felt like going to work") is a better reflection of general work engagement than

of daily work engagement. Thus, with some minor adaptions (i.e., replacing one item), the adapted version of the UWES is an appropriate measure of daily work engagement.

In **Chapter 5**, using a quantitative diary study, I showed that most variance in leadership was explained at the day-level; 60.8% in management-by-exception (MBE) active, 77.3% in contingent reward, and 78.9% in transformational leadership, indicating that leader behaviors fluctuated from day to day. Furthermore, I showed that followers received more autonomy and support from their leader, and therefore became more engaged in their work, on the days that their leader used more contingent reward and transformational leadership behaviors. Moreover, followers' decision latitude about how and when to perform their work was reduced on the days that their leader used more MBE-active and as a consequence, followers were less engaged in their work on these days.

In **Chapter 7**, I investigated weekly fluctuations in transformational leadership behaviors and how this affected followers' work engagement and leader-rated job performance. In a sample of 57 leader-follower dyads, I showed that 57.4% of the variance in transformational leadership was explained at the week level. This means that the use of transformational leadership behaviors varies substantially within the same leader across weeks. These weekly fluctuations in transformational leadership behaviors were positively related to followers' work engagement and job performance. That is, followers were more engaged in their work and received higher job performance ratings from their leader, in the weeks that their leader used more transformational leadership behaviors.

These findings contribute to the leadership literature by showing that leader behaviors fluctuate across days and weeks and leaders may even use different behaviors (e.g., focus on preventing mistakes and focus on individual needs) on the same day. These behaviors differentially impact followers' work engagement, with followers being more engaged on the days that their leader uses more transformational leader behaviors and contingent reward, because on these days, followers work in a more resourceful work environment. Moreover, in the weeks that leaders use more transformational leadership behaviors, followers are not only more engaged in their work, but also receive higher job performance ratings from their leader. However, on days that leaders use more MBE-active, followers are less engaged in their work, because their work environment is less resourceful on these days. These findings suggest that although some leaders may use many transformational leadership behaviors, and may be referred to as having a "transformational leadership style", they also use other behaviors. They even use task-oriented behaviors such as monitoring followers' behaviors for mistakes on the same day as they use transformational leadership behaviors. This raises questions as to how we can describe a leaders' "style" of leadership and how the combination of using behaviors from different leadership "styles" affects followers. Furthermore, the findings from **Chapter 4** show the importance of studying the psychometric properties of questionnaires used in dairy studies, as constructs as traits may have a different meaning as states.

Is leaders' influence on their followers' work engagement contingent on follower characteristics?

The idea that certain leader behaviors may be more effective under some circumstances than others is not new. One of the early approaches to leadership (i.e., contingency theories) focused on the effectiveness of leadership in specific situations (e.g., Fiedler, 1978), arguing that the effectiveness of people- and task-oriented leader behaviors is dependent on characteristics of the situation. In a similar vein, Kerr and Jermier (1978) argue that leader behaviors are more or less effective depending on certain characteristics of the task, the organization and the follower. For example, they argue that highly skilled or experienced followers are less affected by their leaders' behaviors. Despite these and other attempts to include followers as active agents in leadership research, the role of followers in the leadership literature remains underexplored.

In **Chapter 3** and **Chapter 7**, I showed the importance of including follower characteristics when studying the effectiveness of leadership behaviors, because the effectiveness of transformational leadership was dependent on followers' need for leadership. Specifically, transformational leaders were more likely to fulfill their followers' basic needs (**Chapter 3**) and stimulate their followers' engagement (**Chapter 7**) when followers were high (vs. low) in their need for leadership.

Since it is becoming increasingly normal to no longer work under direct supervision all the time, for example, when working from home or being a member of a self-regulated team, in **Chapter 6** and **Chapter 7**, I examined what employees can do themselves to become more engaged in their work. In line with the results on transformational leadership and LMX, in **Chapter 6** I showed that maternity nurses were more engaged in their work on the days that they used more self-managing strategies (i.e., self-goal setting, self-observation and self-cueing), because the received more feedback from their work, had more opportunities to grow and develop, and used a variety of skills on these days. In a similar vein, in **Chapter 7**, I examined how weekly fluctuations in the use of self-leadership strategies are related to followers' engagement in their work and their job performance. Self-leadership includes self-managing strategies, as well as natural reward strategies (i.e., focusing on the rewarding aspects of a task) and constructive thought pattern strategies (e.g., positive self-talk). In line with the results from **Chapter 6**, I showed that employees were more engaged in their work in the weeks that they used more self-leadership strategies. Moreover, employees received higher performance ratings from their leader in these weeks.

In conclusion, these findings suggest that followers play an active role in the leadership process, rather than being merely passive recipients of leader behaviors. For example, when followers are low in their need for leadership, they are not dependent on their leaders' transformational leadership behaviors to fulfill their needs and to become engaged in their work. Rather, when followers are low in their need for leadership, they are able to use self-leadership strategies to become more engaged in their work. These findings imply that although transformational leadership behaviors are known to be generally effective, there may be circumstances under which other leadership behaviors

may be more effective or transformational leadership behaviors may be substituted by followers taking the lead themselves. Furthermore, in the absence of daily supervision, followers are able to control their own engagement and performance by using self-leadership strategies, such as setting specific and challenging goals and being aware of why you do things the way you do.

IMPLICATIONS, LIMITATIONS, AND IDEAS FOR THE FUTURE

Daily versus Enduring Leadership Behaviors

Together, the answers to research questions 1 and 2 tell us something about the similarity of the proposed model in this dissertation on a general (enduring) and a daily (fluctuating) basis. The studies included in this dissertation show that leader behaviors affect both followers' enduring and daily work engagement through their influence on the resourcefulness of the work environment (e.g., more autonomy and social support). Furthermore, leader behaviors also influence followers' leader-rated job performance on a general and a weekly basis, through their positive influence on followers' work engagement. It is important to look at structural similarities and/or differences between the effectiveness of leadership behaviors at both levels, because it provides information about the breadth of our model and the necessity to refine the model. Unfortunately, we were unable to test the structural similarity of our overall model. More research is needed to study these structural similarities further, to show, for instance, whether the availability of job resources also fulfills followers' basic needs on a daily basis and therefore, enhances followers' daily work engagement.

To shed more light on the possible differences between the state and trait version of the model proposed in this dissertation, future research should focus on the short term and longer term effects of different transformational leadership behaviors. Since we were interested in how leadership behaviors influence followers' engagement and performance on the short-term, we did not look at the longer term effects. Yet, this may be a fruitful area for future research. Bakker, van Emmerik, Geurts, and Demerouti (2008) showed that employees were more engaged in their work on the days that their job demands were high, while research on general work engagement shows that chronic job demands lead to strain and less engaged employees (Halbesleben, 2010). Thus, although job demands may challenge employees initially, these may deplete employees' energy when they become chronic. The same may be true for certain transformational leadership behaviors. For example, transformational leaders have high performance expectations, which may be challenging on a daily basis, but may be demanding and therefore drain followers' energy when these expectations pertain over a longer period over time (e.g., weeks, months, years).

Yet another interesting possibility is that some behaviors may only become effective in the long term. For example, MacKenzie, Podsakoff, and Rich (2001) argue that intellectual stimulation means that in the short term, employees are focused on searching for new and better ways to do their job, which is stressful, requires working smarter rather than harder, and implies learning by trial and error. Only when new and better ways to work are found and used, intellectual stimulation may result in more efficient ways of working. In their cross-sectional

survey study, MacKenzie and colleagues indeed showed that intellectual stimulation decreased both in-role and extra-role performance and increased role ambiguity. Disentangling the effects of different kinds of transformational leadership behaviors may have important implications for leaders considering the frequency and variety with which they should use these behaviors. Moreover, research on the possible downsides of transformational leadership contributes to the leadership literature, which has mainly focused on the positive side of transformational leadership.

In line with this reasoning – that effective leader behaviors may become ineffective and vice versa – there may be certain circumstances under which generally effective behaviors are ineffective or the other way around. For example, setting rules may reduce followers' autonomy and consequently, followers' work engagement (see **Chapter 5**), but it may also prevent drops in job performance under the appropriate circumstances. For example, setting rules may be a good way to lead in nuclear power plants or in situations where there is little room for error (e.g., approaching deadline and a lot of work to finish).

Challenges in diary designs

Chapter 4 and **6** in this dissertation show that there are still some challenges when comparing the trait and state model, which also affected the studies presented in this dissertation. In **Chapter 4**, I examined the psychometric properties of the adapted UWES, which was originally developed to measure enduring work engagement. It is very common for daily diary researchers to adapt questionnaires that were originally developed to measure enduring constructs, so they can be used to measure daily constructs. However, the psychometric properties of these adapted questionnaires are rarely examined. I showed that these psychometric properties are important to study, because one of the items to measure daily vigor was a better reflection of enduring work engagement than it was of daily work engagement. Thus, some items may need to be refined or replaced when used in daily diary research.

I also ran into some specific challenges when doing diary studies. For example in the study presented in **Chapter 6**, in which I found that daily self-management consisted of two separate factors instead of one factor including all self-management strategies, which is normally found when studying general self-management. Two strategies, daily self-reward and daily self-punishment, did not load onto the general daily self-management factor, which may have to do with the wording of the items. Treating yourself by going out for dinner may be something you do to reward yourself every once in a while, but not something you do on a daily basis. Therefore, when used in future research, these items are in need of refinement.

Also, in **Chapter 5**, in which I measured different leadership behaviors on a daily basis, the reliabilities of the scales to measure these behaviors were quite low on some days. This raises questions about the frequency with which some leadership behaviors are used. In a similar vein, daily diary designs are not always the best way to study fluctuations in leadership behaviors, because not all employees interact with their leader on a daily basis, resulting in missing data for these days. Although there are several ways to handle these missing data, it may be useful to use a longer time frame (e.g., week instead of day) to

study fluctuations in leadership. I also experienced the problem of missing data, which made it very difficult to look at lagged effects. Even though I was interested in same day effects of leadership, looking at lagged effects would have given me the opportunity to say some more about the causality of the proposed model. Future research could look at same day effects and at the same time provide some more evidence on the causal order of effects by using daily diaries multiple times a day, which of course, comes with other difficulties. Yet, if one is interested in what happens on the days that followers do not interact with their followers, daily diaries may be best the way to go. For example, research on inconsistent leadership suggests that when transformational leaders use passive leadership behaviors (which may be the case when the leader is not around to help), the generally positive effects of transformational leadership are reduced (Mullen, Kelloway, & Teed, 2011).

Varying Leadership Behaviors

In line with Bass' (1985) contention that leaders use both transactional and transformational leader behaviors, in **Chapter 5**, I showed that leaders use a variety of different behaviors and that the use of these behaviors has different outcomes. For example, transformational leadership behaviors provide followers with more job autonomy, whereas monitoring followers behaviors results in less job autonomy. Building on the daily diary study presented in this dissertation, it would be interesting to see what happens to followers' daily work engagement when leaders engage in many transformational leadership behaviors on one day, followed by high passive leadership behaviors the next day or the other way around. As Bass states, leaders use both transactional and transformational leader behaviors, but the most effective leaders use transformational leader behaviors most often. However, not much is known about the consequences of shifting between more people-oriented and task-oriented leadership behaviors.

Although switching between leadership styles may seem unavoidable, whether this is (in)effective, is a question that we cannot answer based on the findings presented in this dissertation. Mullen et al. (2011) showed that leaders better not use inconsistent leadership. They found that the positive influence of transformational leadership behaviors on followers' safety behaviors is reduced when leaders also use passive leadership behavior (e.g., waiting for things to go wrong before taking action). Contrary to the findings by Mullen et al. (2011), Zacher and Wilden (2014) found that employees' innovative performance was highest on the days that leaders used ambidextrous leadership. Ambidextrous leadership means that on the one hand, leaders encourage and support their followers to do things differently and to think differently (i.e., opening behaviors) and on the other hand, these leaders take corrective action, set rules and monitor their followers' goal achievement (i.e., closing behaviors). Thus, it seems that transformational leadership behaviors are less effective when combined with passive leadership behaviors (i.e., management-by-exception passive), whereas they are more effective when they are combined with actively correcting followers (i.e., management-by-exception active). An interesting question in this regard is "When leadership is inconsistent?". For example, in the study described in **Chapter 5,** we showed that leaders consistently use transformational ánd transactional leadership behaviors, yet, the frequency with which these

behaviors are used vary on a daily basis. It may be that the use of different leader behaviors is effective and not considered inconsistent when leaders regularly switch between these behaviors (e.g., within the same day), while it may be ineffective and inconsistent when some behaviors (e.g., taking corrective action) are used over a longer period of time compared to others (e.g., cognitively challenging followers).

It is safe to say that we need more research on what happens when leaders use different types of leader behaviors. To look at shifts between different types of leader behaviors in more detail, future research could use multiple measures points of leadership behaviors and follower work engagement during the day (e.g., at the end of the morning and the end of the working day) or the week (e.g., at the start and the end of the week) and during a longer period of time. Not only does this provide more information on how shifts in leader behaviors influence followers' work engagement, but it is also an opportunity to look at causal relationships between these leader behaviors and followers' work engagement across days and even within days.

Challenges and Hindrances in the Work Environment

The studies in this dissertation focused on the influence of different leader behaviors on the resourcefulness of the work environment. In **Chapter 2**, I showed that LMX is positively related to followers' autonomy, developmental opportunities and social support from colleagues. **Chapter 3** describes a study in which I examined the impact of transformational leadership on the latent variable "job resources", including autonomy, feedback, and developmental opportunities. In **Chapter 5**, I focused on the influence of transformational leadership, contingent reward and MBE-active on both followers' autonomy and social support from their leader and finally, in **Chapter 6**, the influence of self-management on skill variety, feedback, and developmental opportunities was examined. Although this underlying process seems to be promising, I have to acknowledge that there may be other processes through which transformational leadership behaviors affect follower outcomes. In addition, there may also be other leadership behaviors, such as empowering or servant leadership behaviors, that positively influence followers' engagement and performance, through their influence on the work environment.

According to JD-R theory, in addition to job resources, challenging and hindering job demands also constitute an important part of the work environment. Challenge demands are closely related to job resources, because these demands contribute to personal growth and goal achievement, even though they are associated with a loss of energy (Podsakoff, LePine, & LePine, 2007). Hindrance demands can be called the "bad" demands, because they consume energy and initiate a health impairment process when they are not compensated for with a sufficient amount of job resources. Continuing the line of research presented in this dissertation, the next step would be to look at how leader behaviors influence the availability of both job resources and job demands. It seems likely that constructive leader behaviors, such as being supportive of followers' needs and inspiring followers with an optimistic vision of the future, create the most resourceful work environment, characterized by high job resources and challenge job demands, and low hindrance job demands

(Breevaart, Bakker, Hetland, & Hetland, 2014d). In support of this idea, research has shown that followers in a high quality LMX relationship experience less hindrance demands such as role stress (e.g., Thomas & Lankau, 2009). Destructive leader behaviors, such as taking no responsibilities and only intervening when things go wrong, are likely to result in a less resourceful work environment, with low resources and challenge demands, and high hindrance demands (Breevaart et al., 2014d). Indeed, laissez-faire leadership has been shown to promote hindrance demands such as role conflict, role ambiguity and conflict with colleagues (e.g., Skogstad, Einarsen, Torsheim, & Aasland, 2007).

Certain leadership behaviors may also be considered a resource or demand itself. For example, transformational leaders challenge their followers by setting high performance expectations and by stimulating them to think out of the box (i.e., challenge demand), but at the same time supporting them (i.e., resource). However, as previously discussed, there may be a dark side to generally constructive leader behaviors. While some leadership behaviors may be a challenge at first, they may become a hindrance in the long term and vice versa. Future research should shed more light on how different leader behaviors affect the work environment.

In line with job demands-resources (JD-R) theory, the studies in this dissertation showed that certain job resources are more important mediators than others (see, for example, **Chapter 2**). The JD-R model is a widely applicable model, because it acknowledges that every occupation has its own constellation of job resources and job demands. For example, autonomy may be an important resource for scientific researchers, while autonomy may be hardly available for assembly line workers. It may even be that certain resources and demands are highly essential for one employee, while they are less appreciated by other employees in the same profession. It would be interesting to study whether these individual differences play a role in the motivating/health impairing potential of resources and demands by looking at employees' need for autonomy, competence, and/or relatedness.

In **Chapter 3**, I showed that job resources have motivating potential because they fulfill followers' basic needs. It therefore seems likely that resources have less motivating potential when followers are lower in their need for autonomy, relatedness and competence. As far as I know, most, if not all, research on basic needs, focuses on the fulfillment rather than the strengths of these needs, because self-determination theory (SDT) assumes that these needs are innate. Besides need fulfillment and need strength, it would also be interesting for future research to focus on need frustration. Needs are frustrated when psychological needs are thwarted (Vansteenkiste & Ryan, 2013). For example, the need for relatedness is thwarted when employees are bullied at work. While constructive leader behavior fulfill followers' basic needs (see **Chapter 3** in this dissertation), destructive leader behaviors may thwart followers' basic needs, which may result in follower malfunctioning and ill-being (Vansteenkiste & Ryan, 2013).

Some Critical Notes on Leadership

The leadership literature is abundant with constructive and destructive leadership *styles* and research mainly focuses on the antecedents and

consequences of a particular leadership style. However, can we really say that a leader has a certain style of leadership when we know that leaders use behaviors from different "leadership styles", even at the same day (see **Chapter 5**)? Or do these leaders use an "inconsistent leadership style" or "ambidextrous leadership style"? It is clear that the effectiveness of leader behaviors is contingent on many things (e.g., follower and task characteristics). Hence, it would be fruitful for the leadership literature to focus on when and why certain leader behaviors are (in)effective and study different leader behaviors simultaneously, rather than adding to the extensive list of leadership styles in search of the most effective type of leader.

Is leadership more than just behaviors? What about feelings and cognitions? The studies in this dissertation focused on enacted leadership, which are the leadership behaviors as observed by the followers. Of course, leaders have feelings, thoughts and motivational reasons why they show certain behaviors, which are much more difficult, if not impossible, for followers to observe. The impact of feelings and thoughts on enacted leadership is not only interesting from a theoretical point of view, but also practically relevant. Knowing why and when leaders perform certain behaviors can be an important basis for leadership development. The underlying reasons that explain why leaders behave the way they do is starting to get more attention in the scientific literature, as witnessed by an increased interest in authentic and ethical leadership. For example, transformational leaders are said to be authentic when they score high on all four I's (i.e., idealized influence, inspirational motivation, intellectual stimulation and individualized attention), while they are considered pseudo-transformational (unethical transformational leadership) when they score low on idealized influence and high on the remaining I's (Barling, Christie, & Turner, 2008). That is, while pseudo transformational leader are inspirational leaders, their behavior is based on their own, egoistic values and self-interests. It may be that it is difficult for followers to judge whether leaders behave out of self-interest at first, but this may become more evident as time passes.

Do we need new ways of leading for new ways of working? Due to changes in the work environment, such as working from home and working in large, open spaces, but also the increased use of technology such as email and smartphones, it is important to examine whether we are in need of different leader behaviors to effectively lead employees. For example, I have noticed that daily diary studies on leadership are becoming more difficult, because followers do not see their leader every day or only communicate with their leader through emails. I once heard a colleague say that on the days that leaders are absent, this fits perfectly with the description of passive leaders. Although this could be true, I think that leaders who stimulate followers to use self-leadership strategies (**Chapter 6** and **7**), may prevent possible negative effects of passive leadership. So, it is important for leadership research to no longer consider followers as just passive recipients of leadership, but to examine the interplay between leaders and followers.

Implications for practice

Being a leader is not easy. The studies in this dissertation show that leaders use different behaviors, which have different effects and some behaviors may be

effective in leading some, but not all followers. An important question that arises from these findings is when and how often leader should use certain behaviors. In general, it seems that the more people-oriented behaviors, such as being attentive to followers needs and building a high-quality relationship with followers, are most effective in enhancing followers' work engagement and job performance. Hence, leaders should use these behaviors most often and especially when it is important that followers are engaged in their work and perform their work well (e.g., when a significant deadline is approaching). These constructive leadership behaviors are also important when demands are really high, because I have shown that these behaviors result in a more resourceful work environment, which is needed to prevent the possible negative effects of high job demands (Bakker & Demerouti, 2007). For example, a postman particularly needs his or her leader to show constructive behaviors around Christmas, when workload is high.

Although less effective, a leader is responsible for his or her followers' job performance and it is therefore sometimes necessary to use task-oriented behaviors such as setting rules and preventing mistakes. However, I have shown that these behaviors can indirectly reduce followers' work engagement, because followers' decision latitude about how and when to perform their work is reduced. Thus, leaders should use these task-oriented behaviors to a lesser extent than people-oriented behaviors. More research is needed to show how and when switching between these two categories of leader behaviors can be used effectively by leaders.

Furthermore, I have shown that some followers are more responsive to certain leader behaviors than others. Hence, leaders may be required to use a variety of different leader behaviors at the same time. A workable solution, especially when leaders have a large span of control, may be to stimulate followers to use self-leadership strategies. In **Chapter 6**, I have shown that employees can create a resourceful work environment themselves and consequently, become more engaged in their work when they set their own goals, monitor their own behavior and remind themselves of what they want to achieve. Additionally, in **Chapter 7**, I showed that employees who focus on the rewarding aspects of their job and create and maintain constructive thought patterns about their work, are more engaged in their work and perform their work better. This provides followers with the opportunity "to do it themselves" when their leader is not around, for example, when working from home or when their leader has a day off.

The findings presented in this dissertation suggest that organizations should not only invest in training their leaders, but also in training their employees. Especially considering that working autonomously is becoming increasingly common and important. Research has shown that the use of both transformational leadership behaviors and self-leadership strategies can be improved by explaining the constructs and providing guidelines on how to use these behaviors/strategies in practice (e.g., Barling, Weber, and Kelloway, 1996; Neck & Manz, 1996). Based on the studies in this dissertation, this training should also include information about the dynamic part of leadership. For example, explain to leaders that it may sometimes be more difficult to inspire followers, for example, when leaders are having a bad day, but that this influences how followers feel about their work and how well they perform in a

very short time period. This knowledge can be useful for practice in several ways. For example, leaders may decide not to interfere too much with their followers when they have a bad day and/or try their hardest to inspire followers when it is especially important for followers to be engaged in their work (e.g., when an important deadline is approaching). In the same way, employees may benefit more from self-leadership training if they are told when best to use it. Under certain circumstances it may be more difficult to stay engaged in your work and perform to the best of your abilities, for example, when working under pressure or when working from home. In these circumstance, employees may benefit most from their knowledge on how to set goals and monitor one's own performance.

CONCLUSION

Taken together, the studies in this dissertation show that leadership can take many forms and although someone may show many leadership behaviors of some kind, he or she may do more or less so depending on what happens. Leaders may use considerate and inspiring leadership behaviors, encourage their followers to challenge the status quo, act as role models and set high performance expectations to influence their follower's engagement and job performance in a positive way. By showing these behaviors, leaders optimize their followers' daily work environment, which allows followers to thrive at work by fulfilling their basic needs. Leaders may also influence how their followers feel and perform in a negative way, by showing behaviors that are detrimental to the work environment (i.e., focusing on follower mistakes). Yet, followers can also take the lead themselves and create their own positive work environment to flourish in by using self-leadership strategies such as rewarding oneself when performing well and focusing on the motivating aspects of work.

REFERENCES

Arbuckle, J. L. (2011). *IBM SPSS Amos 20 User's Guide.* Chicago: SPSS.
Arnold, K. A., Turner, N., Barling, J., Kelloway, E. K., & McKee, M. C. (2007). Transformational leadership and psychological well-being: The mediating role of meaningful work. *Journal of Occupational Health Psychology, 12,* 193-203. DOI: 10.1037/1076-8998.12.3.193.
Avolio, B. J., Bass, B. M., & Jung, D. I. (1999). Re-examining the components of transformational and transactional leadership using the Multifactor Leadership Questionnaire. *Journal of Occupational and Organizational Psychology, 7,* 441-462. DOI: 10.1348/096317999166789.
Avolio, B. J., & Yammarino, F. J. (2002). *Transformational and Charismatic Leadership: The Road Ahead.* Elsevier Science, Oxford.
Avolio, B. J., Zhu, W., Koh, W., & Bhatia, P. (2004). Transformational leadership and organizational commitment: Mediating role of psychological empowerment and moderating role of structural distance. *Journal of Organizational Behavior, 25,* 951-968. DOI: 10.1002/job.283.
Baard, P. P., Deci, E. L., & Ryan, R. M. (2004). Intrinsic need satisfaction: A motivational basis of performance and well-being in two work settings. *Journal of Applied Social Psychology, 34,* 2045–2068. DOI: 10.1111/j.1559-1816.2004.tb02690.x.
Baarne, R., Houtkamp, P., & Knotter, M. (2010). Het nieuwe werken ontrafeld [Unraveling new ways of working]. Assen, The Netherlands: Koninklijke Van Gorcum/Stichting Management Studies.
Babcock-Roberson, M. E., & Strickland, O. J. (2010). The relationship between charismatic leadership, work engagement, and organizational citizenship behaviors. *Journal of Psychology, 3,* 313-326. DOI: 10.1080/00223981003648336.
Bakker, A. B. (2011). An evidence-based model of work engagement. *Current Directions in Psychological Science, 20,* 265–269. DOI: 10.1177/0963721411414534.
Bakker, A. B., & Bal, P. M. (2010). Weekly work engagement and performance: A study among starting teachers. *Journal of Occupational and Organizational Psychology, 83,* 189-206. DOI: 10.1348/096317909X402596.
Bakker, A. B., & Demerouti, E. (2007). The Job Demands-Resources model: State of the art. *Journal of Managerial Psychology, 22,* 309-328. DOI: 10.1108/02683940710 73315.
Bakker, A. B., & Demerouti, E. (2008). Towards a model of work engagement. *Career Development International, 13,* 209-223. DOI: 10.1108/13620430810870476.
Bakker, A. B., & Demerouti, E. (2014). Job demands- resources theory. In C. Cooper & P. Chen (Eds.), *Wellbeing: A complete reference guide* (pp. 37-64). Chichester, UK: Wiley-Blackwell.
Bakker, A. B., Demerouti, E., Taris, T., Schaufeli, W., & Schreurs, P. (2003). A multigroup analysis of the job demands–resources model in four home care organizations. *International Journal of Stress Management, 10,* 16–38. DOI: 10.1037/1072-5245.10.1.16.
Bakker, A. B., Demerouti, E., & Verbeke, W. (2004). Using the job demands-resources model to predict burnout and performance. *Human Resource Management, 43,* 83-104. DOI: 10.1002/hrm.
Bakker, A. B., & Leiter, M. P. (Eds.) (2010). *Work engagement: A handbook of essential theory and research*. New York: Psychology Press.
Bakker, A. B., van Emmerik, I. H., Geurts, S. A. E., & Demerouti, E. (2008). *Recovery turns job demands into challenges: A diary study on work engagement and performance.* Working paper. Erasmus University Rotterdam.
Barling, J., Christie, A., & Turner, N. (2008). Pseudo-transformational leadership: Towards the development and test of a model. *Journal of Business Ethics, 81,* 851-861. DOI: 10.1007/s10551-007-9552-8.
Barling, J. Weber, T., & Kelloway, K. E. (1996). Effects of transformational leadership training on attitudinal and financial outcomes: A field experiment. *Journal of Applied Psychology, 81,* 827-832. DOI: 10.1037/0021-9010.81.6.827.
Bass, B. M. (1985). *Leadership performance beyond expectations.* New York: Academic Press.
Bass, B. M. (1990). *Bass and Stogdills handbook of leadership.* New York: Free Press.
Bass, B. M. (1999). Two decades of research and development in transformational leadership. *European Journal of Work and Organizational Psychology, 8,* 9-32. DOI: 10.1080/135943299398410.
Bass, B. M., & Avolio, B. J. (1990). *Transformational leadership development: Manual for the Multifactor Leadership Questionnaire.* Palo Alto, CA: Consulting Psychologist Press.
Bass, B. M., & Avolio, B. J. (1994). *Improving organizational effectiveness through*

transformational leadership. Thousand Oaks, CA: Sage Publications.
Bass, B. M., & Avolio, B. J. (1995). *Transformational leadership development: Manual for the multifactor leadership questionnaire.* Palo Alto, CA: Consulting Psychologists Press, Inc.
Bass, B. M., & Riggio, R. E. (2006). *Transformational leadership.* Lawrence Erlbaum, Mahwah, NJ.
Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117,* 497-529. DOI: 10.1037/0033-2909.117.3.497.
Blau, P. M. (1964). *Exchange and power in social life.* New York: Wiley.
Bledow, R., Frese, M., & Mueller, V. (2011). Ambidextrous leadership for innovation: The influence of culture. *Advances in Global Leadership, 6,* 46-69. DOI: 10.1108/S1535-1203(2011)0000006006.
Breevaart, K., Bakker, A. B., & Demerouti, E. (2014a). Daily self-management and employee work engagement. *Journal of Vocational Behavior, 84,* 31–38. DOI: 10.1016/j.jvb.2013.11.002.
Breevaart, K., Bakker, A. B., Demerouti, E., & Hetland, J. (2012). The measurement of state work engagement: A multilevel factor analytic study. *European Journal of Psychological Assessment, 28,* 305-312. DOI: 10.1027/1015-5759/a000111.
Breevaart, K., Bakker, A. B., Demerouti, E., Sleebos, D. M., & Maduro, V. (2014b). Uncovering the relationship between transformational leaders and followers' task performance. *Journal of Personnel Psychology, 13,* 194-203. DOI: 10.1027/1866-5888/a000118.
Breevaart, K., Bakker, A. B., Hetland, J., Demerouti, E., Olsen, O. K., & Espevik, R. (2014c). Daily transactional and transformational leadership and daily employee engagement. *Journal of Occupational and Organizational Psychology, 87,* 138–157. DOI: 10.1111/joop.12041.
Breevaart, K., Bakker, A. B., Hetland, J., & Hetland, H. (2014d). The influence of constructive and destructive leadership on followers' burnout. In M. P. Leiter & A. B. Bakker (Eds.). *Work engagement: A handbook of essential theory and research* (pp. 102-117). New York: Psychology Press.
Burns, J. M. (Ed.) (1978). *Leadership*. New York: The Free Press.
Carlson, D. S., & Perrewé, P. L. (1999). The role of social support in the stressor-strain relationship: An examination of work-family conflict. *Journal of Management, 25,* 513-540. DOI: 10.1177/014920639902500403.
Carver, C. S., & Scheier, M. E. (1981). *Attention and self-regulation: A control-theory approach to human behavior.* New York: Springer-Verlag.
Carver, C. S., & Scheier, M. E. (1998). *On the self-regulation of behavior.* New York: Cambridge University Press.
Cavanaugh, M. A., Boswell, W. R., Roehling, M. V., & Boudreau, J. W. (2000). An empirical examination of self-reported work stress among U.S. managers. *Journal of Applied Psychology, 85,* 65–74. DOI: 10.1037//0021-9010.85.1.65.
Chan, D. (1998). Functional relations among constructs in the same content domain in different levels of analysis: A typology of composition models. *Journal of Applied Psychology, 83,* 234-246. DOI: 10.1037/0021-9010.83.2.234.
Chen, G., Bliese, P. D., & Mathieu, J. E. (2005). Conceptual framework and statistical procedures for delineating and testing multilevel theories of homology. *Organizational Research Methods, 8,* 375-409.
Christian, M. S., Garza, A. S., & Slaughter, J. E. (2011). Work engagement: A quantative review and test of its relations with task and contextual performance. *Personnel Psychology, 64,* 89-136. DOI: 10.1111/j.1744-6570.2010.01203.x.
Conway, J. M., & Lance, C. E. (2010). What reviewers should expect from authors regarding common method bias in organizational research. *Journal of Business and Psychology, 25,* 325-334. DOI: 10.1007/s10869-010-9181-6.
Cortina, J. M., Chen, G., & Dunlap, W. P. (2001). Testing interaction effects in LISREL: Examination and illustration of available procedures. *Organizational Research Methods*, *4*, 324-360. DOI: 10.1177//109442810144002.
Crawford, E. R., LePine, J. A., & Rich, B. L. (2010). Linking job demands and resources to employee engagement and burnout: A theoretical extension and meta-analytic test. *Journal of Applied Psychology*, 95, 834-848. DOI: 10.1037/a0019364.
Dalal, D. K., & Carter, N. T. (2014). *Negatively worded items negatively impact survey research.*

Paper presented at the Society for Industrial and Organizational Psychology, Honolulu, Hawaii.

Dawson, J. F., & Richter, A. W. (2006). Probing three-way interactions in moderated multiple regression: Development and application of a slope difference test. *Journal of Applied Psychology, 91,* 917-926. DOI: 10.1037/0021-9010.91.4.917.

Deci, E. L., & Ryan, R. M. (2000). The 'what' and 'why' of goal pursuits: Human needs and self-determination of behavior. *Psychological Inquiry, 11,* 319-338. DOI: 10.1207/S15327965PLI1104_01.

Demerouti, E., Bakker, A. B., De Jonge, J. Janssen, P. P. M., & Schaufeli, W. B. (2001). Burnout and engagement at work as a function of demands and control. *Scandinavian Journal of Work, Environment & Health, 27,* 279-286.

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W.B. (2001). The Job Demands-Resources model of burnout. *Journal of Applied Psychology, 86,* 499-512. DOI:10.1037/0021-9010.86.3.499.

Demerouti, E., & Rispens, S. (2014). Improving the image of student-recruited samples: A commentary. *Journal of Occupational and Organizational Psychology, 87,* 34-41. DOI: 10.1111/joop.12048.

De Vries, R. E. (1997). Need for leadership: A solution to empirical problems in situational theories of leadership. Unpublished dissertation, Tilburg University.

De Vries, R. E., Roe, R. A., & Taillieu, T. C. B. (1998). Need for supervision: Its impact on leadership effectiveness. *Journal of Applied Behavioral Science, 34,* 486-501. DOI: 10.1177/0021886398344015.

De Vries, R. E., Roe, R. A., & Taillieu, T. C. B. (2002). Need for leadership as a moderator of the relationships between leadership and individual outcomes. *The Leadership Quarterly, 13,* 121-137. DOI: 10.1016/S1048-9843(02)00097-8.

Dey, E. L. (1997). Working with low survey response rates: The efficacy of weighting adjustments. *Research in Higher Education, 38,* 215-227. DOI: 10.1111/j.1083-6101.2001.tb00117.x.

Dillman, D. A. (1991). The design and administration of mail surveys. *Annual Review of Sociology, 17,* 225-249.

Dirks, K. T., & Ferrin, D. L. (2002). Trust in leadership: Meta-analytic findings and implications for research and practice. *Journal of Applied Psychology, 87,* 611-628. DOI: 10.1037//0021-9010.87.4.611

Doty, D. H., & Glick, W. H. (1998). Does common methods variance really bias results? *Organizational Research Methods, 1,* 374-406. DOI: 10.1177/109442819814002.

Dulebohn, J. H., Bommer, W. H. Liden, R. C., Brouer, R. L., & Ferris, G. R. (2012). A meta-analysis of antecedents and consequences of leader-member exchange: Integrating the past with an eye toward the future. *Journal of Management, 38,* 1715-1759. DOI: 10.1177/0149206311415280.

Dumdum, U. R., Lowe, K. B., & Avolio, B. J. (2002). A meta-analysis of transformational and transactional leadership correlates of effectiveness and satisfaction: An update and extension. In B. J. Avolio & F. J. Yammarino (Eds.), *Transformational and charismatic leadership: the road ahead* (pp. 35-66). Amsterdam: JAI.

Dunegan, K. J., Uhl-Bien, M., & Duchon, D. (2002). LMX and subordinate performance: The moderating effects of task characteristics. *Journal of Business and Psychology, 17,* 275-286. DOI: 10.1177/0149206311415280.

Dvir, T., Eden, D., Avolio, B. J., & Shamir, B. (2002). Impact of transformational leadership on follower development and performance: A field experiment. *Academy of Management Journal, 45,* 735-744. DOI: 10.2307/3069307.

Dvir, T., & Shamir, B. (2003). Follower developmental characteristics as predicting transformational leadership: A longitudinal field study. *The Leadership Quarterly, 14,* 327-344. DOI: 10.1016/S1048-9843(03)00018-3.

Dyer, N. G., Hanges, P. J., & Hall, R. J. (2005). Applying multilevel confirmatory factor analysis techniques to the study of leadership. *Leadership Quarterly, 16,* 149-167. DOI:10.1016/j.leaqua.2004.09.009.

Epitropaki, O., & Martin, R. (2005). From ideal to real: A longitudinal study of the role of implicit leadership theories on leader-member exchanges and employee outcomes. *Journal of Applied Psychology, 90,* 659-676. DOI: 10.1037/0021-9010.90.4.659.

Etzion, D. (1984). Moderating effects of social support on the stress-burnout relationship. *Journal of Applied Psychology, 69,* 615-622. DOI: 10.1037/0021-9010.69.4.615.

Fiedler, F. E. (1978). The contingency model and the dynamics of the leadership process. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology* (pp. 59-96). Academic Press, NY.

Frayne, C. A., & Geringer, J. M. (2000). Self-management training for improving job performance: A field experiment involving salespeople. *Journal of Applied Psychology, 85,* 361-372. DOI: 10.1037//0021-9010,85.3.361.

Frayne, C. A., & Latham, G. P. (1987). Application of social learning theory to employee self-management of attendance. *Journal of Applied Psychology, 72,* 387-392.

Fuller, J. B., Patterson, C. E. P., Hester, K., & Stringer, D. Y. (1996). A quantitative review of research on charismatic leadership. *Psychological Reports, 78,* 271-287. DOI: 10.2466/pr0.1996.78.1.271

Gerstner, C. R., & Day, D. V. (1997). Meta-analytic review of leader-member exchange theory: Correlates and construct issues. *Journal of Applied Psychology, 82,* 827-844. DOI: 10.1037/0021-9010.82.6.827.

Goodman, S. A., & Svyantek, D. J. (1999). Person-organization fit and contextual performance: Do shared values matter? *Journal of Vocational Behavior, 55,* 254-275. DOI: 10.1006/jvbe.1998.1682.

Graen, G. B. (1976). Role making process within complex organizations. In M. D. Dunnette (Ed.), *Handbook of industrial organizational psychology* (pp. 1201-1245.) Chicago: Rand-McNally.

Graen, G., & Cashman, J. (1975). A role-making model of leadership in formal organization: A development approach. In J. G. Hunt & L. L. Larson (Eds.), *Leadership frontiers* (pp. 143-165). Kent, OH: Kent State University Press.

Graen, G. B., Novak, M., & Sommerkamp, P. (1982). The effect of leader-member exchange and job design on productivity and satisfaction: Testing a dual attachment model. *Organizational Behavior and Human Performance, 30,* 109-131. DOI: 10.1016/0030-5073%2882%2990236-7.

Graen, G. B., & Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective. *The Leadership Quarterly, 6,* 219-247. DOI: 10.1016/1047-9843%2895%2990036-5.

Hackman, J. R. (1986). The psychology of self-management in organizations. In M. S. Pallack & R. O. Perloff (Eds.), *Psychology and work: Productivity, change, and employment.* Washington, DC: American Psychological Association.

Hakanen, J. J., Bakker, A. B., & Demerouti, E. (2005). How dentists cope with their job demands and stay engaged: The moderating role of job resources. *European Journal of Oral Sciences, 113,* 479-487. DOI:10.1111/j.1600-0722.2005.00250.x.

Hakanen, J. J., Perhoniemi, R., & Toppinen-Tanner, S. (2008). Positive gain spirals at work: From job resources to work engagement, personal initiative and work-unit innovativeness. *Journal of Vocational Behavior, 73,* 78-91. DOI: 10.1016/j.jvb.2008.01.003.

Halbesleben, J. R. B. (2010). A meta-analysis of work engagement: Relationships with burnout, demands, resources, and consequences. In M. P. Leiter & A. B. Bakker (Eds.). *Work engagement: A handbook of essential theory and research* (pp. 102-117). New York: Psychology Press.

Hamstra, M. R. W., Van Yperen, N. W., Wisse, B., & Sassenberg, K. (2011). Transformational-transactional leadership styles and followers' regulatory focus: Fit reduces followers' turnover intentions. *Journal of Personnel Psychology, 4,* 182-186. DOI: 10.1027/1866-5888/a000043.

Harris, K. J., & Kacmar, K. M. (2006). Too much of a good thing: The curvilinear effect of leader-member exchange on stress. *The Journal of Social Psychology, 146,* 65-84. DOI: 10.3200/SOCP.146.1.65-84.

Heider, F. (1958). *The psychology of interpersonal relationships.* Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers.

Heiman, A. L., Vincent-Höper, S., Gregersen, S., & Nienhaus, A. (2014, July). *A meta-analysis on transformational leadership and well-being: The role of the job demands-resources model.* Paper presented at the International Conference of Applied Psychology, Paris, France.

Hersey, P., & Blanchard, K. (1982). *Management of organizational behavior: Utilizing human Resources (4th ed.).* New York: Morrow.

Hetland, H., Hetland, J., Andreassen, C. S., Pallesen, S., & Notelaers, G. (2011). Leadership and

fulfillment of the three basic needs at work. *Career Development International, 16,* 507-523. DOI: 10.1108/13620431111168903.

Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist, 44,* 513-524.

Hobfoll, S. E. (2001). The influence of culture, community, and the nested-self in the stress process: Advancing conservation of resources theory. *Applied Psychology, 50,* 337-385.

Hobfoll, S. E. (2002). Social and psychological resources and adaptation. *Review of General Psychology, 6,* 307-324. DOI: 10.1037///1089-2680.6.4.307.

Houghton, J. D., & Neck, C. P. (2002). The revised self-leadership questionnaire: Testing a hierarchical factor structure for self-leadership. *Journal of Managerial Psychology, 17,* 672-691. DOI: 10.1108/02683940210450484.

House, R. J. (1971). A path goal theory of leader effectiveness. *Administrative Science Quarterly, 16,* 321–338.

Howell, J. M., & Hall-Merenda, K. E. (1999). The ties that bind: The impact of leader-member exchange, transformational and transactional leadership, and distance on predicting follower performance. *Journal of Applied Psychology, 5,* 680-694.

Hox, J. J. (2010). *Multilevel analysis: Techniques and applications (2nd ed.).* New York, NY, US: Routledge/Taylor & Francis Group.

Hoyle, R. H. (1995). The structural equation modeling approach: Basic concepts and fundamental issues. In R.H. Hoyle (Ed.), *Structural equation modeling: Concepts, issues and applications* (pp. 1-15). Thousand Oaks, CA: Sage.

Hoyle, R. H., & Smith, G. T. (1994). Formulating clinical research hypotheses as structural equation models: A conceptual overview. *Journal of Consulting and Clinical Psychology, 62,* 429-440. DOI: 10.1037/0022-006X62.3.427.

Ilies, R., Judge, T., & Wagner, D. (2006). Making sense of motivational leadership: The trial from transformational leaders to motivated followers. *Journal of Leadership & Organizational Studies, 13,* 1-22. DOI: 10.1177/10717919070130010301.

Ilies, R., Nahrgang, J. D., & Morgeson, F. (2007). Leader-member exchange and citizenship behavior: A meta-analysis. *Journal of Applied Psychology, 92,* 269-277. DOI: 10.1037/0021-9010.92.1.269.

James, L. R. (1982). Aggregation bias in estimates of perceptual agreement. *Journal of Applied Psychology, 67,* 219-229. DOI: 10.1037/0021-9010.67.2.219.

Jermier, J. M., & Kerr, S. (1997). "Substitutes for leadership: Their meaning and measurement" – Contextual recollections and current observations. *The Leadership Quarterly, 8,* 95-101. DOI: 10.1016/S1048-9843(97)90008-4.

Judge, T. A., & Piccolo, R. F. (2004). Transformational and transactional leadership: A meta-analytic test of their relative validity. *Journal of Applied Psychology, 89,* 755-768. DOI: 10.1037/0021-9010.89.5.755.

Jung, D. I., & Sosik, J. J. (2002). Transformational leadership in work groups: The role of empowerment, cohesiveness, and collective self-efficacy on perceived group performance. *Small Group Research, 33,* 313-336. DOI: 10.1177/10496402033003002.

Kahn, R. L., Wolfe, D. M., Quinn, R., Snoek, J. D., & Rosenthal, R. A. (1964). O*rganizational Stress.* New York: Wiley.

Kark, R., Shamir, B., & Chen, G. (2003). The two faces of transformational leadership: Empowerment and dependency. *Journal of Applied Psychology, 88,* 246-255. DOI: 10.1037/0021-9010.88.2.246.

Keller, T., & Dansereau, F. (1995). Leadership and empowerment: A social exchange perspective. *Human Relations, 48,* 127-146. DOI: 10.1177/001872679504800202.

Kerr, S., & Jermier, J. M. (1978). Substitutes for leadership: Their meaning and measurement. *Organizational Behavior and Human Performance, 22,* 375-403.

Kline, R. B. (Ed.) (2005). *Principles and Practice of Structural Equation Modeling* (2nd ed.). Guilford, New York.

Kovjanic, S., Schuh, S.C., Jonas, K., Van Quaquebeke, N., & Van Dick, R. (2012). How do transformational leaders foster positive employee outcomes? A self-determination-based analysis of employees' needs as mediating links. *Journal of Organizational Behavior, 33,* 1031-1052. DOI: 10.1002/job.1771.

Kovjanic, S., Schuh, S. C., & Jonas, K. (2013). Transformational leadership and performance: An

experimental investigation of the mediating effects of basic needs satisfaction and work engagement. *Journal of Occupational and Organizational Psychology, 86,* 543-555. DOI: 10.1111/joop.12022.

Krosnick, J. A. (1999). Survey research. *Annual Review of Psychology, 50,* 537-567. DOI:10.1146/annurev.psych.50.1.537.

Lagace, R. R., Catleberry, S. B., & Ridnour, R. E. (1993). An exploratory salesforce study of the relationship between leader-member exchange and motivation, role stress, and manager evaluation. *Journal of Applied Business Research, 9,* 110-119.

Latham, G. P., & Frayne, C. A. (1989). Self-management training for increasing job attendance: A follow-up and replication. *Journal of Applied Psychology, 74,* 411-416.

Le Blanc, P. (1994). *De steun van de leiding: Een onderzoek naar het leader member exchange model in de verpleging* [Supervisory support: A study on the leader member exchange model among nurses]. Amsterdam: Thesis Publishers.

LePine, N. P., Podsakoff, J. A., & LePine, M. A. (2005). Differential challenge stressor-hindrance stressor relationships with job attitudes, turnover intentions, turnover, and withdrawal behavior: A meta-analysis. *Journal of Applied Psychology, 92,* 438-454. DOI: 10.1037/0021-9010.92.2.438.

Liden, R. C., Sparrowe, R. T., & Wayne, S. J. (1997). Leader-member exchange theory: The past and potential for the future. In G. R. Ferris (Ed.), *Research in Personnel and Human Resources Management* (pp. 47-199). Elsevier Science/JAI Press; US.

Locke, E. A., & Latham, G. P. (Eds.) (1990). *A theory of goal setting and task performance.* Englewood Cliffs, NJ: Prentice Hall.

Lowe, K. B., Kroeck, K. G., & Sivasubramaniam, N. (1996). Effectiveness correlates of transformation and transactional leadership: A meta-analytic review of the MLQ literature. *The Leadership Quarterly, 7,* 385-425. DOI: 10.1016/S1048-9843%2896%2990027-2.

Maas, C. J. M., & Hox, J. J. (2005). Sufficient sample sizes for multilevel modeling methodology. *European Journal of Research Methods for the Behavioral and Social Sciences, 1,* 85-91. DOI: 10.1027/1614-2241.1.3.86.

MacCallum, R. C., Browne, M. W., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling. *Psychological Methods, 1,* 130-149. DOI: 10.1037/1082-989X.1.2.130.

Macey, W. H., Schneider, B., Barbera, K. M., & Young, S. A. (Eds.) (2009). *Employee engagement: Tools for analysis, practice, and competitive advantage.* New York: Blackwell Press.

Manz, C. C. (Ed.) (1983). *The art of self-leadership: Strategies for personal effectiveness in your life and work.* Englewood Cliffs, NJ: Prentice-Hall.

Manz, C. C. (1986). Self-leadership: Toward an expanded theory of self-influence processes in organizations. *Academy of Management Review, 11,* 585-600.

Manz, C. C., & Neck, C. P. (Ed.) (2004). *Mastering Self-Leadership: Empowering Yourself for Personal Excellence (3rd ed.),* Pearson Prentice-Hall, Upper Saddle River, NJ.

Manz, C. C., & Sims, H. P. (1980). Self-management as a substitute for leadership: A social learning theory perspective. *Academy of Management Review, 5,* 361-368. DOI: 0.5465/AMR.1980.4288845.

Manz, C. C., & Sims, H. P. (Ed.) (1991). *The new SuperLeadership.* San Fransisco, CA: Berrett-Koehler.

Markham, S. E., & Markham, I. S. (1995). Self-management and self-leadership reexamined: A levels of analysis perspective. *The Leadership Quarterly, 6,* 343-359.

Mathieu, J. E., Tannenbaum, S. I., & Salas, E. (1992). Influences of individual and situational characteristics on measures of training effectiveness. *Academy of Management Journal, 35,* 828-847.

Mok, M. (1995). Sample size requirements for 2-level designs in educational research. *Multilevel Modelling Newsletter, 7,* 11-15.

Mullen, J., Kelloway, E. K., & Teed, M. (2011). Inconsistent leadership style as a predictor of safety behavior. *Work & Stress, 25,* 41-54. DOI: 10.1080/02678373.2011.569200.

Mumford, M. D. (Ed.) (1998). Situations, interactions, and followers: The case of individualized leadership. *Leadership Quarterly, 11,* 320-327.

Murphy, S. E., & Ensher, E. A. (2001). The role of mentoring support and self-management strategies on reported career outcomes. *Journal of Career Development, 27,* 229-246. DOI: 10.1177/089484530102700401.

Muthén, B. O. (1994). Multilevel covariance structure analysis. *Sociological Methods and Research, 22,* 376–398. DOI: 10.1177/0049124194022003006.

Muthén, L. K., & Muthén, B. O. (2002). Mplus VERSION 2.12: Addendum to The Mplus Users's Guide, Muthén & Muthén, Los Angeles.

Muthén, L. K. & Muthén, B. O. (1998-2010). *Mplus User's Guide* (6th Ed.). Los Angeles, CA: Muthén & Muthén.

Neck, C. P., & Houghton, J. D. (2006). Two decades of self-leadership theory and research: Past developments, present trends, and future possibilities. *Journal of Managerial Psychology, 21,* 270-295. DOI 10.1108/02683940610663097.

Neck, C. P., & Manz, C. C. (1996). Thought self-leadership: The impact of mental strategies training on employee cognition, behavior, and affect. *Journal of Organizational Behavior, 17,* 445-467.

Nielsen, K., & Daniels, K. (2012). Does shared and differentiated transformational leadership predict followers' working conditions and well-being? *The Leadership Quarterly, 23,* 383-397. DOI: 10.1016/j.leaqua.2011.09.001.

Nielsen, K., Randall, R., Yarker, J., & Brenner, S. (2008). The effects of transformational leadership on followers' perceived work characteristics and psychological well-being: A longitudinal study. *Work & Stress, 22,* 16-32. DOI: 10.1080/02678370801979430.

Nielsen, K., Yarker, J., Brenner, S. O., Randall, R., & Borg, V. (2008). The importance of transformational leadership style for the well-being of employees working with older people. *Journal of Advanced Nursing, 63,* 465-475. DOI: 10.1111/j.1365-2648.2008.04701.x.

Northouse, P. G. (Ed.) (2012). *Leadership: Theory and practice.* Thousand Oaks, CA: Sage.

Nunnally, J. (Ed.) (1967). *Psychometric methods.* New York: McGraw Hill.

Ohly, S., Sonnentag, S., Niessen, C., & Zapf, D. (2010). Diary studies in organizational research: An introduction and some practical recommendations. *Journal of Personnel Psychology, 9,* 79-93. DOI: 10.1027/1866-5888/a000009.

Pearce, C. L., & Sims, H. P. (2002). Vertical versus shared leadership as predictors of the effectiveness of change management teams: An examination of aversive, directive, transactional, transformational, and empowering leader behaviors. *Group Dynamics: Theory, Research, and Practice, 6,* 172–197. DOI:10.1037/1089-2699.6.2.172.

Petrou, P., Demerouti, E., Peeters, M. C. W., Schaufeli, W. B., & Hetland, J. (2012). Crafting a job on a daily basis: Contextual correlates and the link to work engagement. *Journal of Organizational Behavior, 33,* 1120-1141. DOI: 10.1002/job.1783.

Piccolo, R. F., & Colquitt, J. A. (2006). Transformational leadership and job behaviors: The mediating role of core job characteristics. *Academy of Management Journal, 49,* 327-340.

Podsakoff, P. M., LePine, J. A., & LePine, M. A. (2007). Differential challenge stressor-hindrance stressor relationships with job attitudes, turnover intentions, turnover and withdrawal behavior: A meta-analysis. *Journal of Applied Psychology, 92,* 438-454. DOI: 10.1037/0021-9010.92.2.438.

Podsakoff, P. M., MacKenzie, S. B., Moorman, R. H., & Fetter, R. (1990). Transformational leader behaviors and their effect on followers' trust in leader, satisfaction and organizational citizenship behaviors. *The Leadership Quarterly, 1,* 107-142. DOI: 10.1016/1048-9843(90)90009-7.

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y. & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88,* 879-903. DOI: 10.1037/0021-9010.88.5.879.

Preacher, K. J., Zyphur, M. J., & Zhang, Z. (2010). A general multilevel SEM framework for assessing multilevel mediation. *Psychological Methods, 15,* 209-233. DOI: 10.1037/a0020141.

Prussia, G. E., Anderson, J. S., & Manz, C. C. (1998). Self-leadership and performance outcomes: The mediating influence of self-efficacy. *Journal of Organizational Behavior, 19,* 523-538.

Purvanova, R. K., Bono, J. E., & Dzieweczynski, J. (2006). Transformational leadership, job characteristics, and organizational citizenship performance. *Human Performance, 19,* 1-22. DOI: 10.1207/s15327043hup1901_1.

Raabe, B., Frese, M., & Beehr, T. A. (2007). Action regulation theory and career self management. *Journal of Vocational Behavior, 70,* 297-311. DOI: 10.1016/j.jvb.2006.10.005.

Saks, B. K., & Ashforth, A. M. (1996). Socialization tactics: Longitudinal effects of newcomer adjustment. *Academy of Management Journal, 39,* 149-178.

Salancik, G. R., & Pfeffer, J. (1978). A social information processing approach to job attitudes

and job design. *Administrative Science Quarterly, 23,* 224-253.
Scandura, T. A., Graen, G. B., & Novak, M. A. (1986). When managers decide not to decide autocratically: An investigation of leader-member exchange and decision latitude. *Journal of Applied Psychology, 71,* 579-584. DOI: 10.1037/0021-9010.71.4.579.
Scandura T. A., & Williams E. A. (2004). Mentoring and transformational leadership: The role of supervisory career mentoring. *Journal of Vocational Behavior, 65,* 448-468. DOI: 10.1016/j.jvb.2003.10.003.
Schaufeli, W. B., & Bakker, A. B. (2003). *Utrecht Work Engagement Scale: Preliminary Manual.* Department of Psychology, Utrecht University, The Netherlands (available from www.schaufeli.com).
Schaufeli, W. B., & Bakker, A. B. (2004). Work engagement: The measurement of a concept. *Gedrag en Organisatie, 17,* 89-112.
Schaufeli, W. B., & Bakker, A. B. (2010). Defining and measuring work engagement: Bringing clarity to the concept. In M.P. Leiter & A.B. Bakker (Eds.) (2010). *Work engagement: A handbook of essential theory and research* (pp. 10-24). New York: Psychology Press.
Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement, 66,* 701-716. DOI:10.1177/0013164405282471.
Schaufeli, W. B., Bakker, A. B., & Van Rhenen, W. (2009). How changes in job demands and resources predict burnout, work engagement, and sickness absenteeism. *Journal of Organizational Behavior, 30,* 893-917. DOI: 10.1002/job.595.
Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of burnout and engagement: A confirmatory factor analytic approach. *Journal of Happiness Studies, 3*, 71-92. DOI: 10.1023/A:1015630930326.
Schwartz, G. (1978). Estimating the dimension of a model. *Annals of Statistics, 6,* 461-464. DOI: 10.1214/aos/1176344136.
Schweizer, K. (2010). Some guidelines concerning the modeling of traits and abilities in test construction. *European Journal of Psychological Assessment, 26,* 1-2. DOI: 10.1027/1015-5759/a000001.
Seibert, S. E., Wang, G., & Courtright, S. H. (2011). Antecedents and consequences of psychological and team empowerment in organizations: A meta-analytic review. *Journal of Applied Psychology, 96,* 981-1003. DOI: 10.1037/a0022676.
Selig, J. P., & Preacher, K. J. (2008). Monte Carlo method for assessing mediation: An interactive tool for creating confidence intervals for indirect effects [Computer software]. Available from http://quantpsy.org/
Sheldon, K. M., & Elliot, A. J. (1998). Goal striving, need satisfaction, and longitudinal well-being: The self-concordance model. *Journal of Personality and Social Psychology, 76,* 482-497. DOI: 10.1037/0022-3514.76.3.482.
Sherony K. M., & Green, S. G. (2002). Coworker exchange: Relationships between coworkers, leader-member exchange, and work attitudes. *Journal of Applied Psychology, 87,* 542-548. DOI: 10.1037//0021-9010.87.3.542.
Shiffman, S. (2007). Designing protocols for ecological momentary assessment. In A.A. Stone, S. Shiffman, A. A. Atienza, & L. Nebeling (Eds.), *The sciences of real-time data capture: Self-reports in health research* (pp. 27-53). New York: Oxford University Press.
Simbula, S. (2010). Daily fluctuations in teachers' well-being: a diary study using the Job Demands-Resources model. *Anxiety, Stress, and Coping, 23,* 563-584. DOI: 10.1080/10615801003728273.
Skakon, J., Nielsen, K., Borg, V., & Guzman, J. (2010). Are leaders' well-being, behaviours and style associated with the affective well-being of their employees? A systematic review of three decades of research. *Work & Stress, 24,* 107-139. DOI: 10.1080/02678373.2010.495262.
Skogstad, A., Einarsen, S., Torsheim, T., & Aasland, M. S. (2007). The destructiveness of laissez-faire leadership. *Journal of Occupational Health Psychology, 12,* 80-92. DOI: 10.1037/1076-8998.12.1.80
Smircich, L., & Morgan, G. (1982). Leadership: The management of meaning. *Journal of Applied Behavioral Science, 18,* 257-273. DOI: 10.1177/002188638201800303.
Sonnentag, S. (2003). Recovery, work engagement, and proactive behavior: A new look at the interface between non-work and work. *Journal of Applied Psychology, 88,* 518-528. DOI: 10.1037/0021-9010.88.3.518.

Sonnentag, S., Dormann, C., & Demerouti, E. (2010). Not all days are equal: The concept of SWE. In M. P. Leiter & A. B. Bakker (Eds.) (2010). *Work engagement: A handbook of essential theory and research* (pp. 25-38). New York: Psychology Press.

Sosik, J. J., & Godshalk, V. M. (2000). Leadership styles, mentoring functions received, and job-related stress: A conceptual model and preliminary study. *Journal of Organizational Behavior, 21,* 365–390. DOI: 10.1002/%28SICI%291099-1379%28200006%2921:4%3C365::AID-JOB14%3E3.0.CO;2-H.

Sparrowe, R. T., & Liden, R. C. (1997). Process and structure in leader-member exchange. A*cademy of Management Review, 22,* 522-552.

Spector, P. E. (2006). Method variance in organizational research: Truth or urban legend?. *Organizational Research Methods, 9,* 221-232. DOI: 10.1177/1094428105284955.

Steward, G. L., Carson, K. P., & Cardy, R. L. (1996). The joint effects of conscientiousness and self-leadership training on employee self-directed behaviour in a service setting. *Personnel Psychology, 49,* 143-164. DOI: 10.1111/j.1744-6570.1996.tb01795.x.

Stewart, G. L., Courtright, S. H., & Manz, C. C. (2011). Self-leadership: A multilevel review. *Journal of Management, 37,* 185-222. DOI: 10.1177/0149206310383911.

Stuart, E. (2005). Veranderingsbereidheid door leiderschap. Is leiderschap de sleutel tot succesvol veranderen? Een onderzoek naar de invloed van de stijl van leidinggeven op de veranderingsbereidheid van docenten in het voortgezet onderwijs. [Willingness to change because of leadership. Is leadership the key to successful change? An investigation of the influence of leadership style on the willingness to change by teachers in secondary schools]. Unpublished doctoral dissertation. Vrije Universiteit van Amsterdam: The Netherlands.

Thomas, C. H., & Lankau, M. J. (2009). Preventing burnout: The effects of LMX and mentoring on socialization, role stress, and burnout. *Human Resource Management, 48,* 417-432. DOI: 10.1002/hrm.20288.

Tims, M., & Bakker, A. B. (2010). Job crafting: Towards a new model of job redesign. *South African Journal of Industrial Psychology, 36,* 1-9. DOI: 10.4102/sajip.v36i2.841.

Tims, M., Bakker, A. B., & Derks, D. (2012). Development and validation of the job crafting scale. *Journal of Vocational Behavior, 80,* 173-186. DOI:10.1016/j.jvb.2011.05.009.

Tims, M., Bakker, A. B., & Derks, D. (2013). The impact of job crafting on job demands, job resources, and well-being. *Journal of Occupational Health Psychology, 18,* 230-240. DOI: 10.1037/a0032141.

Tims, M., Bakker, A. B., & Xanthopoulou, D. (2011). Do transformational leaders enhance their followers' daily work engagement*? The Leadership Quarterly, 22,* 121-131. DOI: 10.1016/j.leaqua.2010.12.011.

Townsend, J., Da Silva, N., Mueller, L., Curtin, P., & Tetrick, L. (2002). Attributional complexity: A link between training, job complexity, decision latitude, leader-member exchange, and performance. *Journal of Applied Social Psychology, 32,* 207-221. DOI: 10.1111/j.1559-1816.2002.tb01427.x

Tuckey, M. R., Bakker, A. B., & Dollard, M. F. (2012). Empowering leaders optimize working conditions for engagement: A multilevel study. *Journal of Occupational Health Psychology, 17,* 15-27. DOI: 10.1037/a0025942.

Uhl-Bien, M., & Graen, G. B. (1998). Individual self-management: Analysis of professionals' self-managing activities in functional and cross-functional work teams. *Academy of Management Journal, 41,* 340-350. DOI: 10.2307/256912.

Van den Broeck, A., Vansteenkiste, M., De Witte, H., & Lens, W. (2008). Explaining the relationship between job characteristics, burnout, and engagement: The role of basic psychological need satisfaction. *Work & Stress, 22,* 277-294. DOI: 10.1080/02678370802393672.

Van den Broeck, A., Vansteenkiste, M., De Witte, H., Soenens, B., & Lens, W. (2010). Capturing autonomy, competence, and relatedness at work: Construction and initial validation of the Work-related Basic Need Satisfaction scale. *Journal of Occupational and Organizational Psychology, 83,* 981-1002. DOI: 10 1348/096317909X481382.

Van den Heuvel, M., Demerouti, E., & Bakker, A. B. (2013). How psychological resources facilitate adaptation to organizational change. *European Journal of Work and Organizational Psychology, 23*, 847-858. DOI: 10.1080/1359432X.2013.817057.

Van Dierendonck, D., Haynes, C., Borrill, C., & Stride, C. (2004). Leadership behavior and subordinate well-being. *Journal of Occupational Health Psychology, 9, 165-175.*

Vansteenkiste, M., & Ryan, R. M. (2013). On psychological growth and vulnerability: Basic psychological need satisfaction and frustration as a unifying principle. *Journal of Psychotherapy Integration, 23,* 263-280. DOI: 10.1037/a0032359.

Vasudevan, D. (1993). *Developing a model for predicting the career intentions of undergraduate engineering student*. Unpublished Ph.D. dissertation, Department of Management, University of Cincinnati.

Visser, P. S., Krosnick, J. A., & Lavrakas, P. J. (2000). Survey research. In H. T. Reis, & C. M. Judd (Eds.), *Handbook of research methods in social and personality psychology* (pp. 223-252). New York, US: Cambridge University Press.

Volmer, J., Niessen, C., Spurk, D., Linz, A., & Abele, A.E. (2011). Reciprocal relationships between leader-member exchange (LMX) and job satisfaction: A cross-lagged analysis. *Applied Psychology: An International Review, 60,* 522-545. DOI: 10.1111/j.1464-0597.2011.00446.x.

Wang, G., Oh, I. S., Courtright, S. H., & Colbert, A. E. (2011). Transformational leadership and performance across criteria and levels: A meta-analytic review of 25 years of research. *Group & Organization Management, 36,* 223-270. DOI: 10.1177/1059601111401017.

Williams, L. J., & Anderson, S. E. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *Journal of Management, 17,* 601-617.

Wofford, J. C., Whittington, J. L., & Goodwin, V. L. (2001). Follower motive patterns as situational moderators for transformational leadership effectiveness. *Journal of Managerial Issues, 13,* 196-211.

Woodman, R. W., Sawyer, J. E., & Griffin, R. W. (1993). Toward a theory of organizational creativity. *The Academy of Management Review, 18,* 293-321. DOI: 10.5465/AMR.1993.3997517.

Wrzesniewski, A., & Dutton, J. E. (2001). Crafting a job: Revisioning employees as active crafters of their work. *Academy of Management Review, 26,* 179-201. DOI: 10.2307/259118.

Xanthopoulou, D., & Bakker, A. B. (2012). Daily work engagement: The significance of within-person fluctuations. In A. B. Bakker & K. Daniels (Eds.), *A day in the life of a happy worker* (pp. 25-40). Hove Sussex: Psychology Press.

Xanthopoulou, D., Bakker, A. B., Demerouti, E. & Schaufeli, W. B. (2009a). Work engagement and financial returns: A diary study on the role of job and personal resources. *Journal of Organizational and Occupational Psychology, 82,* 183-200. DOI: 10.1348/096317908X285633.

Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2009b). Work engagement and financial returns: A diary study on the role of job and personal resources. *Journal of Occupational and Organizational Psychology*, *82*, 183–200. DOI: 10.1348/096317908X285633.

Xanthopoulou, D., Bakker, A. B., Heuven, E., Demerouti, E., & Schaufeli, W.B. (2008). Working in the sky: A diary study on work engagement among flight attendants. *Journal of Occupational Health Psychology, 13,* 345-356. DOI: 10.1037/1076-8998.13.4.345.

Yukl, G. (2010). *Leadership in organizations* (7th ed.). Englewood Cliffs, NJ: Prentice Hall.

Yun, S., Cox, J., & Sims, H. P. Jr (2006). "The forgotten follower: A contingency model of leadership and follower self-leadership". *Journal of Managerial Psychology, 21,* 374-388. DOI: 10.1108/02683940610663141.

Zacher, H., & Wilden, R. G. (2014). A daily diary study on ambidextrous leadership and self-reported employee innovation. *Journal of Occupational and Organizational Psychology, 87,* 813-820. DOI: 10.1111/joop.12070.

Zhu, W., Avolio, B. J., & Walumbwa, F. O. (2009). Moderating role of follower characteristics with transformational leadership and follower work engagement. *Group & Organization Management, 34,* 590-619. DOI: 10.1177/1059601108331242.

SAMENVATTING
SUMMARY
(in Dutch)

Leidinggevenden spelen een belangrijke rol in het dagelijkse leven van werknemers. Er wordt niet alleen van leidinggevenden verwacht dat ze hun werknemers aansturen, maar ze beïnvloeden ook hoe werknemers over hun werk denken en hoe goed werknemers hun werk uitvoeren (Skakon, Nielsen, Borg, & Guzman, 2010). Leidinggevenden hebben bijvoorbeeld een grote invloed op hoe tevreden werknemers zijn met hun werk, hoe uitgeput ze zijn en hoe gestrest ze zich voelen. Intuïtief hebben we allemaal wel een idee over wat leiderschap is, maar wat bedoelen we nu precies met leiderschap? Leiderschap is een proces (i.e., interactie tussen leider en volger) waarbij een individu (i.e., de leider) een groep individuen (i.e., de volgers) beïnvloedt om een gezamenlijk doel te bereiken (Northouse, 2012). Er wordt al jaren gezocht naar de meest effectieve leider. In eerste instantie hebben onderzoekers zich vooral gericht op welke persoonlijkheidskenmerken een effectieve leider zou moeten bezitten. Het bleek echter moeilijk om hier conclusies over te trekken en vanaf midden jaren 90 zijn onderzoekers daarom meer gaan kijken naar effectieve leiderschaps*gedragingen*. Uit dit onderzoek kwam naar voren dat leiderschapsgedrag in twee brede categorieën kan worden opgedeeld, namelijk taakgerichte gedragingen zoals het uiten van duidelijke verwachtingen omtrent prestatie, en persoonsgerichte gedragingen zoals rekening houden met de behoeften van volgers. Deze gedragingen zijn de basis geweest voor veel leiderschapsstijlen die we tegenwoordig kennen, zoals transformationeel (persoonsgericht) en transactioneel (taakgericht) leiderschap.

In de zoektocht naar de meest effectieve manier om leiding te geven hebben transformationele leiderschapsgedragingen de meeste aandacht gekregen. Voorbeelden van deze gedragingen zijn het inspireren van medewerkers met een optimistische toekomstvisie, het uitdagen van medewerkers om het werk eens op een andere manier te bekijken, en steun bieden aan medewerkers. Transformationele leiderschapsgedragingen zijn erg effectief. Zo presteren medewerkers van deze leidinggevenden beter en zijn ze meer tevreden met hun baan (zie voor meta-analyses Dumdum, Lowe, & Avolio, 2002; Wang, Courtright, & Colbert, 2011). Een belangrijke vraag die ik geprobeerd heb te beantwoorden in mijn proefschrift is *hoe* deze gedragingen ertoe leiden dat medewerkers gemotiveerder zijn en hun werk beter uitvoeren. Grip krijgen op deze onderliggende processen draagt bij aan de ontwikkeling van de theorie over transformationeel leiderschap en geeft ook aanknopingspunten voor het trainen en ontwikkelen van leidinggevenden.

Verder is het zo dat hoewel onderzoekers het erover eens zijn dat leidinggevenden verschillende soorten gedragingen gebruiken (zowel taak als persoon georiënteerd), leiderschapsgedrag nog steeds als relatief stabiel wordt behandeld in onderzoek. Toch is het niet moeilijk voor te stellen dat leidinggevenden meer inspireren wanneer zij bijvoorbeeld zelf bevlogen zijn in hun werk en wellicht minder inspireren wanneer zij een hoge werkdruk hebben. Daarom heb ik mij in dit proefschrift gefocust op de dynamische kant van leiderschap. Dit heb ik gedaan door te kijken naar fluctuaties in leiderschapsgedragingen en de invloed daarvan op medewerkers, en door meerdere leiderschapsgedragingen tegelijk te bestuderen. Als laatste heb ik de rol van medewerkers, ook wel volgers genoemd, in het leiderschapsproces onderzocht. Volgers worden vaak gezien als passieve ontvangers van leiderschap,

terwijl er is aangetoond dat leidinggevenden hun gedrag zelfs aanpassen aan hun volgers (Dvir & Shamir, 2003). Ook wordt het steeds gebruikelijker dat volgers niet altijd onder directe supervisie van hun leidinggevende werken. Volgers krijgen steeds meer flexibiliteit in waar en wanneer ze werken (Baarne, Houtkamp, & Knotter, 2010) en vanwege de toenemende complexiteit van het werk, wordt er ook steeds meer van medewerkers verwacht dat ze zelfstandig werken.

De specifieke onderzoeksvragen die de leidraad zijn geweest voor de onderzoeken in dit proefschrift zijn: (1) hoe beïnvloeden leidinggevenden de bevlogenheid en werkprestatie van hun medewerkers?; (2) fluctueert het gedrag van leidinggevenden en hoe beïnvloedt dit de bevlogenheid en werkprestatie van hun medewerkers?; en (3) is de invloed van het gedrag van leidinggevenden op de bevlogenheid van medewerkers afhankelijk van bepaalde kenmerken van de medewerker? Hieronder volgt een korte samenvatting van de belangrijkste bevindingen uit de onderzoeken beschreven in dit proefschrift aan de hand van de drie bovengenoemde onderzoeksvragen.

Hoe beïnvloeden leidinggevenden de bevlogenheid en werkprestatie van hun medewerkers?

Verschillende onderzoekers op het gebied van leiderschap gegeven aan dat hoewel de invloed van leidinggevenden op het gedrag van medewerkers veel is onderzocht, er weinig bekend is over de processen die aan deze invloed ten grondslag liggen. Wat doen leidinggevenden nu precies waardoor hun medewerkers bijvoorbeeld meer gemotiveerd raken en/of hun werk beter uitvoeren? Ik tracht met dit proefschrift een bijdrage te leveren aan het onderzoek naar leiderschap door te kijken hoe verschillende leiderschapsgedragingen tot gevolg hebben dat medewerkers meer bevlogen raken in hun werk en beter presteren op hun werk. Dit hebben we gedaan door te kijken naar de invloed van verschillende leiderschapsgedragingen op de werkomgeving en de vervulling van de basis behoeften van de medewerker.

In een onderzoek onder 950 politie agenten heb ik aangetoond dat medewerkers die aangaven een goede relatie te hebben met hun leidinggevende, ook aangaven dat ze hun kerntaken beter uitvoerden (zie **Hoofdstuk 2**). Deze bevinding is in lijn der verwachting als we kijken naar eerder onderzoek op dit gebied. Wat mijn onderzoek uniek maakt, is dat ik ook heb onderzocht waarom medewerkers die een goede relatie hebben met hun leidinggevende, hun werk beter uit voeren. Uit mijn onderzoek bleek dat medewerkers die een goede relatie hebben met hun leidinggevende, meer vrijheid krijgen over hoe en wanneer ze hun werk uitvoeren, meer ontwikkelingsmogelijkheden hebben en meer sociale steun ontvangen van hun collega's. De beschikbaarheid van deze hulpbronnen (autonomie, ontwikkelingsmogelijkheden en sociale steun) draagt bij aan de bevlogenheid van medewerkers, waardoor ze hun werk beter kunnen uitvoeren.

In **Hoofdstuk 3** beschrijf ik een onderzoek onder koppels bestaande uit één leidinggevende en één van zijn/haar medewerkers. In dit onderzoek liet ik zien dat medewerkers in een betere werkomgeving werken (dat wil zeggen, meer hulpbronnen beschikbaar hebben) wanneer hun leidinggevende inspirerend is, let op de individuele behoeften van medewerkers en medewerkers intellectuele

uitdaging biedt. Deze verbeterde werkomgeving zorgt er weer voor dat medewerkers meer bevlogen raken in hun werk en beter presteren, omdat hun basisbehoeften worden vervuld.

Samenvattend laten de onderzoeken uit **Hoofdstuk 2** en **3** zien hoe verschillende leiderschapsgedragingen bijdragen aan de bevlogenheid en prestatie van medewerkers. We kunnen concluderen dat het voordelig is voor medewerkers om een goede relatie te hebben met hun leidinggevende en om geïnspireerd te worden door de leidinggevende. Dit soort gedragingen zorgt namelijk voor een optimale werkomgeving (bv. meer vrijheid en feedback), wat motiverend werkt, waardoor medewerkers meer bevlogen raken in hun werk en beter presteren. Hoewel beide onderzoeken cross-sectioneel van aard zijn (dat wil zeggen dat alles op hetzelfde punt is gemeten), kunnen we voorzichtig concluderen dat de beschikbaarheid van hulpbronnen en de vervulling van basis behoeften verklaren waarom medewerkers meer bevlogen zijn in hun werk en beter presteren wanneer de leidinggevende bepaalde gedragingen vertoont. Hoewel dit niet wil zeggen dat leidinggevenden hun volgers niet op een andere manier beïnvloeden, lijkt het mechanisme dat wij voorstellen een veelbelovend mechanisme om de positieve uitkomsten van transformationeel leiderschapsgedrag te verklaren.

Fluctueert het gedrag van leidinggevenden en hoe beïnvloedt dit de bevlogenheid en de werkprestatie van hun medewerkers?

Onderzoek laat zien dat bevlogenheid in grote mate fluctueert (Xanthopoulou & Bakker, 2012). Dat wil zeggen dat iemand die over het algemeen bevlogen is in zijn of haar werk, meer of minder bevlogen kan zijn op een bepaald moment, afhankelijk van wat er die dag of die week gebeurt. Eén van de doelen van dit proefschrift was om te onderzoeken of deze fluctuaties verklaard kunnen worden door het gedrag van de leidinggevende. In andere woorden, kan het gedrag van de leidinggevende ervoor zorgen dat iemand meer of minder bevlogen is op een bepaalde dag of in een bepaalde week? In **hoofdstuk 4** heb ik eerst gekeken naar de psychometrische eigenschappen van de Utrechtse Bevlogenheid Schaal (UBES). Deze schaal is oorspronkelijk ontwikkeld om algemene bevlogenheid te meten, maar wordt vaak aangepast voor gebruik in dagboekonderzoek. Een belangrijke vraag is in hoeverre deze aangepaste vragenlijst dagelijkse bevlogenheid kan meten. Het kan bijvoorbeeld zo zijn dat er in de vragenlijst gevraagd wordt naar gedachten of gevoelens die niet iedere dag worden ervaren. De resultaten van het onderzoek beschreven in **Hoofdstuk 4** laten zien dat de aangepaste versie van de UBES een goed meetinstrument lijkt te zijn om dagelijkse bevlogenheid mee te meten. Echter bleek dat één van de items (“Toen ik deze morgen opstond, had ik zin om aan het werk te gaan”) uit de vragenlijst geen goede reflectie is van dagelijkse bevlogenheid en beter kan worden vervangen.

In **Hoofdstuk 5** gebruik ik een kwantitatief dagboekonderzoek om aan te tonen dat leiderschapsgedragingen van dag tot dag fluctueren en dat leidinggevenden zowel persoonsgerichte als taakgerichte gedragingen gebruiken op dezelfde dag. Bovendien laat ik in dit hoofdstuk zien dat medewerkers meer autonomie in hun werk hebben en meer steun van hun leidinggevende

ontvangen en daarom meer bevlogen zijn in hun werk, op de dagen dat hun leidinggevende goede prestatie beloont en transformationele leiderschapsgedragingen gebruikt. Op de dagen dat leidinggevenden actief gefocust waren op het voorkomen van fouten, hadden medewerkers minder beslissingsvrijheid over hoe ze hun werk uitvoerden, wat ervoor zorgde dat ze minder bevlogen waren in hun werk.

In **Hoofdstuk 7** heb ik wekelijkse schommelingen in transformationeel leiderschap onderzocht en de effecten daarvan op de bevlogenheid en de prestatie van medewerkers. In een steekproef van 57 koppels, bestaande uit één leidinggevende en één van zijn/haar medewerkers, liet ik zien dat de mate waarin leidinggevenden transformationele leiderschapsgedragingen vertonen in sterke mate afhangt van wat er gebeurt in een bepaalde week. In de weken dat leidinggevenden meer transformationeel leiderschap gebruikten, waren werknemers meer bevlogen in hun werk en ontvingen ze hogere prestatiebeoordelingen van hun leidinggevenden.

Uit deze hoofdstukken kan geconcludeerd worden dat leiderschapsgedragingen van dag tot dag en van week tot week fluctueren en dat leidinggevenden zelfs verschillende soorten gedragingen kunnen gebruiken op dezelfde dag (bv. focussen op het voorkomen van fouten en op de individuele behoeften van medewerkers). Deze gedragingen hebben verschillende effecten op de bevlogenheid van medewerkers, waarbij medewerkers meer bevlogen zijn wanneer hun leidinggevende meer transformationele leiderschapsgedragingen vertoont en medewerkers beloont wanneer ze hun werk goed doen. Dit kan verklaard worden doordat medewerkers zich op deze dagen in een optimale werkomgeving bevinden met veel hulpbronnen (bv. autonomie, feedback, ontwikkelingsmogelijkheden). Bovendien zijn medewerkers niet alleen meer bevlogen in hun werk in de weken dat hun leidinggevende meer transformationeel leiderschap gebruikt, maar presteren ze ook beter. Echter, op de dagen dat leidinggevenden actief focussen op het voorkomen van fouten, zijn medewerkers minder bevlogen in hun werk, omdat ze zich op deze dagen in een suboptimale werkomgeving bevinden (bv. minder autonomie in hun werk hebben). Deze bevindingen laten zien dat hoewel sommige leidinggevenden over het algemeen veel transformationele leiderschapsgedragingen vertonen, dezelfde leidinggevenden ook andere gedragingen vertonen. Dit roept vragen op over de term transformationeel leiderschap. Kunnen we echt zeggen dat iemand een transformationele leiderschapsstijl hanteert en hoe vormen verschillende leiderschapsgedragingen een leiderschapsstijl? Onze bevindingen doen vermoeden dat we beter kunnen spreken van leiderschapsgedrag in plaats van een leiderschapsstijl.

Is de invloed van het gedrag van leidinggevenden op de bevlogenheid van medewerkers afhankelijk van bepaalde kenmerken van de medewerker?

Het idee dat gedragingen van een leider wellicht effectiever zijn onder bepaalde omstandigheden is niet nieuw. Eén van de eerste leiderschapsbenaderingen richtte zich op de effectiviteit van leiderschap in specifieke situaties (Fiedler, 1978). Volgens deze benadering zou de effectiviteit van persoons- en taakgerichte leiderschapsgedragingen afhankelijk zijn van de situatie. Op een soortgelijke

manier stellen Kerr en Jermier (1978) dat de effectiviteit van leiderschapsgedragingen afhankelijk is van karakteristieken van de taak, de organisatie en de medewerkers. Zo zouden medewerkers met veel ervaring of vaardigheden minder beïnvloed worden door het gedrag van hun leidinggevende. Ondanks verschillende pogingen om de rol van medewerkers in het leiderschapsproces te onderzoeken, is er weinig duidelijkheid over welke rol medewerkers precies vervullen.

In **Hoofdstuk 3** en **Hoofdstuk 7** laat ik zien dat het belangrijk is om karakteristieken van medewerkers op te nemen in onderzoek naar de effectiviteit van leiderschapsgedragingen. In deze hoofdstukken laat ik namelijk zien dat de effectiviteit van transformationeel leiderschap afhankelijk is van de behoefte aan leiderschap van medewerkers. Specifiek vond ik dat transformationeel leidinggevenden niet konden voorzien in de basisbehoeften van medewerkers die weinig behoefte hebben aan leiderschap, terwijl medewerkers met veel behoefte aan leiderschap veel baat hebben bij een transformationeel leidinggevende (**Hoofdstuk 3**). In **Hoofdstuk 7** liet ik zien dat transformationele leiderschapsgedragingen een positievere invloed hadden op de bevlogenheid van medewerkers in de weken dat medewerkers een hoge behoefte hadden aan leiderschap.

Aangezien het steeds meer voorkomt dat medewerkers niet altijd onder directe supervisie werken, bijvoorbeeld wanneer medewerkers thuiswerken of onderdeel zijn van een zelfregulerend team, is het belangrijk om te onderzoeken wat medewerkers zelf kunnen doen om meer bevlogen te raken in hun werk. In lijn met eerder onderzoek laat ik in **Hoofdstuk 6** zien dat kraamverzorgenden meer bevlogen waren in hun werk op de dagen dat ze zichzelf meer aanstuurden (bv. doelen stelden en zich bewust waren van hun eigen gedrag). Op deze dagen kregen ze namelijk meer feedback uit hun werk, hadden ze meer mogelijkheden om zich te ontwikkelen en gebruikten ze verschillende vaardigheden. Op een soortgelijke manier laat ik in **Hoofdstuk 7** zien dat medewerkers meer bevlogen zijn in hun werk en hun werk beter uitvoeren in de weken dat ze zelfleiderschap gebruiken. Zelfleiderschap houdt in dat medewerkers hun aandacht richten op de belonende aspecten van een taak en op een constructieve manier nadenken over hun werk.

Concluderend laten deze bevindingen zien dat medewerkers een belangrijke rol spelen in het leiderschapsproces en niet alleen passieve ontvangers van leiderschap zijn. Zo zijn medewerkers bijvoorbeeld minder beïnvloedbaar door het gedrag van hun leidinggevende wanneer ze weinig behoefte hebben aan sturing door de leidinggevende. Bovendien kunnen medewerkers de effecten van leiderschap vervangen door het gebruiken van zelfsturing als ze geen contact hebben met hun leidinggevende. Medewerkers kunnen bijvoorbeeld specifieke en uitdagende doelen stellen om meer bevlogen te raken in hun werk en hun werk beter uit te voeren.

CONCLUSIE

Tezamen laten de onderzoeken in dit proefschrift zien dat leiderschap vele vormen kan aannemen en dat mensen variëren in de leiderschapsgedragingen die ze gebruiken. Leidinggevenden kunnen inspirerende leiderschapsgedragingen gebruiken, hun medewerkers aanmoedigen om hun werk op een andere manier te bekijken, als rolmodel optreden en hoge prestatieverwachtingen communiceren om de bevlogenheid en prestatie van hun medewerkers op een positieve manier te beïnvloeden. Door middel van deze gedragingen optimaliseren leidinggevenden de dagelijkse werkomgeving van hun volgers, wat ervoor zorgt dat medewerkers zich optimaal voelen omdat het tegemoet komt aan hun basisbehoeften aan autonomie, competentie, en verwantschap. Leidinggevenden kunnen ook een negatieve invloed hebben op hun medewerkers, door gedrag te vertonen wat een schadelijke invloed heeft op de werkomgeving (bv. focussen op mogelijk te maken fouten door medewerkers). Volgers kunnen ook de touwtjes in eigen handen nemen en een positieve werkomgeving creëren door het gebruik van zelfleiderschap strategieën zoals het belonen van goede prestatie en focussen op de motiverende aspecten van het werk.

PUBLICATIONS |

PUBLICATIONS

2014

Breevaart, K., Bakker, A. B., & Demerouti, E. (2014). Daily self-management and employee work engagement. *Journal of Vocational Behavior, 84,* 31–38. DOI: 10.1016/j.jvb.2013.11.002.

Breevaart, K., Bakker, A. B., Demerouti, E., & Van den Heuvel, M. (In press, 2014). Leader-member exchange, work engagement, and job performance. *Journal of Managerial Psychology*.

Breevaart, K., Bakker, A. B., Demerouti, E., Sleebos, D. M., & Maduro, V. (2014). Exploring the path from transformational leaders to follower job performance. *Journal of Personnel Psychology, 13,* 194-203. DOI: 10.1027/1866-5888/a000118.

Breevaart, K., Bakker, A. B., Hetland, J., Demerouti, E., Olsen, O. K., & Espevik, R. (2014). Daily transactional and transformational leadership and daily employee engagement. *Journal of Occupational and Organizational Psychology, 87,* 138–157. DOI: 10.1111/joop.12041.

Breevaart, K., Bakker, A. B., Hetland, H., & Hetland, J. (2014). The influence of constructive and destructive leadership behavior on followers' burnout. In M. P. Leiter, A. B. Bakker, & C. Maslach (Eds.), *Burnout at work: A psychological perspective* (pp. 102-121). Hove, Sussex: Psychology Press.

2013

Breevaart, K., & Bakker, A. B. (2013). How leaders influence their followers' work engagement. *European Work and Organizational Psychology in Practice, 5,* 31-35.

Petrou, P., Demerouti, E., & Breevaart, K. (2013). Job crafting als sleutel tot succesvolle organisatieverandering. *Gedrag & Organisatie, 26,* 32-45.

2012

Breevaart, K., & Bakker, A. B. (2012). The influence of job and parental strain on typically and atypically developing children: A vicious circle? *Community, Work and Family, 15,* 173-188. DOI: 1080/13668803.2011.609657.

Breevaart, K., & Bakker, A. B. (2012). Bevlogen medewerkers: De invloed van leidinggevenden. *Tijdschrift voor Coaching, 3,* 24-27.

Breevaart, K., Bakker, A. B., & Demerouti, E. (2012). Psychometrische eigenschappen van meetinstrumenten in dagboekonderzoek: Illustratie aan de hand van bevlogenheid. *Gedrag & Organisatie, 25,* 419-432.

Breevaart, K., Bakker, A. B., Demerouti, E., & Hetland, J. (2012). The measurement of state work engagement: A multilevel factor analytic study. *European Journal of Psychological Assessment, 28,* 305-312. DOI: 10.1027/1015-5759/a000111.

2011

Breevaart, K., & Bakker A. B. (2011). Working parents of children with behavioral problems: A study on the family-work interface. *Anxiety, Stress, and Coping, 24,* 239-253. DOI: 10.1080/10615806.2010.527958.

Breevaart, K., & Bakker, A. B. (2011). Dynamisch en gericht op het proces:

Dagboekonderzoek in organisaties. *Gids voor Personeelsmanagement, 10,* 32-35.

Submitted manuscript

Breevaart, K., Bakker, A. B., Demerouti, E., & Derks, D. (2014). Who takes the lead? A multi-source diary study on leadership, work engagement, and job performance.

CONFERENCE CONTRIBUTIONS

Presentations

Breevaart, K., Bakker, A. B., & Demerouti, E. (2014). *Who takes the lead? A multi-method diary study on work engagement and job performance.* European Academy of Work and Organizational Psychology (EAWOP) conference in Oslo.

Breevaart, K., Bakker, A. B., & Demerouti, E. (2014). *Self-management and employee engagement.* European Academy of Occupational Health Psychology (EAOHP) conference in Londen.

Breevaart, K., Bakker, A. B., Demerouti, E., Sleebos, D. M., & Maduro, V. (2014). *Why and when followers of transformational leaders perform their work better.* International Conference of Applied Psychology (ICAP) in Paris.

Breevaart, K., Bakker, A. B., Hetland, J., Demerouti, E., Olsen, O. K., & Espevik, R. (2013). *Daily leadership and follower work engagement.* Work, Stress, and Health (WSH) conference in Los Angeles.

Breevaart, K., Bakker, A. B., Hetland, J., Demerouti, E., Olsen, O. K., & Espevik, R. (2013). *Daily leadership and follower work engagement.* European Association of Work and Organizational Psychology (EAWOP) conference in *München*.

Breevaart, K., Bakker, A. B., & Demerouti, E. (2013). *Self-management and employee engagement.* Werkgemeenschap van onderzoekers in de Arbeids- & Organisatiepsychologie (WAOP) conference in Eindhoven.

Breevaart, K., Bakker, A. B., & Demerouti, E. (2013). *Daily self-management and daily employee engagement.* Graduate Research Day (GRD), Institute of Psychology, Erasmus University Rotterdam, in Rotterdam.

Breevaart, K., Bakker, A. B., Hetland, J., Demerouti, E., Olsen, O. K., & Espevik, R. (2012). *From transformational leadership to follower job performance.* Werkgemeenschap van onderzoekers in de Arbeids- & Organisatiepsychologie (WAOP) conference in Groningen.

Breevaart, K., Bakker, A. B., Hetland, J., Demerouti, E., Olsen, O. K., & Espevik, R. (2012). *How leader influence followers' work engagement.* Graduate Research Day (GRD), Institute of Psychology, Erasmus University Rotterdam, in Rotterdam.

Breevaart, K., Bakker, A. B., Demerouti, E., & Van den Heuvel, M. (2011). *The role of leader-member exchange relationships in the Job Demands-Resources model: Testing a sequential mediation model.* European Association of Work and Organizational Psychology (EAWOP) conference in Maastricht.

Breevaart, K., Bakker, A. B., Demerouti, E., & Van den Heuvel, M. (2011).

Leader-member exchange and employee engagement. Werkgemeenschap van onderzoekers in de Arbeids- & Organisatiepsychologie (WAOP) conference in Tilburg.

Breevaart, K., Bakker, A. B., Demerouti, E., & Van den Heuvel, M. (2011). *The role of leader-member exchange relationships in the Job Demands-Resources model: Testing a sequential mediation model.* Graduate Research Day (GRD), Institute of Psychology, Erasmus University Rotterdam, in Rotterdam.

Breevaart, K., Bakker, A. B., Demerouti, E., & Hetland, J. (2010). *The measurement of state work engagement: A multilevel factor analytic study.* Werkgemeenschap van onderzoekers in de Arbeids- & Organisatiepsychologie (WAOP) conference in Brussels.

Breevaart, K., Bakker, A. B., Demerouti, E., & Hetland, J. (2010). *The measurement of state work engagement: A multilevel factor analytic study.* Graduate Research Day (GRD), Institute of Psychology, Erasmus University Rotterdam, in Rotterdam.

Symposium

Breevaart, K. (2014). *It takes two to tango: Followers as active agents in the leadership process.* European Academy of Work and Organizational Psychology (EAWOP) conference in Oslo.

ABOUT THE AUTHOR

Kimberley Breevaart was born on June 2, 1987 in Rotterdam (the Netherlands). After graduating at the 'Farel College' in Ridderkerk in 2005, she studied Psychology at the Erasmus University Rotterdam. In 2008, she started working as a student assistant and she obtained her Master's degree in Work and Organizational Psychology cum laude in 2009.

In December 2009, Kimberley started her PhD project at the department of Work and Organizational Psychology at the Erasmus University Rotterdam, which resulted in the studies presented in this dissertation. During her PhD project, she spend some time at the University of Bergen in Norway, where she collaborated with researchers on a book chapter on leadership and burnout, and on one of the articles from this dissertation. In her final year, she participated in the European Academy of Work and Organizational Psychology Early Career Summer School, where she and her teammates were awarded the "Best team research project" award. Also in this year, she was awarded the "Graduate school award for PhD excellence: Best article 2014" for her paper on daily self-management and employee work engagement.

In December 2013, she started her current job as Assistant Professor at the Erasmus University Rotterdam.

DANKWOORD

Op het moment dat je bij je dankwoord bent aangekomen weet je dat het er echt bijna op zit en dat is een heerlijk gevoel. Ik wil iedereen die, op wat voor manier dan ook, heeft bijgedragen aan mijn proefschrift, daar hartelijk voor bedanken.

Arnold, jouw bevlogenheid voor onderzoek werkt aanstekelijk! Bedankt dat je me de kans hebt gegeven om me als onderzoekster te ontwikkelen. Tijdens een overleg met jou verdwenen al mijn zorgen en gaf je me altijd nieuwe energie om verder te gaan. Ik heb ontzettend veel van je geleerd en ik hoop dat we nog lang samen blijven werken. Eva, ondanks de begeleiding op afstand was je altijd betrokken en gaf je me regelmatig nieuwe stof tot nadenken. Bedankt voor je geduld en waardevolle feedback!

Zonder deelnemers geen proefschrift, dus ook jullie verdienen een bedankje. Het was niet altijd makkelijk om jullie te vinden of te overtuigen om mee te doen, maar het is gelukt! Dominique, Donna, Suzanne en Véronique, bedankt voor jullie hulp bij de dataverzameling. Jullie hebben mij een hoop frustraties bespaard.

Ik wil iedereen van ArboVitale bedanken die het project gedragen heeft en draagvlak heeft gecreëerd. Speciale dank gaat uit naar de projectgroep (Arnold, Gaby, Gijsbert, Lia, Peter, Rommert, Wilmar, en Wim) voor de prettige samenwerking en de gezamenlijke strijd om het project “aan de man te krijgen”.

De leden van de promotiecommissie; Daan, Henk, Marise, Pascale, en Tinka, bedankt dat jullie met mij van gedachten willen wisselen over mijn proefschrift. Hilde, thank you for coming all this way to take part in the committee for my thesis defense.

My colleagues from the University of Bergen, especially Jørn and Hilde, tusen takk for your hospitality, the opportunity to work with you on several projects, and for taking such good care of me during my time in Bergen.

De mannen van het lab en de dames van het secretariaat, bedankt voor jullie ondersteuning. Speciale dank gaat uit naar Freek, voor je geduld en alle uren die je in mijn vragenlijsten hebt gestoken.

De afgelopen vier jaar heb ik ook het belang van fijne collega’s mogen ervaren, bedankt dat ik altijd voor van alles en nog wat bij jullie binnen kon lopen. Een speciaal bedankje gaat uit naar mijn A&O collega’s, mijn mede aio’s (voor alle gezellige etentjes en congresbezoeken), en mijn T12 collega’s.

Jan, Martine en Nicole, ik zie ons nog voor me op die bewuste dag in december 2009. Ik heb een hoop van jullie geleerd, bijvoorbeeld dat carnaval vieren best leuk is, dat aardbeien plukken moeilijker is dan je denkt, en dat dubbele punten in titels echt niet kunnen (helaas is het me niet altijd gelukt om ze te vermijden). Wat hebben we het leuk gehad, bedankt daarvoor!

Mijn kamergenoten over de jaren heen, Martine, Jan, Charly, Marieke, en Mario, bedankt voor alle gezelligheid! Martine, soms kom je iemand tegen met wie je een speciale band opbouwt die ook buiten het werk standhoudt. Wat hebben we een hoop meegemaakt! Van uitjes organiseren tot spontane middagjes strand (die ook wel eens in het water vielen) en deuren dicht momentjes, ik had het niet willen missen.

Pap en mam, bedankt dat jullie me altijd vrij hebben gelaten in mijn keuzes. Ik prijs me ontzettend gelukkig dat ik uit zo'n warm nest kom en ik hoop dat we nog heel lang van elkaar mogen genieten.

Mikie, jouw nuchterheid ("waarom zou je binnen zitten leren als je ook buiten kan zijn?") houdt me met beide benen op de grond. Bedankt dat je mijn paranimf wil zijn, ik ben trots op je! Rachelle, bedankt dat je zo goed voor mijn broertje zorgt.

Ank, Ed en Frank, bedankt dat jullie Daan met me willen delen.

Verder wil ik al mijn lieve vrienden bedanken, jullie geven kleur aan mijn leven. Patricia en Marlies, we kennen elkaar al zo lang en raken nooit uitgepraat. Jullie vriendschap is me heel dierbaar. Fabiënne, je bent de belichaming van gezelligheid en je maakt me altijd aan het lachen. Ik ben blij dat we elkaar weer gevonden hebben! Jan en Marielle, hoe leuk is het dat we zo dichtbij wonen en zoveel leuke dingen doen samen! Van samen ontbijten tot samen op vakantie, ik vind het altijd gezellig.

Dani, leven met jou is één groot feest. Jij maakt dat ik me elke dag weer speciaal voel en ik kan niet wachten op wat de toekomst voor ons in petto heeft. Bedankt dat je me gelukkig maakt!