Work engagement as a key for unlocking performance:

An investigation across different organizational levels

by

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a Thesis submitted in partial fulfillment
of the requirements for the degree of

Doctor of Philosophy
in Business Administration
(Double Doctoral Agreement between Jacobs University and VU University Amsterdam)

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Date of Defense: 06.03.2018

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SUMMARY

Since people spend around one third of their day at work, the question of which factors enhance their well-being and their motivation at work is an important one. Moreover, organizations have to face several challenges, such as a quickly changing global economic market, digitalization, and continuous need for innovation (Cascio & Montealegre, 2016; Frese, 2008; Leibold & Voelpel, 2006). This means that employees are needed who want and can deploy their competences and capacities. Work engagement is a construct that is an asset for both employees and organizations. As such, it is related to several positive outcomes, such as employees' well-being (Schaufeli & Bakker, 2010), commitment (Halbesleben, 2010), individual performance, and reduced turnover intentions (Gutermann, Lehmann-Willenbrock, Boer, Born, & Voelpel, 2017). Accordingly, work engagement is often regarded as a competitive advantage for organizations (Gruman & Saks, 2011), resulting in attention from both researchers and practitioners (Schaufeli & Bakker, 2010).The question that arises is how work engagement can be fostered in organizations. Related to this question, this dissertation tackles four overarching scientific challenges: conceptualizing and analyzing work engagement at different organizational levels (challenge 1), accounting for the role of leadership as a driver for employee engagement (challenge 2), providing a measure of behavior-focused engagement that bridges scientific and practical needs (challenge 3), and illuminating causal relationships between work engagement and performance (challenge 4).

These challenges are addressed by means of four empirical field studies, most of which were conducted in close collaboration with organizational practice, using large-scale samples of up to $n = 31,590$ employees. The studies span a range of analytical methods, including multilevel path modeling and cross-lagged panel analysis. Every study addresses one or more of the four challenges mentioned above. After a brief introduction which lays out

the research questions and theoretical challenges (chapter 1), chapters 2-5 present four empirical studies at different organizational levels, concluding with a general discussion in chapter 6.

In chapter 2, the role of toxic and ethical leadership on work engagement and exhaustion via leader-member exchange (LMX) is analyzed. Previous research mostly focused on positive leadership styles (e.g., Breevaart et al., 2014). This study expands this knowledge by investigating the effects of destructive leadership on employees' well-being. 311 employees working in different professions were surveyed and the data were analyzed by path analyses in MPlus. Following the idea that bad leadership might have stronger effects than good leadership, the study indeed revealed that the negative effect of toxic leadership on engagement is stronger than the positive effect of ethical leadership. Additionally, LMX, which describes the relationship between leader and employee, was uncovered as an underlying mediator of this relationship. Further, it was investigated which employee characteristics may buffer the negative effect of destructive leadership on LMX. Results showed that employees' need for autonomy moderates the relationship between toxic leadership and LMX in such a way that this relationship was less strong for employees with a high need for autonomy.

In chapter 3, the question was raised whether leaders' work engagement can be transferred to followers' work engagement via LMX and whether LMX is related to individual performance and reduced turnover intentions. Accordingly, 511 employees nested in 88 teams were surveyed using a multi-source data design. By applying multilevel path analyses in MPlus, it was found that leaders' work engagement was indeed positively related to followers' work engagement, highlighting LMX as an underlying process. Previous research had focused on crossover processes between spouses (e.g., Demerouti, Bakker, & Schaufeli, 2005) and among team members (e.g., Bakker, Van Emmerik, & Euwema, 2006;

Lehmann-Willenbrock, Meyers, Kauffeld, Neininger, & Henschel, 2011). The present study was able to extend these previous findings to engagement transference between leaders and followers.

In chapter 4, an assessment method to measure behavioral engagement is introduced, the Engagement-Index (ENG-I). The ENG-I aims to bridge scientific and practical needs. In the literature there are two prominent definitions of work engagement. One of this describes work engagement in a behavioral way (Kahn, 1990), whereas the other one focuses on work engagement as an attitude (Peccei, 2013; Schaufeli, Salanova, Gonzalez-Roma, & Bakker, 2002). This dissertation applies both definitions. However, since especially for practitioners, behavioral engagement is regarded as more important for organizational functioning than is attitudinal engagement (Harter, Schmidt, & Hayes, 2002; Peccei, 2013) the study addresses this concern by introducing the ENG-I. As such, the development and validation of the ENG-I is shown, using data from four samples of a German Service Organization at four measurement points ($n = 1,432$; $n = 31,590$; $n = 30,956$; $n = 29,917$). The ENG-I showed good psychometric properties.

In chapter 5, the term *organizational engagement* is introduced. This term describes collective engagement at the organizational level. Previous studies called for research that sheds light on the causal link between work engagement and performance at the organizational level (Barrick, Thurgood, Smith, & Courtright, 2015; Harter et al., 2002; Salanova, Agut, & Peiró, 2005). This study therefore addresses this call by testing causal relationships between organizational engagement and objective organizational performance measures by means of a time-lagged research design. To this end, data of 29,997 employees at time 1 and 27,472 employees at time 2 who worked for 156 organizations were analyzed. By applying cross-lagged path modeling in MPlus, it could be confirmed that organizational engagement indeed predicted organizational performance.

In all four empirical chapters, theoretical and practical implications are discussed. Additionally, the theoretical implications of the overarching four challenges are discussed in the general discussion in chapter 6. Finally, practical implications, possible limitations and future research directions that derive from my findings are presented.

CHAPTER 1

GENERAL INTRODUCTION

When I'm engaged, I feel connected and feel like I'm doing something that matters; I'm making a difference, even if in a small way. It's a choice, really, to be that 'into' my job – I wasn't always this way and I'm not always 100% into this mode. (Byrne, 2015: p.1, Interview 45).

Work is an essential part of our daily lives. The question of which factors foster well-being at work therefore is an important one. People spend around one third of their day at work and have to face several challenges during that time. As such, they have to continuously adapt to a quickly changing work environment, which is, for example, caused by digitalization. Employees need to be flexible and broaden their knowledge during their whole work life. These challenging demands require energy and the willingness and ability to use all one`s capacities. Employees who are highly engaged in their work are enthusiastic about their job, feel energetic (Schaufeli, Bakker & Salanova, 2006), and simultaneously feel well (Schaufeli & Bakker, 2010). Additionally, work engagement is also related to individual and organizational performance (Gutermann et al., 2017; Harter et al., 2002), which makes it a relevant topic for both employees and organizations.

Work engagement is described as a motivational state that is related to many positive outcomes, such as commitment, performance, organizational citizenship behavior, and employees' well-being (Halbesleben, 2010; Halbesleben & Wheeler, 2008). There are even authors who describe work engagement as work-related well-being and emphasize its negative relationship with burnout (Bakker, Schaufeli, Leiter, & Taris, 2008). Engaged employees work enthusiastically, passionately, with persistence, and are full of energy (Byrne, 2015). Accordingly, it is not surprising that both research and practice regard engagement as a valuable construct, and that a lot of attention has been given to it during the

last years. The scientific interest on engagement has brought expanding research publications (Schaufeli & Bakker, 2010). Comparing research investment on work engagement around ten years ago to the present efforts shows that research interest has grown enormously. For example, as of October 2017, the term *work engagement* yielded 2,990,000 hits in Google Scholar, compared to an earlier report in 2008 of 21,400 hits.

This amazing increase of studies on work engagement may be explained by the expanding stream of studies in the domain of positive psychology. Instead of concentrating on negative states of workers and on work-related diseases, the positive psychology research tradition started paying more attention to studying positive states, human strength, and optimal functioning (Maslach, Schaufeli & Leiter, 2001; Seligman & Csikszentmihalyi, 2000). Work engagement is a construct that fits the idea of positive psychology to focus on positive states rather than on negative ones.

As work engagement is an asset for both employees and organizations, this dissertation aims to investigate work engagement at different levels in organizations. As such, this dissertation refers to work engagement at the individual (chapter 2), the team level (chapter 3), and the organizational level (chapter 5). Because social influences are important within the work setting, the role of constructive and destructive leadership, namely ethical leadership, toxic leadership, leader-member exchange, and leaders' work engagement itself are looked into as possible levers for employees' engagement (chapters 2 and 3). As there is no consensus on the way behavioral work engagement is assessed within organizations, this dissertation describes the introduction of a new engagement measure - the Engagement-Index (ENG-I) - to assess behavioral engagement in organizations (chapter 4). Finally, concerning outcomes of engagement, this dissertation focuses on individual and organizational performance (chapters 3 and 5). Accordingly, this dissertation aims to tackle four challenges: First, the investigation of work engagement at different organizational levels; second,

leadership as a possible lever for engagement; third, a new assessment device to measure behavioral engagement within organizations; and fourth, the relationship of work engagement with individual and organizational performance.

THE CONCEPT OF WORK ENGAGEMENT

In the academic literature, there are two important and popular definitions of work engagement, which emphasize different aspects of the construct. Kahn (1990) was the first author who conceptualized work engagement. He described it as a behavior at work where people bring in their personal selves. Accordingly, engaged employees are able to "employ and express themselves physically, cognitively, and emotionally during role performance" (Kahn, 1990, p.694). Disengagement, on the other hand, is defined by him as "the uncoupling of selves from work roles; in disengagement, people withdraw and defend themselves physically, cognitively, or emotionally during role performances" (Kahn, 1990, p.694). In sum, according to this definition, engagement means that a person is fully expressing him or herself and is psychologically present during the performance of his or her work role (Kahn 1990).

Another approach was developed by Schaufeli, Salanova, Gonzalez-Roma, and Bakker (2002). According to their definition, work engagement is defined as "a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" (Schaufeli et al., 2002, p.74). *Vigor* is described by a high level of energy and mental resilience during work, the intention to invest effort in one`s work, and endurance even if one has to face difficulties (Schaufeli et al., 2002). *Dedication* is defined as having a sense of significance, enthusiasm, inspiration, pride, and challenge concerning one's work (Schaufeli et al., 2002). Finally, *absorption* is characterized by workers being fully

concentrated and engrossed in their work. For employees with a high score on absorption, time passes quickly while working (Schaufeli et al., 2002).

Peccei (2013) describes a distinction between both definitions in terms of two broader categories: Attitudinal (state) work engagement (Schaufeli et al., 2002) and behavioral work engagement (Kahn, 1990). According to Peccei (2013), Kahn's definition (1990) can be regarded as a behavioral approach, whereas Schaufeli and colleague's approach is better represented as an attitudinal approach. This dissertation focuses on both behavioral and attitudinal engagement. As attitudinal engagement may be regarded as an individual construct, this dissertation refers to the definition by Schaufeli and colleagues (2002) in chapters 2 and 3 because in those chapters the individual and dyadic level of engagement is analyzed. Additionally, chapters 4 and 5 focus on engaged behavior in organizations and at the organizational level. As engaged behavior aligns with behavioral outcomes such as organizational performance (e.g., Halbesleben, 2010; Harter et al., 2002), these chapters are based on Kahn's (1990) definition. Accordingly, this dissertation aims to investigate work engagement at different organizational levels.

CHALLENGE 1: WORK ENGAGEMENT AT DIFFERENT ORGANIZATIONAL LEVELS

Despite several calls for studies on work engagement at other than the individual level (e.g., Bakker & Demerouti, 2016), only a few studies have focused at the team, unit, or organizational level until now. Since studies revealed that work engagement is an important predictor for performance in organizations, it is thinkable that work engagement next to an individual level construct, is also a unit- or organizational-level construct (Little & Little, 2006). According to multilevel theory, constructs may arise at the higher level, such as the team, unit, or organizational level, because people interact with each other, communicate

their moods and emotions, and watch each other's' behavior (Kozlowski & Klein, 2000) which may result in collective states or moods (Gutermann et al., 2017).

Most studies on work engagement have focused on the individual level, predicting engagement by the components of the Job Demands-Resources model (J D-R model; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). The J D-R model explains that job resources are the main predictors of work engagement, whereas job demands are the main predictors of exhaustion. Job demands are defined as physical, psychological, social, or organizational facets of the job that require permanent physical or psychological effort, and are for that reason related to physiological or psychological costs (Demerouti et al., 2001). In other words, job demands are situations or circumstances that employees experience as demanding, such as time pressure, difficult customers, or work overload (Bakker, 2017; Bakker & Demerouti, 2016). The JD-R model describes that demands lead to a health-impairment process, which may result in employees' exhaustion (Demerouti et al., 2001). On the other hand, there are job resources that are defined as physical, psychological, social, or organizational facets of the work that stimulate personal growth, learning, and development, or are functional for achieving work goals and reduce demands (Demerouti et al., 2001). Job resources are, for example, a good team climate, a supportive supervisor, or performance feedback that leads to a motivational path, all resulting in work engagement (Bakker, 2017; Bakker & Demerouti, 2016). However, research has shown that the interplay of demands and resources have an effect on engagement and exhaustion as well. Previous studies have shown that job resources can buffer the effect of job demands, which means that employees with many job resources can better cope with their job demands (Bakker, 2017; Bakker, Demerouti, & Euwema, 2005). Furthermore, job resources are more strongly related to work engagement when job demands are high (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007; Hakanen, Bakker, & Demerouti, 2005). In other words, this means that employees'

work engagement may be fostered while employees have challenging work tasks and demanding customers, if they have a resourceful work environment, for instance when they are supported by their colleagues and supervisor (Bakker, 2017).

Only a few studies have focused at the team level (e.g., Bakker et al., 2006; Tuckey, Bakker, & Dollard, 2012). One study of 2,229 Dutch employees nested in 85 teams revealed that team-level burnout and work engagement are related to individual burnout and engagement when controlling for employees' job demands and resources (Bakker et al., 2006). Furthermore, Tuckey and colleagues (2012) found among a sample of 540 Australian firefighters and their respective supervisors ($n = 68$) that empowering leaders have a positive influence on followers' work engagement via creating a good work environment.

With a few exceptions, research on work engagement at the organizational level has been sparse until now, which is a considerable gap because employee engagement is often considered at the organizational level in practice (Harter et al., 2002). One possible reason for the little research at that level may be that it is very difficult to collect appropriate data and analyze psychological constructs at that level because psychological research often focuses on attitudes, behaviors, and emotions of individuals. However, research at higher levels would be an asset for engagement research, especially for addressing needs in practice. As research and practice on engagement seem to be drifting apart, research on organizational engagement would be an important step to approaching this problem (Bailey, 2016; Wefald & Downey, 2009). To our knowledge, only two studies have investigated work engagement at the unit-level up to now (Harter et al., 2002; Salanova et al., 2005). Salanova and colleagues (2005) analyzed 114 work units of Spanish hotel front desks and restaurants, by assessing data of $n = 342$ employees and $n = 1,140$ customers. The authors did not survey whole units, but collected information from three employees from every unit, and found that unit-level work engagement positively related to customer satisfaction. Service climate

mediated this relationship. A meta-analysis of a sample of 7,939 business units of 36 companies showed a relationship between unit-level engagement and business outcomes ($r = .26$; Harter et al., 2002).

To the best of our knowledge, there is only one study that has analyzed work engagement at the organizational level (Barrick et al., 2015). The authors investigated sub-samples of 83 US credit unions and found a relationship between collective engagement of these sub-samples and organizational performance ($r = .28$). However, this study assessed collective engagement by referring to a referent-shift model, implying that when surveying a sub-sample the reference of "my coworkers and I" instead of "I" was used when respondents answered to the survey-items. All three studies on unit or organizational level concluded that time-lagged research is needed in order to analyze causality issues concerning unit or organizational engagement and its relation to performance (Barrick et al., 2015; Harter et al., 2002; Salanova et al., 2005).

As multilevel research provides a better understanding of psychological phenomena that happen within organizations, as mentioned, authors call for engagement research at different organizational levels (Bakker, 2017; Bakker & Demerouti, 2016). This dissertation aims to address this issue. Accordingly, this dissertation investigates work engagement at the individual (Chapter 2), the team (Chapter 3), and the organizational level (Chapter 4). In doing so, the influence of constructive and destructive leadership styles on engagement at the individual level (Chapter 2), the role of leaders' work engagement in subordinates' work engagement within teams (Chapter 3), and finally the role of organizational engagement for organizational performance in a cross-lagged design at the organizational level (Chapter 4) are analyzed.

CHALLENGE 2: LEADERSHIP AND WORK ENGAGEMENT

As already described above, most studies on work engagement have focused on the job demands-resources model in order to search for its predictors (e.g., Bakker & Demerouti, 2016; Hakanen, Perhoniemi, & Toppinen-Tanner, 2008; Simbula, 2010). One way to understand levers that promote employee well-being and engagement in the workplace, is to focus on the role of social influences (Van Dierendonck, Haynes, Borrill, & Stride, 2004) such as leadership. Social settings can be supportive but can also be stressful. This dissertation therefore aims to focus on the role of positive and negative leadership styles on work engagement.

A few studies have started to focus on leadership and engagement (e.g., Breevaart et al., 2014; Breevaart, Bakker, Demerouti, & Derks, 2016). For example, Breevaart and colleagues (e.g., Breevaart et al., 2014; Breevaart et al., 2016) focused on the role of daily transformational leadership on work engagement. Transformational leadership includes leader behavior that fosters employees striving to achieve organizational goals that go beyond their own interests (e.g., Yukl, 2013). Diary study findings by Breevaart and colleagues (2014) among Dutch employees showed that transformational leadership was positively related to followers' work engagement. The authors explained these findings by stating that transformational leaders create a favorable work environment for their followers; in other words, they provide more job resources (Breevaart et al., 2014).

Another study among 847 Dutch police officers revealed that leader-member exchange (LMX) was positively related to work engagement via job resources (Breevaart, Bakker, Demerouti, & Van den Heuvel, 2015). As such, employees who have a good relationship with their supervisor report more job resources that, in turn, are related to more employees' work engagement (Breevaart et al., 2015).

This dissertation aims to expand the knowledge domain on leadership and work engagement by analyzing the role of a) leaders' work engagement itself (Chapter 3), b) by contrasting the role of a positive and a negative leadership style on work engagement, namely ethical leadership (Chapter 2), and toxic leadership (Chapter 2), and finally c) by investigating leader-member exchange (LMX) as a mediator between leaders' work engagement and leadership styles, such as toxic and ethical leadership (Chapter 2 and 3). As such, this dissertation aims to extend the existing research on leadership and work engagement.

CHALLENGE 3: BRIDGING THE SCIENCE-PRACTICE DIVIDE IN ASSESSING ORGANIZATIONAL ENGAGEMENT

Most scientific approaches that assess work engagement have focused on the measurement of attitudinal engagement. As Peccei (2013) has differentiated between behavioral and attitudinal engagement, and as practitioners are interested in engaged behavior, it would be an asset to develop an instrument that assesses behavioral engagement. A well-known instrument to assess work engagement in academia is the Utrecht Work Engagement Scale, UWES (e.g., Schaufeli et al., 2002; Schaufeli, Bakker, & Salanova, 2006). This scale consists of three subscales, measuring vigor, dedication, and absorption. In order to make the UWES more efficient, the authors reduced the original version of 17 items to nine items, with three items belonging to each subscale (Schaufeli et al., 2006). Although attitudinal engagement can be assessed with the UWES, to date the scientific literature has less to offer for practitioners and researchers who would like to assess behavioral instead of attitudinal engagement. As there is a lack of an accepted and validated instrument that assesses behavioral engagement, there is not much research done on behavioral engagement (Peccei, 2013).

Next to the academic interest in work engagement, practitioners and consultancy firms are also interested in the construct, and consequently have developed several of their own approaches in order to assess work engagement in organizations (Wefald & Downey, 2009). An example of this is the Gallup Q-12 that assesses engagement with twelve items (Harter et al., 2012). In comparison with many other instruments used in practice, the Gallup Q-12 is, to the best of our knowledge, the only practitioner measure that has been published in academic journals (e.g., Harter et al., 2012). However, the scale is often criticized, for example because it seems to measure the antecedents of work engagement instead of engagement itself (Schaufeli & Bakker, 2010).

As research and practice on work engagement seem to move further apart (Bailey, in press), focusing on behavioral engagement in line with Kahn's (1990) definition instead of attitudinal engagement may be a promising way to make research and practice move closer again. Furthermore, such a focus may bring more consistency in the assessment of work engagement because practice is often more interested in assessing behavioral engagement as engaged behavior is regarded as more important for organizational functioning than engaged attitudes (Harter et al., 2002). A consequence of this interest is that practitioners often develop their own approaches, which may not be scientifically validated.

In order to address these concerns, this dissertation aims to introduce a new engagement measure, the Engagement Index (ENG-I), that meets both scientific needs such as sufficient validity and reliability of the measure, and practical requirements, such as acceptability and practicality (Chapter 4). The ENG-I has passed through an extensive development process in a research-practice collaboration. It was developed by an interdisciplinary focus group of researchers, management staff, employees, work council representatives, and survey experts in the collaborating organization. This focus group first developed 90 items that were subsequently reduced to 19 items belonging to 5 sub-facets by

considering psychometric and practical requirements. The ENG-I was validated in four German samples by assessing it once per year after a pretest ($n = 1,432$; $n = 31,590$; $n = 30,956$; $n = 29,917$). The results show that the ENG-I is a valid measure that meets scientific and practical requirements.

CHALLENGE 4: WORK ENGAGEMENT AS A PREDICTOR FOR EMPLOYEE AND ORGANIZATIONAL PERFORMANCE

One reason why consultants, practitioners, and researchers are interested in the concept of work engagement is its relevance for performance. Researchers have argued that work engagement implies a competitive advantage for organizations (e.g., Harter et al., 2002; Vance, 2006). Highly engaged employees work vigorously, are dedicated, and will focus on accomplishing organizational goals (Macey, Schneider, Barbera, & Young, 2009; Schaufeli et al., 2002), which makes it likely that they will also perform well.

Bakker (2009) named several reasons to expect a positive link between employee engagement and performance. First, one reason may be that employees who are engaged will experience positive emotions (Bakker, 2009). Second, as work engagement is related to good health (Bakker, 2009; Schaufeli, Taris, & Van Rhenen, 2008), it is conceivable that engaged employees are better able to perform their job. A recent study among 763 Dutch employees showed that engaged workaholics had more resources than non-engaged workaholics and that work engagement protects employees who work for long hours from health risks (Ten Brummelhuis, Rothbard, & Uhrich, 2016). Third, engaged employees are able to create their own job resources (Bakker, 2009). Tims, Bakker, and Derks (2012) label the process in which employees augment their own job resources and reduce their job demands as job crafting, which may be positively related to performance. Finally, Bakker (2009) described crossover processes as another reason why work engagement may be related to performance.

Crossover processes are defined as the transference of positive and/or negative states, attitudes, and behavior from one individual to another (Westman, 2001).

Especially the last explanation may be regarded as an invitation to explore engagement and its link to performance at higher organizational levels. Previous studies have linked work engagement to performance at the individual level. These studies uncovered positive relationships between these variables, with correlations ranging from $r = .18$ to $r = .34$ (e.g., Breevaart, Bakker, Demerouti, Sleebos, & Maduro, 2014; Breevaart et al., 2015; Halbesleben & Wheeler, 2008). Performance at the individual level is just one way to regard performance in organizations, as performance can also be measured at the unit or organizational level. Practitioners are often interested in the fostering of engagement at the unit or organizational level, which, in turn, may relate to unit- or organizational performance (e.g., Harter et al., 2002; Macey et al., 2009).

There is only one study we know of that has investigated work engagement at the organizational level until now (Barrick et al., 2015). By analyzing a sub-sample of 83 US credit unions, these authors found a relationship between collective engagement and organizational performance ($r = .28$). Additionally, there are two studies that focused on work engagement and performance at the unit level (Harter et al., 2002; Salanova et al., 2005). Salanova and colleagues (2005) found among a Spanish sample of 342 employees nested in 114 work units of hotel front desks and restaurants and 1,140 customers that unit-level work engagement was positively related to customer satisfaction via service climate ($r =$ between .07 and .18). Furthermore, a meta-analysis in a sample of 7,939 business units of 36 companies showed a relationship between unit-level engagement and unit-level business outcomes ($r = .26$; Harter et al., 2002).

However, all three previous studies noted that longitudinal research is needed in order to shed light on causality issues between organizational engagement and performance. This

call is addressed in chapter 5 by introducing the term of organizational engagement and by investigating its relationship to organizational performance in a cross-lagged research design. Furthermore, chapter 3 analyzes the outcome of individual performance in the context of leader-follower crossover of engagement.

DISSERTATION OUTLINE

This dissertation includes four empirical chapters in which four independent empirical studies on work engagement are described. The dissertation finishes with a general discussion. In all four empirical chapters, field studies are described that were mostly generated in close collaboration with practice. As these studies have been developed in collaboration with my supervisors, my committee members, and representatives from practice, I apply the term "we" instead of "I" during the next chapters in order to also refer to these collaborators.

First, following the notion that bad factors will have a stronger effect than good factors (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001), in chapter 2 we investigated the role of toxic and ethical leadership on work engagement and exhaustion, highlighting the role of leader-member exchange as an underlying process. Toxic leadership refers to leaders being malcontent, malevolent, and even malicious and as having selfish values (Whicker, 1996) whereas ethical leaders are seen as persons that make fair and principled decisions, care about people and live their professional and personal live in an ethical manner (Brown & Treviño, 2006). Additionally, we looked into employees' need for autonomy as a possible moderator. By surveying 311 employees that work in different professions in Germany and analyzing data collected from this sample by means of path analyses in MPlus, we found that there was a positive relationship between ethical leadership and work engagement and a negative relationship of ethical leadership and exhaustion, whereas for toxic leadership, the

opposite was the case. Furthermore, we found that LMX mediates these relationships and that employees' need for autonomy is a boundary condition of the relationship between toxic leadership and LMX. The latter finding, more specifically, implied that the negative relationship between toxic leadership and LMX appeared to be less strong for employees with a high need for autonomy.

In chapter 3, we studied how leaders' work engagement can be transferred to followers' engagement by highlighting LMX as a mediator of this process. Subsequently we tested whether, in this context, individual engagement, in its turn, was related to individual performance and turnover intentions. Accordingly, in a multi-source design in which supervisors and employees provided data, we surveyed 511 employees nested in 88 teams of a large German service organization. We applied multilevel path analysis in MPlus in order to test the expectations described above. We found that leaders' work engagement was indeed related to their followers' work engagement, with LMX mediating this process.

In chapter 4, we introduce an engagement measure that aims to endorse scientific needs, such as validity and reliability of the measure, but also practical need, such as its acceptability, and practicality. For this purpose, we introduce the Engagement-Index (ENG-I) and describe its development and validation among four samples of a German Service Organization at four measurement points ($n = 1,432$; $n = 31,590$; $n = 30,956$; $n = 29,917$). The ENG-I appeared to show good psychometric properties, and has been applied in the collaborating organization since 2013 due to its favorable acceptance and practicality.

Finally, in chapter 5, we introduce the term of organizational engagement and show that it relates to objective organizational performance measures. Our sample consisted of 29,997 German employees at time 1 and 27,472 employees at time 2 that belong to 156 organizations. Using cross-lagged path modeling in MPlus, we were able to show that organizational engagement was causally related to organizational performance.

Theoretical and practical implications of all our study are discussed within each chapter. Furthermore, the overarching findings and conclusions are discussed in the general discussion in chapter 6. Figure 1.1 illustrates an overview of the main constructs integrated in this dissertation.
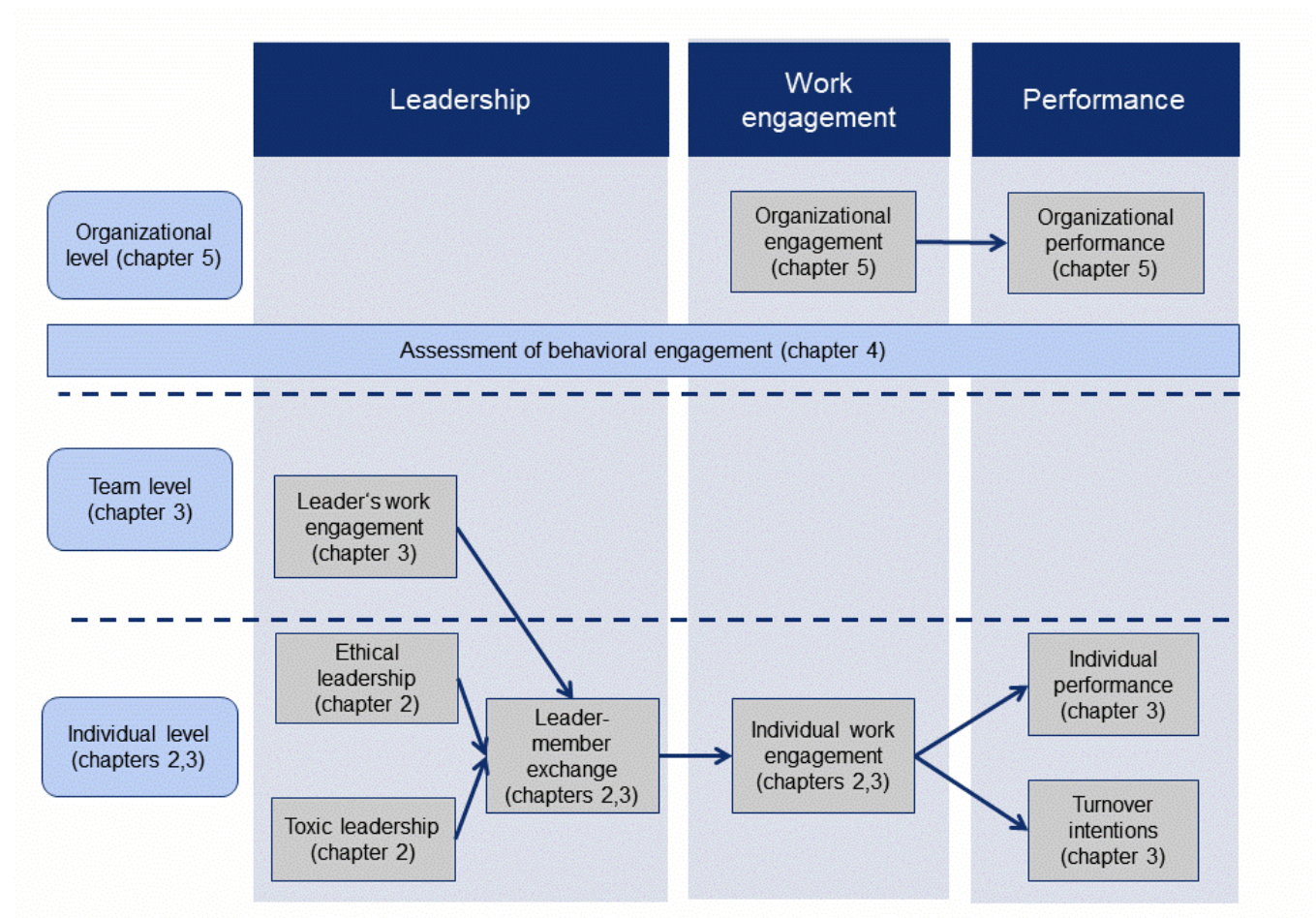
Figure 1.1. Overview of the main constructs integrated in the overall research framework of this thesis

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CHAPTER 2

BAD IS STRONGER THAN GOOD? BUT FOR WHOM? THE EFFECTS OF DESTRUCTIVE AND CONSTRUCTIVE LEADERSHIP STYLES ON WORK ENGAGEMENT AND EXHAUSTION[*]

ABSTRACT

Previous work has focused on the role of constructive leadership styles for employee work engagement and exhaustion. We contribute to this literature by investigating the effects on ethical leadership. Moreover, as for many psychological phenomena bad is stronger than good, we examine the relationship of unethical leader behavior, such as perceived toxic leadership, on engagement and exhaustion, highlighting the role of leader-member exchange (LMX) as an underlying process as well as employees' need for autonomy as a potential boundary condition. For this purpose, we surveyed 311 employees in different professions and tested our model using path analyses in Mplus. As hypothesized, we found that ethical leadership was positively related to work engagement and negatively related to exhaustion, whereas the opposite was the case for toxic leadership. The negative effect of toxic leadership showed to be stronger than the positive effect of ethical leadership. In both cases, these relationships were mediated by LMX. Additionally, we found that employees' need for autonomy moderated the negative relationship between toxic leadership and LMX, such that this relationship was weaker for employees with a high need for autonomy. Our study contributes to the engagement and leadership literature by shedding light on the effects of ethical and toxic leadership and by emphasizing the influence of employee traits such as need for autonomy in this context. In terms of practical implications, our study shows that organizations should foster ethical leadership and prevent toxic leadership in order to enhance, maintain, and support employee well-being.

INTRODUCTION

People spend around one third of their day at work. Therefore the question what factors influence their well-being at work is an important one. Work engagement and exhaustion are two concepts that are highly related to employee well-being (Schaufeli & Bakker, 2010). On the positive side, employees who are highly engaged with their work are enthusiastic about their job and feel energetic (Schaufeli, Bakker & Salanova, 2006). On the negative side, exhaustion can be defined as feeling overextended by one's job demands (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Maslach, 1982). Next to employee well-being, work engagement is also related to individual and organizational performance, which makes it a relevant topic for both employees and organizations (Gutermann, Lehmann-Willenbrock, Boer, Born, & Voelpel, 2017; Harter, Schmidt, & Hayes, 2002). To understand ways to promote employee well-being in the workplace, scholars have pointed to the important role of social influences (e.g., Van Dierendonck, Haynes, Borrill, & Stride, 2004). Social settings in the workplace can be supportive but can also be a source of stress (Van Dierendonck et al., 2004). In this paper, we particularly focus on the role of different leadership styles for promoting or impairing employee well-being, in terms of employee engagement and exhaustion.

When examining the effects of leadership on employee outcomes, most previous research has focused on positive leadership styles such as transformational leadership (e.g., Bass, 1985), authentic leadership (e.g., Walumbwa, Avolio, Gardner, Wernsing, & Peterson, 2008), or empowering leadership (e.g., Arnold, Arad, Rhoades, & Drasgow, 2000). Research about leadership has mainly been working on to uncover the most effective person or leadership styles (Schyns & Schillling, 2013). In line with this research tradition, we examine the role of ethical leadership for employee engagement and exhaustion. Ethical leaders are regarded as persons who care about other people and the broader society, who aim to make

fair decisions, and who try to live their own professional and personal live in an ethical way (Brown & Treviño, 2006). As such, they aim to influence their followers in an ethical way, are honest, caring, and are seen as role models for their ethical behavior (Brown & Treviño, 2006). Previous literature has described that ethical leaders foster their employees' motivation and effort, because ethical leaders let employees experience their jobs as meaningful (Piccolo, Greenbaum, Den Hartog, & Folger, 2010). As such, we expect a similar mechanism to play for its influence on employees' work engagement.

However, moving away from the traditional focus on positive leadership influence, a relatively new stream of research has started to focus on the "dark side of leadership", namely unethical or destructive leadership (e.g., Breevaart, Bakker, Hetland, & Hetland, 2014; Park et al., 2017; Schyns & Schilling, 2013). Schyns and Schilling (2013) name two main reasons for the increased scholarly attention to destructive leadership. Destructive leadership refers to leadership styles which effect employees in a negative way, such as for example toxic leadership (Schmidt, 2008). First, studies report a high prevalence of destructive leadership in contemporary organizations. Prevalence estimates range between 11% (Hubert & Van Veldhoven, 2001) in a Dutch study, to 13.6% in a study among U.S. workers (Tepper, 2007). In a Norwegian study, a third of the surveyed employees reported that they suffered under a destructive leader (Aasland, Skogstad, Notelaers, Nielsen, & Einarsen, 2010). Destructive leadership can result in employee absenteeism, employee turnover, and lower performance. Tepper, Duffy, Henle, and Lambert (2006) estimate a cost of annually 23.8 billion Dollar for US-companies. A second reason for the increased interest in destructive leadership concerns findings regarding its outcomes. Studies have linked destructive leadership to negative employee outcomes such as deviant work behavior (e.g., Duffy, Ganster, & Pagon, 2002), turnover intentions, lowered job satisfaction (e.g., Teppper, 2000), and lowered individual performance (e.g., Schyns & Schilling, 2013). We intend to contribute to this literature by

empirically investigating how a destructive leadership style relates to employee engagement and exhaustion.

In a comprehensive review across a broad range of psychological phenomena, Baumeister, Bratslavsky, Finkenauer, and Vohs (2001) concluded that bad is stronger than good. In other words, it is easier to destroy something than to build something up. The current study extends this idea to the issue of toxic leadership, contrasting it to ethical leadership in the context of employee engagement and exhaustion. Toxic leaders are leaders who act self-interested, lack empathy for others, and have a super-elevated opinion of their own importance (Schmidt, 2008). Moreover, we investigate how the relationships between good and bad—or ethical and toxic—leadership on the one hand and employee engagement and exhaustion on the other hand can be explained by LMX as a mediating mechanism.

Additionally, we aim to investigate which employee trait might buffer against negative leadership styles, in terms of helping them cope with destructive leadership. Specifically, we analyze the role of employees' need for autonomy in the context of toxic leadership and its impact on employee well-being. As autonomous persons do not rely that much on the opinions of others (Steers & Braunstein, 1976), we expect that employees high in autonomy do not suffer that much under a toxic leader as employees with low autonomy do.

In sum, this study offers the following contributions. First, our study connects the dots between leadership and engagement research by analyzing destructive (toxic) and constructive (ethical) leadership as predictors for employees' work engagement. Since previous studies have focused on the Job Demands-Resources Model (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007) or positive leadership styles, such as transformational leadership (Breevaart et al. 2014a), we aim to expand knowledge on the effect of destructive leadership on work engagement by contrasting it to positive, namely ethical leadership.

Second, we aim to shed light on the underlying process of this relationship. As such, we focus on LMX as a possible explanation of the relationships described above. Finally, we aim to analyze possible buffering effects for toxic leadership. To this end we investigate the moderating role of employees' need for autonomy. We discuss theoretical implications for leadership and engagement research as well as practical implications that can be derived from our findings.

THEORETICAL BACKGROUND

Work engagement and exhaustion in the workplace

There are two popular definitions on engagement that emphasize the construct either as a psychological state (Schaufeli, Salanova, Gonzalez-Roma, & Bakker, 2002) or as a behavior (Kahn, 1990). In terms of engagement as a behavioral construct, Kahn (1990) initially defined engagement as employees' who invest themselves physically, emotionally, and cognitively in their work roles. Similarly, Rich, Lepine, and Crawford (2010, p. 619) describe behavioral engagement in terms of "investing the 'hands, head and heart' in active, full work performance". In terms of engagement as a psychological state, Schaufeli and colleagues (2002) define engagement as a positive, fulfilling, work-related state of mind that consists of the three sub-facets vigor, dedication, and absorption. Vigor means that employees work with a high amount of energy and are simultaneously energized by their work. Dedication is characterized by employees who identify with their work, have a sense of significance, and are proud of the job they do (Schaufeli et al., 2002). Finally, absorption means that employees have the feeling that time passes quickly while they are working, while being focused and engrossed in the job they do (Schaufeli et al., 2002).

As discussed by Peccei (2013), the two definitions emphasize different nuances of engagement, namely behavioral engagement, which is represented by the definition of Kahn,

and attitudinal engagement, which is best represented by the definition of Schaufeli and colleagues (2002) and is typically assessed with the Utrecht Work Engagement Scale (UWES; Schaufeli et al., 2006). We appreciate and agree with this differentiation. We argue that attitudinal engagement is a good way to operationalize the construct at the individual level, which offers researchers insights into internal states and attitudes of employees' engagement (Breevaart, Bakker, Demerouti, & Hetland, 2012), whereas behavioral engagement can be a fruitful operationalization for engagement at higher levels in organizations, such as the unit and organizational level, especially in settings in which behavioral engagement should be assessed and fostered in practitioners' settings (e.g. Harter et al., 2002). In this study, we focus on attitudinal engagement, since we are interested in the influence of constructive and destructive leadership styles on employees' states and attitudes.

Several studies have showed that work engagement is related to valuable outcomes, such as performance, commitment, and reduced turnover intentions at the individual level (Breevaart, Bakker, Demerouti, & Van den Heuvel, 2015; Gutermann et al., 2017; Halbesleben, 2010) and organizational performance at the unit or organizational level (Gutermann, Lehmann-Willenbrock, Born, & Voelpel, 2016; Harter et al., 2002). As such, engagement offers an important competitive advantage for organizations. Moreover, engaged employees feel well, energetic, and maintain a healthy work-life balance (Sonnentag, Binnewies, & Mojza, 2010). In sum, work engagement is a desirable state for organizations and employees alike.

In contrast to work engagement, exhaustion is an undesirable state for employees and organizations (Breevaart et al., 2014b). Exhaustion can be defined as employees feeling overextended and exhausted by their job demands (Demerouti et al., 2001; Maslach, 1982). Next to depersonalization and reduced personal accomplishment, exhaustion is a core facet of burnout (Maslach, 1982). Because exhausted employees do not have their full energy to

fulfill their work tasks, exhaustion is related to decreased performance (Halbesleben & Buckley, 2004). Additionally, exhausted employees have a lack of adaptive resources and the feeling that they cannot energize in their work (Halbesleben & Buckley, 2004). Furthermore, in the long run, exhaustion can lead to health problems, absenteeism, and reduced performance (Halbesleben & Buckley, 2004; Schaufeli & Taris, 2014).

Early research on work engagement regarded the concept as an antipode of burnout (Maslach, Schaufeli, & Leiter, 2001). Later until today however, both concepts are found to be negatively related that should be assessed with different measurements (Schaufeli et al., 2002). As such they are not regarded as direct opposites anymore (Schaufeli et al., 2002).

Taken together, whereas engagement is a valuable construct that should be fostered within organizations as it is related to a broad range of positive outcomes, exhaustion should be prevented and diminished. In order to shed light on how this may be realized in organizations, we aim to investigate the impact of constructive and destructive leadership styles on engagement and exhaustion. Exhaustion is a response to work stress (Halbesleben & Buckley, 2004) or job demands (Bakker & Demerouti, 2007; Demerouti et al., 2001), while work engagement is often regarded as an outcome of job resources (Bakker & Demerouti, 2008).

The relationship between leadership and engagement and exhaustion

There is a large amount of studies on leadership and a considerable range of different leadership theories. However, in order to capture these different conceptualizations, is important to structure and cluster these different approaches (Breevaart et al., 2014b; Yukl, 2013). Most previous studies have focused on positive leadership behaviors and theories (e.g., transformational leadership, charismatic leadership) and how these positive behaviors may be related to positive outcomes such as employees' self-efficacy (Shamir, House, & Arthur, 1993), leaders' performance (Deinert, Homan, Boer, Voelpel, & Gutermann, 2015),

or identification at work (Horstmeier, Boer, Homan, & Voelpel, 2016). In contrast, a relatively recent stream of research has started to focus on destructive leadership, showing that negative leadership practices are frequent and can be quite burdensome for employees (Bardes & Piccolo, 2010; Breevaart et al., 2014b; Judge, Piccolo, & Kosalka, 2009; Schyns & Schilling, 2013). We aim to build on and extend these two research streams by contrasting a constructive leadership style (ethical leadership) with a destructive leadership style (toxic leadership) and showing their relationship with both positive (work engagement) and negative employee outcomes (exhaustion) via leader-member-exchange.

Ethical leadership

Ethical leaders are seen as persons who make fair and principled decisions, care about people and broader society and live their professional and personal live in an ethical manner (Brown & Treviño, 2006). Ethical leadership means that leaders do not just behave ethically by themselves, but also try to proactively influence their followers' ethical and unethical behavior by making ethics a part of their leadership agenda (Brown & Treviño, 2006). Brown and Treviño (2006) describe ethical leaders as honest and caring persons who aim to make fair and balanced decisions, and are seen as role models for ethical behavior. Ethical leadership has been shown to be related to subordinates' affective trust, satisfaction with the leader, and willingness to exert extra effort in the job (Brown & Treviño, 2006).

Previous research has shown that ethical leadership can meaningfully influence followers' attitudes and behaviors (e.g., Den Hartog & Belschak, 2012; Gerpott, Van Quaquebeke, Schlamp, & Voelpel, in press; Piccolo et al., 2010). Ethical leadership can be regarded as value driven leadership by affecting followers' self-concept and beliefs which in turn affect their attitudes, behaviors, and motivations (Den Hartog & Belschak, 2012; Shamir, House, & Arthur, 1993). The effect of ethical leadership has often been described by the core tenets of social learning theory, such that leaders act as role models for their followers

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(Brown, Treviño, & Harrison, 2005). According to social learning theory (Bandura, 1977, 1986), learning occurs when persons pay attention to and impersonate the attitudes, values and behaviors of attractive and reliable role models. Ethical leaders can be seen as such role models since they behave in a credible and honest way, and demonstrate care and concern about their employees (Brown & Treviño, 2006). Another facet of social learning theory is vicarious learning, which may also happen in the ethical leadership process, since employees observe how an ethical leader reinforces ethical behavior of their colleagues (Brown & Treviño, 2006).

According to Piccolo and colleagues (2010), an ethical leader lets employees experience their jobs as meaningful, which leads to higher motivation, effort, and productive behavior. Den Hartog and Belschak (2012) found that work engagement mediated the relationship between ethical leadership, personal initiative and counterproductive work behavior. This relationship was further moderated by machiavellianism, such that the link between ethical leadership and engagement was weaker when leaders scored high on machiavellianism (Den Hartog & Belschak, 2012). Furthermore, Chughtai, Byrne, and Flood (2015) found that ethical leadership was negatively related to exhaustion.

In our study we tie in these thoughts and findings, and investigate the relationship of ethical leadership on work engagement and exhaustion. Since work engagement is described as a motivational state of mind, we expect that ethical leadership, which includes honesty and fairness, may foster employees' work engagement. Since honest, fair, and caring leaders may form an important resource in the work context buffering negative effects of job demands (Demerouti et al., 2001), we expect that ethical leadership is negatively related to exhaustion. Put formally, we expect that

H1: Ethical leadership is a) positively related to work engagement and b) negatively related to exhaustion.

Toxic leadership

Toxic leadership was first defined by Whicker (1996) who described toxic leaders as being malcontent, malevolent, and even malicious and as having selfish values. More recently, other researchers had different approaches to toxic leadership (e.g., Lipman-Blumen, 2006; Reed, 2004; Wilson-Starks, 2003). Schmidt (2008) summarized and described the similarities of these previous approaches as follows. First, toxic leaders neglect the well-being of their subordinates. They may make subordinates responsible for things beyond their control or give them tasks which cause them to work harder (Schmidt, 2008). Second, Schmidt (2008) states that toxic leaders tend to stifle their employees in order to have employees who comply rather than question actions or think critically. This may result in a climate in which obedient 'yes-saying' people are rewarded. Third, toxic leadership has a narcissist component, as toxic leaders have a need to be viewed in a glamorous light by others in combination with the wish to enhance their own self-image. Accordingly, toxic leaders are self-interested, lack empathy for others, and have a super-elevated opinion of their own importance (Schmidt, 2008).

Whereas empirical findings regarding the effects of toxic leadership are still somewhat sparse, findings regarding destructive leadership more broadly suggest several negative linkages. In their meta-analysis of a sample of 57 studies, Schyns and Schilling (2013) found destructive leadership to be negatively related to positive employee outcomes such as well-being, and positively related to negative employee outcomes such as counterproductive work behaviors. We expect to find a similar pattern for toxic leadership and employee well-being outcomes.

Previous research suggests that toxic leadership is related to poor employee health (Dyck & Roithmayr, 2001), higher absenteeism (Macklem, 2005), and lower performance (Wilsons-Starks, 2003). In a survey study among 104 Indian employees, Mehta and Maheshwari (2013)

found that toxic leadership was negatively related to organizational commitment. Since commitment and engagement are closely related constructs (Den Hartog & Belschak, 2012) we extrapolate from this previous finding the expectation to find related results for work engagement.

In sum, since toxic leaders neglect the well-being of their employees, make them responsible for mistakes they are not responsible for, and tend to stifle their employees (e.g., Schmidt, 2008), we expect that toxic leadership is negatively related to work engagement and positively related to exhaustion. Toxic leaders will create a negative atmosphere among their employees, are mostly focused on themselves, and are motivated by self-interests, which should impair their followers' motivation, well-being, and engagement (e.g., Mehta & Maheshwari, 2013; Wilson-Starks, 2003). Accordingly, we hypothesize the following:

H2: Toxic leadership is a) negatively related to work engagement and b) positively related to exhaustion.

Leader-member exchange

To explain why ethical leadership should be beneficial, and toxic leadership should be harmful in the context of employee well-being, we focus on leader-member exchange as an underlying process mechanism. Leader-member exchange (LMX) describes the relationship between leaders and their followers, which can vary in quality between leader-follower dyads (Gerstner & Day, 1997; Graen & Uhl-Bien, 1995). Low-quality LMX is characterized as formally agreed upon economic exchange, for instance aswritten down in the employment contract (Blau, 1964). High-quality LMX, on the other hand, is based on a social exchange rather than on an economic relationship (Dulebohn, Bommer, Liden, Brouer, & Ferris, 2012). Accordingly, a good LMX entails trust, support, loyalty, and feelings of reciprocity (Cropanzano & Mitchell, 2005; Gouldner, 1960; Liden & Graen, 1980; Liden, Sparrowe, & Wayne, 1997; Uhl-Bien & Maslyn, 2003).

In their meta-analysis, Dulebohn and colleagues (2012) found that LMX mediated the relationship between leader characteristics and outcomes such as organizational citizenship behavior and job satisfaction. Furthermore, they showed that leader variables explained more variance in LMX compared to follower or interpersonal relationship characteristics (Dulebohn et al., 2012). In a sample of 847 Dutch police officers, Breevaart and colleagues (2015) found that LMX predicted job resources, which in turn were related to work engagement. Building on this previous work, we argue that LMX mediates the relationship between ethical and toxic leadership on the one hand, and work engagement and exhaustion on the other hand.

As ethical leaders are defined as honest, fair, and caring leaders (e.g., Brown & Treviño, 2006), we expect that these properties may foster a good relationship between them and their followers, which in turn is positively related to employees' work engagement. There are two possible reasons for this expectation. First, ethical leaders care for the well-being of their employees, which is closely related to employees' work engagement (Hallberg & Schaufeli, 2006). Second, a leader who cares for his or her employees and shows interest may foster a trustful relationship in which employees have the desire to give something back. Such a feeling of reciprocity has been discussed as an important component of leader-employee relationships (Liden & Graen, 1980). Based on this notion of reciprocity, we argue that ethical leadership is related to LMX which in turn is related to work engagement. In other words, we expect LMX to mediate the positive relationship between ethical leadership and employee engagement.

On the other hand, we expect that toxic leadership will be negatively related to LMX which in turn will negatively be related to exhaustion. Since toxic leaders are mostly self-interested and primarily care about themselves, we expect that they do not foster a trustful atmosphere. Second, toxic leaders make employees responsible for mistakes that lie out of

their responsibility, which may worsen the relationship between leader and follower and which in turn may be related to employees' exhaustion. In sum, these arguments lead to the following hypothesis:

H3: LMX mediates the relationship between a) ethical leadership and b) toxic leadership on engagement and exhaustion.

The role of employees' need for autonomy

A prominent approach to explaining psychological needs is self-determination theory (SDT; Deci & Ryan, 2000). According to SDT, the consideration of basic needs, namely autonomy, competence, and relatedness, is essential for the understanding of human motivation. The satisfaction of these three basic needs is seen as necessary for psychological growth, integrity and well-being (Deci & Ryan, 2000).

Autonomy comprises the experience of self-chosen behavior and freedom and as such is essential for well-being (Deci & Ryan, 2000). Relatedness involves the need to be connected to others, to build relationships and to belong to other persons (Baumeister & Leary, 1995). The need for competence describes an intrinsic need to deal with the environment. It includes the feeling to have the ability to face challenges and to get the feeling that one`s behavior influences the environment (White, 1995). Murray (1938) argued that the strength of needs differs from person to person, and Steers and Braunstein (1976) developed an instrument for measuring the individual strength of basic psychological needs. In this study, we focus on individual need strength as a potential buffer against the negative effects of toxic leadership, because we expect that it may protect employees from the negative effect of toxic leaders.

In particular, our study focuses on the need for autonomy, basing on the work by Steers and Braunstein (1976). We argue that the need for autonomy may interact with toxic leadership in such a way that autonomy may buffer the negative effect of toxic leaders. Employees with a high drive for autonomy act freely, are able to work independently, and try

to be their own boss regardless of the opinion of others (Steers & Braunstein, 1976). Previous research revealed that there are not many moderators between leadership and employee outcomes, but that the need for leadership moderates this relationship (De Vries, Roe, & Taillieu, 2002). Building on these findings, we focus on the need for autonomy as a moderator between toxic leadership and LMX, because we expect a similar but reversed mechanism at a play. We expect that the need for autonomy may have a buffering effect for toxic leadership.

Previous studies have focused on SDT when investigating the fulfillment of manifest basic needs as a mediator between leadership and outcomes. A study with two samples of German and Swiss employees found that the satisfaction of manifest basic needs mediated the relationship between transformational leadership and outcomes (Kovjanic, Schuh, Jonas, Van Quaquebeke, & Van Dick, 2013). Another study among 162 leader-follower dyads found that transformational leadership was related to job resources, which was related to the fulfillment of basic needs, and which in turn was related to work engagement and performance (Breevaart, Bakker, Demerouti, Sleebos, & Maduro, 2014).

In our study, we do not focus on investigating the fulfillment of the three basic needs as a mediator, but analyzing the moderating effect of individual needs strength, namely autonomy following the approach by Steers and Braunstein (1976). By doing so, we expect that autonomy works as a moderator between toxic leadership and LMX in such a way that employees high on the need for autonomy report a better relationship with their toxic leader since they do not devote themselves that much on destructive actions. Put formally:

H4: The need for autonomy moderates the relationship between toxic leadership and LMX such that employees with a high need for autonomy report a better relationship with their toxic leader (LMX) than employees whose need for autonomy is low.

METHODS

Sample and procedure

Data of this study were gathered via a snowball sample, by spreading an online questionnaire among the authors' business networks from January to March 2017 in Germany. In order to be included in the sample, participants had to meet three criteria: They had to be employed for at least three months, had to collaborate with their current supervisor for at least three months, and had to work at least 20 hours per week. To ensure that these participation requirements were met, we included this information in the instruction and also asked participants to confirm these criteria in the survey. Potential participants were contacted by email and upon deciding to participate, followed an online link to the survey which was available in Qualtrics. They were informed that the study was about management and cooperation and its influence on individual work engagement and well-being. In particular, we informed participants that they would receive questions regarding constructive and destructive leadership styles, as well as regarding personal characteristics. Furthermore, we informed the participants that their data would be treated confidentially, that there were no right or wrong answers, and the survey would take approximately 20 minutes.

$N = 311$ employees completed the survey, of which 60.5% were female and 14% held a leadership function. Their mean age was 35.3 years and 56% had worked in their current position for more than two years. Most held a position related to business (35%), 22% held a position related to human interaction and counseling, 21.3% worked in a research position, 14% held an administrative position, 7% worked in the craft sector, and 0.6% worked in a position related to arts.

Measures

Ethical leadership was measured using a validated German version of the Ethical Leadership Scale (ELS-D; Rowold, Borgmann, & Heinitz, 2009), adapted from the English

version by Brown and colleagues (2005). A sample item was "My supervisor sets an example of how to do things the right way in terms of ethics". The response format was a 6-point Likert scale ranging from 1 (never) to 6 (very often).

Toxic leadership was measured using the Toxic Leadersip Scale developed by Schmidt (2008). The items were translated to German by two bilingual translators, following a translation-back translation procedure (Brislin, 1970). A sample item is "My supervisor will only offer assistance to people who can help him/her get ahead". The response format was a 6-point Likert scale ranging from 1 (never) to 6 (very often).

Need for autonomy was measured using three items of a sub-facet of the Manifest Needs Questionnaire (MNQ) developed by Steers and Braunstein (1976). Following a translation-back translation procedure, the items were translated into German by two bilingual translators (Brislin, 1970). A sample item is "In my work assignments, I try to be my own boss". The response format was a 6-point Likert scale ranging from 1 (never) to 6 (very often).

LMX was measured using nine items developed by Graen and Uhl-Bien (1995). The items were translated into German by two bilingual translators, following a back translation procedure (Brislin, 1970). A sample item is "I like my supervisor very much as a person." The response format was a 6-point Likert scale ranging from 1 (never) to 6 (very often).

Work engagement was assessed with the nine-item version of the Utrecht Work Engagement Scale (Schaufeli et al., 2006; translated version taken from Hering, 2008). A sample item is "At my work, I feel bursting with energy". The response format was a 6-point Likert scale ranging from 1 (never) to 6 (very often).

Exhaustion was measured using the sub-facet exhaustion of the Maslach Burnout Inventory (MBI; Maslach & Jackson, 1993). The items were translated into German by two bilingual translators, following a back translation procedure (Brislin, 1970). A sample item is

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"I feel emotionally drained from my work". The response format was a 6-point Likert scale ranging from 1 (never) to 6 (very often).

Control variables. We controlled for gender (0 = female, 1 = male), age, leadership role (0 = leadership role, 1 = no leadership role), and work experience (1 = more than three months, 2 = more than six months, 3 = more than one year, 4 = more than two years, 5 = more than three years) in all analyses.

Data analysis

We tested the hypothesized relationships between ethical leadership, toxic leadership, work engagement, exhaustion and the need for autonomy by applying path analyses in MPlus 7.0. Model fit indices ($\chi2$, RMSEA, CFI, TLI, and SRMR) were interpreted according to recommendations by Vandenberg and Lance (2000). One-tailed *p*-values were calculated given our theory-driven directional hypotheses (cf. Bolino, Hsiung, Harvey, & LePine, 2015; Perry-Smith, 2014).

RESULTS

The means, standard deviations, and intercorrelations of all study variables are presented in Table 2.1.

Table 2.1

Means, Standard Deviations, and Zero-order Correlations for all Study Variables

	M	SD	1	2	3	4	5	6	7	8	9	10
1. Ethical Leadership	3.63	.96	(.91)									
2. Toxic Leadership	2.67	.96	-.64**	(.94)								
3. Need for Autonomy	3.42	.84	-.17**	.31**	(.60)							
4. LMX	4.28	1.23	.83**	-.65**	-.11*	(.95)						
5. Work Engagement	4.17	.87	.28**	-.16**	.04	.33**	(.91)					
6. Exhaustion	2.65	1.11	-.36**	.37**	.18*	-.32**	-.49**	(.92)				
7. Age	35.30	9.59	-.12	.09	.03	-.18**	.20**	-.08				
8. Gender	.40	.49	.09	-.02	.05	-.04	-.13*	-.08	-.01			
9. Leadership function	.86	.35	.03	-.13*	-.21**	-.06	-.14*	.08	-.19**	-.05		
10. Work experience	3.7	1.38	-.18**	.10	-.04	-.18**	.00	.11	.38**	-.04	-.22**	

Note. $n = 264\text{-}311$; * $p < .05$; ** $p < .01$. Participants reported their exact age in years; gender was coded as 0 = female, 1 = male; leadership function was coded as 0 = yes, 1 = no; work experience was coded as 1 = more than three months, 2 = more than six months, 3 = more than one year, 4 = more than two years, 5 = more than three years; Alpha coefficient values are shown on the diagonal.

Control variables

In a path model, we controlled for age, gender, leadership function, and work experience. Similar to earlier findings (Gutermann et al., 2017), older employees reported significantly higher engagement than younger employees ($\beta = .17$, $p < .01$). We also found an influence of gender (women reported higher work engagement than men; $\beta = -.16$, $p < .01$). Leadership function ($\beta = -.09$, $p > .05$) and work experience ($r = .00$, $p > .05$) did not have a significant effect on work engagement. Moreover, there were no significant relationships between our control variables and exhaustion. Hence, for reasons of parsimony we did not include these paths in our path model.

Furthermore, we controlled for age, leadership function, and work experience on LMX. We found a significant effect of leadership function ($\beta = -.14$, $p < .01$) implying that persons who held a leadership position themselves tended to report a better relationship with their supervisor. There was no effect of age ($\beta = -.04$, $p > .05$) or work experience ($\beta = -.05$, $p > .05$) on LMX in our path model.

Path model

Our specified path model provided a good fit to the data ($\chi^2 = 30.20$, $df = 15$, $\chi^2/df = 2.01$, RMSEA = .07, CFI = .97, TLI = .94, *SRMR* = .03; Figure 2.1). In order to test H1, H2, and H3 we regressed LMX on ethical and toxic leadership. Ethical leadership showed a significantly positive effect on LMX ($\beta = .39$, $p < .05$), whereas toxic leadership showed a significantly negative effect on LMX ($\beta = -.70$, $p < .01$). Furthermore, we regressed work engagement and exhaustion on LMX in order to test H3, which stated that LMX is related to engagement and exhaustion. We found a significantly positive effect of LMX on engagement ($\beta = .41$, $p < .01$), and a significantly negative effect on exhaustion ($\beta = -.15$, $p < .05$). Related to H3, we tested the indirect effects of leadership on our outcomes via LMX and found significant indirect effects of ethical leadership on work engagement (95% CI = .04, .34), of

toxic leadership on work engagement (95% CI = -.43, -.16), of ethical leadership on

exhaustion (95% CI = -.15, -.01), and of toxic leadership on exhaustion (95% CI = .01, .22),

all in the expected directions. Furthermore, there was a direct effect of toxic leadership on

exhaustion (β = .29, p < .01). As such, these findings confirmed H1, H2, and H3.
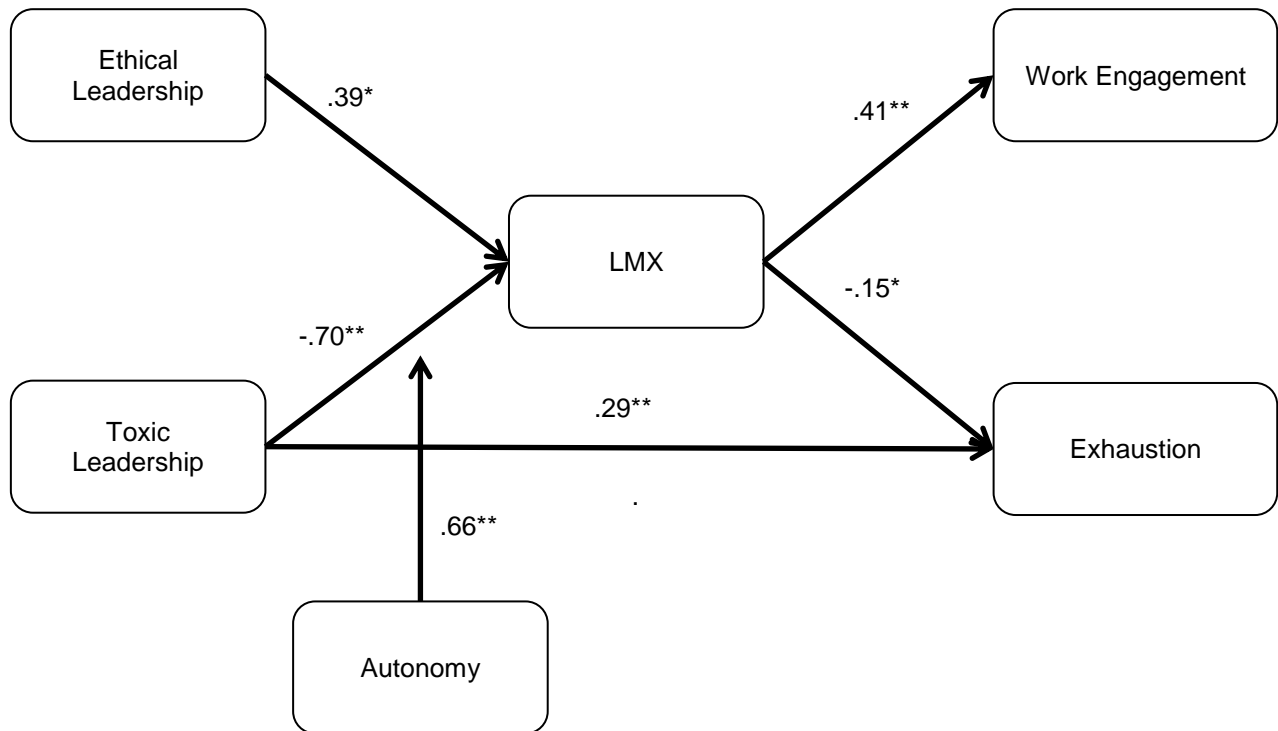
Figure 2.1. Path model showing the standardized effects of leadership on work engagement
and exhaustion via LMX.
Note. *p < .05; **p < .01

Finally, H4 was tested by analyzing the moderating effect of the need for autonomy.

We found that there was a significant interaction between toxic leadership and the need for

autonomy on LMX in such a way that for employees high on need for autonomy, the

relationship between having a toxic leader and LMX was less negative (β = .66, p < .01). This

confirmed our last hypothesis (H4).

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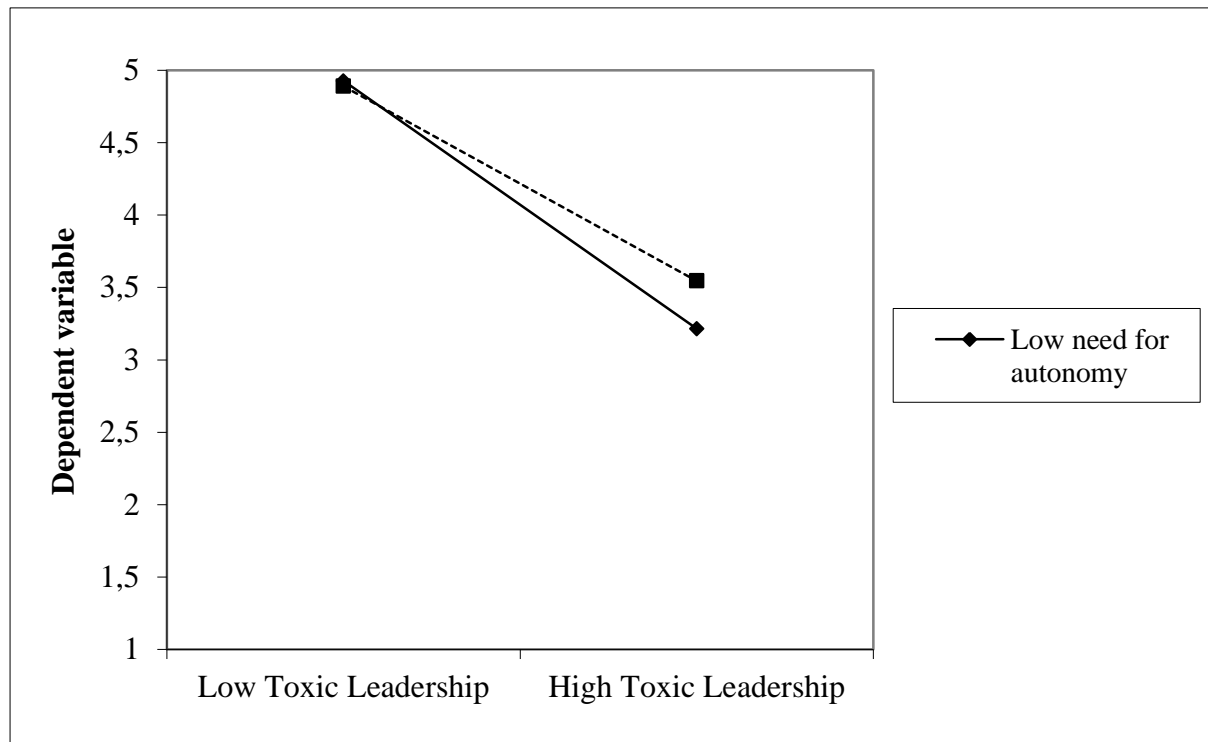
Figure 2.2. Figure showing the moderating effect of the need for autonomy

Alternative models. We also tested alternative models in order to compare our model fit to other possible models and to further enhance confidence in the results we found (see Table 2.2). First we removed the direct link from toxic leadership to exhaustion (alternative 1). This model showed a worse fit to the data ($\chi^2 = 46.64$, *df* = 16, χ^2/df = 2.915, RMSEA = .09, CFI = .93, TLI = .88, *SRMR* = .04). Moreover, we tested whether there was a direct link form ethical leadership to work engagement and found a worse fit here as well ($\chi^2 = 46.64$, *df* = 15, χ^2/df = 3.11, RMSEA = .04, CFI = .93, TLI = .86, *SRMR* = .04). Accordingly, we rejected these alternative models in favor of our proposed model.

Table 2.2

Overview over Model Fit Indices for Proposed Model and Alternative Models

	χ^2	*df*	RMSEA	SRMR	CFI	TLI
Proposed Model	30.20	15	.07	.03	.97	.94
Alternative 1	46.64	16	.09	.04	.94	.88
Alternative 2	46.64	15	.09	.04	.93	.86

DISCUSSION

This study addressed recent calls to shed more light on the impact of destructive leadership styles on employee outcomes while also considering employees' individual characteristics (e.g., Schyns & Schilling, 2013). Specifically, we contrasted ethical leadership to toxic leadership and analyzed their relationship with employee work engagement and exhaustion, accounting for the role of LMX as a mediating mechanism. In the context of toxic leadership, we also accounted for the role of employees' individual need for autonomy as a buffer against the negative effects of toxic leadership.

Three main findings accrued from this study. First, we found that toxic leadership was negatively related to work engagement and positively related to exhaustion, whilst the opposite was the case for ethical leadership. In other words, leaders who are perceived to have a high ethical standard, who are honest, caring, and aim to make fair decisions have a positive influence on the extent to which employees work enthusiastically and vigorously instead of becoming exhausted. On the other hand, leaders who are seen as egocentric, only care about themselves and cause a negative atmosphere have a considerable negative influence on employee engagement, and such employees will feel exhausted. Additionally, this study revealed that the negative effect of toxic leadership is indeed stronger than the positive effect of ethical leadership.

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Second, for both types of leadership, LMX mediated the relationship with employee outcomes, such that the negative impact of toxic leadership could be explained by inferior leader-member relationships, whereas the benefits of ethical leadership for employee well-being could be explained by favorable leader-member relationships. Furthermore, our path model showed that the negative relationship between toxic leadership and LMX was stronger than the positive relationship between ethical leadership and LMX.

Third, in terms of employees' individual differences as a boundary condition for leadership effects on employee outcomes, we found that employees' need for autonomy moderated the negative relationship between toxic leadership and LMX such that employees high in autonomy do not report the relationship to their toxic leader to be as negative as employees low in autonomy do. In other words, this means that employees who try to be their own boss, who go their own way and who do not care that much for the opinion of others may not suffer that much under a toxic leader because they do not depend emotionally that much on this leader.

Theoretical implications

The findings of this study provide implications for theory concerning the relationship of leadership and work engagement. First, our finding that toxic leadership is negatively related to work engagement via LMX whereas the opposite was the case for ethical leadership expands previous research on the relationship of leadership and work engagement, which mostly has focused on constructive leadership (e.g., Breevaart et al., 2014a). By focusing not only on ethical leadership as an example of constructive leadership influence but also on toxic leadership as a destructive leadership influence, our findings contribute to the relatively new research stream on negative leadership (Bardes & Piccolo, 2010; Breevaart et al., 2014b; Schyns & Schilling, 2013). To the best of our knowledge, the relationship between toxic leadership and work engagement has not been analyzed as yet. As such, we

expand existing knowledge of the impact of destructive and abusive leadership being negatively related to positive employee outcomes, such as well-being, and being positively related to negative outcomes, such as counterproductive work behavior (Parker et al., 2017; Schyns & Schilling, 2013). In particular, this study specified that leaders who make their employees responsible for mistakes beyond their control, who cower them, and who mainly act in a self-interested way (Schmidt, 2008), have a negative effect on employees' work engagement.

Second, in order to shed light on the process behind these relations, we found that LMX mediates the relationship between toxic and ethical leadership on the one hand, and employees' well-being (work engagement and exhaustion) on the other hand. In their meta-analysis, Dulebohn and colleagues (2012) found that LMX mediated the relationship between leader characteristics and employee outcomes such as organizational citizenship behavior and job satisfaction. Whereas those authors focused on positive leader behaviors, we expanded their finding by focusing on destructive leadership as well. Furthermore, we expand findings by De Vries and colleagues (2002) who found that the need for leadership moderates the relationship between leadership and outcomes. It is assumable that the need for leadership and the need for autonomy may be negatively related. As such, our study is in line with these earlier findings and enlarges these by expanding the findings to employees' need for autonomy. Furthermore, we could show that this need is a moderator that can buffer the negative effect of a toxic leader by having a less strong relationship between toxic leadership and LMX.

Related to the need for autonomy, previous studies had focused on self-determination theory by investigating the fulfillment of manifest basic needs as a mediator between leadership and outcomes (e.g. Breevaart et al., 2014a; Kovjanic et al., 2013). Our study did not focus on investigating the fulfillment of the three basic needs as a mediator, but analyzed

the strength of individual needs as a moderator, namely the need for autonomy following the approach by Steers and Braunstein (1976).

Practical implications

Our study underscores the relevance of leadership style for employee engagement and well-being. The finding that ethical leadership stimulates engagement and prevents exhaustion suggests that it would be rather beneficial for organizations to foster ethical leadership. One way to do so is that organizations train their leaders in employee-oriented leadership. A second possibility is to nurture an ethical organizational culture by making ethics a core value of the organization's guiding principles.

Furthermore, our findings suggest that organizations should take measures to prevent toxic leadership. In particular, our finding that the negative effects of toxic leadership outweigh the positive effects of ethical leadership suggests that organizations should focus on preventing negative leadership practices. By doing so, organizations can enhance employees' work engagement and prevent exhaustion, which may foster employee and organizational performance (e.g., Gutermann et al., 2017; Harter et al., 2002). One way to do so is to have regular leadership assessments in which employees can rate the collaboration with their respective leader. Additionally, destructive leadership should be discussed within leadership trainings for making unethical leadership and its consequences transparent and visible. As such, Kellerman (2004) noted that an exclusion of the topic of destructive leadership from leadership discussions and trainings could be compared to medical schools that only teach health instead of disease (cf. Mehta & Maheshwari, 2013).

Next to the importance of leadership style, our study showed that autonomy is a significant variable that may buffer the effect of toxic leadership. As it can be assumed that autonomy may be closely related to resilience, the findings of our study imply that

organizations could focus on training of resilience. However, it should be the first priority of organizations to prevent and detect toxic leadership.

Limitations and future research directions

Our study also has some limitations. Since we assessed our variables at one point in time, this study has a cross-sectional design. We therefore cannot describe the uncovered relationships as being causal. However, the findings of our study imply that it is worth to further analyze these in a longitudinal design.

Another limitation of our study is that we collected data in only a German sample. In order to enhance the generalizability of the uncovered effects, it would be recommendable to investigate these effects in other countries and cultures.

Finally, we recommend to find out more about the underlying process of the relationship between destructive leadership and work engagement. Since work engagement is related to well-being and performance (Gutermann et al., 2017; Schaufeli & Bakker, 2010) and thus is beneficial for both employees and organizations, it would be useful to investigate which variables and boundary conditions further explain the relationship between leadership and work engagement/exhaustion. Possible interesting moderators are, for example, employees' resilience and emotional stability, which we assume are closely related to employees' autonomy. Furthermore, it would be interesting to investigate leaders' verbal and nonverbal behavior and test if this may have an effect on the extent to which employees engage in their work.

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CHAPTER 3

HOW LEADERS AFFECT FOLLOWERS' WORK ENGAGEMENT AND PERFORMANCE: INTEGRATING LEADER-MEMBER EXCHANGE AND CROSSOVER THEORY [*]

ABSTRACT

Drawing on leader-member exchange and crossover theory, this study examines how leaders' work engagement can spread to followers, highlighting the role of leader-member exchange (LMX) as an underlying explanatory process. Specifically, we investigate if leaders who are highly engaged in their work have better relationships with their followers, which in turn can explain elevated employee engagement. For this purpose, we surveyed 511 employees nested in 88 teams and their team leaders in a large service organization. Employees and supervisors provided data in this multi-source design. Furthermore, we asked the employees to report their annual performance assessment. We tested our model using multilevel path analyses in Mplus. As hypothesized, leaders' work engagement enhanced LMX quality, which in turn boosted employee engagement (mediation model). Moreover, employee engagement was positively linked to performance and negatively linked to turnover intentions. As such, our multilevel field study connects the dots between work engagement research and the leadership literature. We identify leaders' work engagement as a key to positive leader-follower relationships and a means for promoting employee engagement and performance. Promoting work engagement at the managerial level may be a fruitful starting point for fostering an organizational culture of engagement.

Keywords:

Work engagement; Leader-follower crossover; LMX; Employee performance.

Engaged employees are involved in and energized by their work (e.g., Salanova & Schaufeli, 2008; Schaufeli & Bakker, 2010). Work engagement means that employees are willing to go the extra mile while feeling well, being able to detach from their work, and maintaining a healthy work-life balance (Sonnentag, Binnewies, & Mojza, 2010). These positive attributes make work engagement a desirable quality for individual employees and organizations.

In terms of antecedents of work engagement, previous research has predominantly focused on job resources (e.g., Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Hakanen, Schaufeli, & Ahola, 2008; Mauno, Kinnunen, & Ruokolainen, 2007; Simbula, 2010). Some previous studies have also examined the role of leadership for promoting engagement, primarily with a focus on transformational leadership (Breevaart, Bakker, Hetland, Demerouti, Olsen, & Espevik, 2014; Hoon Song, Kolb, Hee Lee, & Kyoung Kim, 2012; Salanova, Lorente, Chambel, & Martínez, 2011; Tims, Bakker, & Xanthopoulou, 2011).

However, the link between leaders' own engagement and their followers' engagement is less clear, which is an important oversight. One of the main tasks for most leaders is interacting with their followers. During these interactions, employees likely notice and observe the motivational and affective states of their leader. As such, leaders' engagement could provide a salient example and role model which shapes employee engagement. To explore this idea of leader-follower engagement linkages, we draw from crossover theory (e.g., Westman, 2001), which posits that psychological states can transfer from one person to another, and from social learning theory (Bandura, 1977), which explains these processes in terms of learning by observing a salient role model. In the context of work engagement, previous research suggests that the extent to which the colleagues in one leader's team are engaged affects the level of individual work engagement in that team (e.g., Bakker, Van Emmerik, & Euwema, 2006; Bakker, LeBlanc, & Schaufeli, 2005; Bakker, Schaufeli, Sixma,

& Bosveld, 2001; Westman & Etzion, 1999). Building on the idea that leaders can function as role models for their followers (Bandura, 1977; Yukl, 2013), and drawing from previous research on mood crossover between leaders and followers (Gooty, Connelly, Griffith, & Gupta, 2010; Sy, Côté, & Saavedra, 2005), we argue that a similar transference of work engagement can occur from supervisors to subordinates, or from leaders to followers.

Moreover, to understand the underlying processes that can explain engagement crossover between leaders and followers, we focus on the role of leader-member exchange (LMX). Although there might be other possible mediating variables, the quality of the dyadic relationship between leaders and followers is one important reason why work engagement may transfer from leaders to followers. Earlier findings by Westman and Vinokur (1998) highlight interpersonal exchange as a mediator of crossover processes.

LMX theory remains one of the most popular streams in the leadership literature (Epitropaki & Martin, 2015). Several studies and meta-analyses have highlighted the importance of LMX for several positive follower outcomes such as job performance, commitment, and job satisfaction (Dulebohn, Bommer, Liden, Brouer, & Ferris, 2012; Gerstner & Day, 1997; Ilies, Nahrgang, & Morgeson, 2007; Martin, Guillaume, Thomas, Lee, Epitropaki 2015; Restubog, Bordia, Tang, & Krebs 2010). However, to the best of our knowledge, there are only a limited number of studies on LMX and work engagement to date (e.g. Breevaart, Bakker, Demerouti, & van den Heuvel, 2015). In a sample of police officers in the Netherlands, Breevaart and colleagues (2015) found that LMX was positively related to job resources, which in turn facilitated employees' work engagement and performance. Building and expanding on these earlier findings, we aim to examine how LMX may serve as an underlying mechanism that can explain engagement crossover between leaders and followers. Specifically, we argue that highly engaged leaders have better relationships with

their followers, which in turn benefits followers' work engagement. In other words, we investigate LMX as a mediator in the leader engagement-follower engagement link.

Generally speaking, high-quality interpersonal relationships are based on mutual obligations, trust, and reciprocity, therefore on a longer-term social relationship instead of a simple economic exchange (Dulebohn et al., 2012; Liden & Graen, 1980). We argue that engaged leaders are likely to aim for positive social relationships with their followers; positive LMX indicates such high-quality relationships, which, in turn, have important implications for employee engagement. Because humans are social in nature, good leader-follower relationships should a) build on leaders' engagement and b) facilitate followers' willingness to put energy and effort into their work. In other words, high-quality LMX acts as a mediating variable between the positive crossover from leaders' work engagement to followers' engagement.

In sum, this study offers the following contributions. First, our investigation of the linkages between leaders' and followers' work engagement applies crossover theory to the context of workplace engagement. Research to date has focused on engagement crossover between team members or within couples (e.g., Bakker et al., 2006; Demerouti, Bakker, & Schaufeli, 2005; Lehmann-Willenbrock, Meyers, Kauffeld, Neininger, & Henschel, 2011), whereas the possibility of leader-to-follower crossover remains to be explored. Second, we aim to answer the question *why* work engagement crosses over from leader to follower. We begin to pinpoint the underlying social processes that drive leader-follower engagement crossover by highlighting the role of LMX as a mediating variable. Finally, by establishing links to desirable outcomes of individual work engagement (i.e., objective performance and reduced turnover intentions), our study underscores the relevance of LMX and leader-follower engagement crossover for organizational effectiveness.

THEORETICAL BACKGROUND

Schaufeli, Salanova, Gonzalez-Roma, and Bakker (2002, p. 74) define work engagement as "a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption." *Vigor* entails a high level of energy and mental resilience during work, the intention to invest effort in one's work and endure, even if one faces difficulties (Schaufeli et al., 2002). *Dedication* means having a sense of significance, enthusiasm, inspiration, pride, and challenge at work (Schaufeli et al., 2002). Finally, *absorption* is characterized by employees being fully concentrated and engrossed in their work (Schaufeli et al., 2002). Our conceptualization of work engagement follows the prominent definition by Schaufeli and colleagues (2002). A different definition by Kahn (1990), which was developed further by Rich, Lepine, and Crawford (2010), describes job engagement in terms of employees being physically, cognitively, and emotionally connected with their work roles (Kahn, 1990). In our study however, we focus on the engagement definition by Schaufeli and colleagues because we are interested in the work activity and the work itself, rather than focusing on employees' work roles (see also Schaufeli & Bakker, 2010, for a differentiation between these two definitional approaches). Moreover, Macey and Schneider (2008) distinguish trait, state and behavioral engagement in the broader engagement literature. They conceptualize psychological state engagement as an antecedent of behavioral engagement, which is defined as a specific form of extra effort. We focus on the emotional component of state engagement (Macey & Schneider, 2008) for investigating leader-follower transference of engagement. To do so, we draw from the core tenets of crossover theory (Westman, 2001) regarding the transference of psychological states.

Antecedents of work engagement have typically been examined through the theoretical lens of the job demands-resources model (JDR model; e.g., Bakker, Demerouti, & Sanz-Vergel, 2014). This prominent model is based on the assumption that every work

environment entails both job demands (e.g., time pressure, or a high work load) and job resources (e.g., social support, or a good person-job fit). In order to foster work engagement, these job demands and job resources should be balanced (e.g., Bakker et al., 2014; Demerouti et al., 2001).

Previous research shows that job resources, such as one's autonomy and enjoying social support from one's co-workers, can prevent negative attitudes and buffer the effect of job demands, such as time pressure, work overload, and role conflicts (Bakker et al., 2014; Bakker, Demerouti, Taris, Schaufeli, & Schreurs, 2003; Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007). Moreover, Bakker, Demerouti, and Euwema (2005) show that a high-quality relationship between leaders and followers, which can be regarded as a job resource, can help reduce job demands and thus prevent burnout. Although these previous findings relate to burnout prevention rather than engagement promotion, they provide a first indication that leaders might have an impact on their followers' work engagement.

Leaders' influence on individual work engagement

Consistent with the definition of work engagement as an affective motivational state of mind (Schaufeli et al., 2002), we expect that leaders' and followers' work engagement are connected. Previous research suggests linkages between leadership and follower motivation (Judge & Piccolo, 2004), and that leadership has an impact on followers' affect and mood (Gooty et al., 2010). In a meta-analysis, Halbesleben (2010) identifies constructive feedback as an important predictor of vigor and dedication. Similarly, Bakker Albrecht, and Leiter (2011) find that in a resourceful work environment, in which employees receive performance feedback and support from their supervisor, there is a high likelihood of achieving work goals. These previous findings suggest that engaged leaders may contribute to employees' engagement.

Generally speaking, research on the role of leadership for employee work engagement is still sparse. A few previous studies in this regard have considered transactional and transformational leadership (Breevaart et al., 2014), ethical leadership (Den Hartog & Belschak, 2012), and authentic leadership (Hsieh & Wang, 2015). Here, we focus on social learning (Bandura, 1977), crossover theory (Westman, 2001), and LMX (Liden & Graen, 1980) as theoretical background for our hypotheses. We chose LMX as a leadership theory because we aim to investigate possible explanatory processes of leader-follower crossover processes. We argue that a good relationship between leaders and followers is an important characteristic underlying such a crossover process.

Two theoretical angles suggest a link between leader and follower engagement. First, social learning theory by Bandura (1977) and the notion of leading by example (e.g., Yukl, 2013) imply that leaders can function as role models for their followers. The core tenet of social learning theory is the idea that people learn by observing the behavior of role models and by reproducing these behaviors (Bandura, 1977). Especially persons with social influence may function as role models, which goes in line with our research focus on leader-follower-engagement transference (Bandura, 1977). In line with this idea, Sy and colleagues (2005) found linkages between leaders' and followers' mood. Relatedly, a recent study shows behavioral linkages between leaders' and followers' communicative conduct during team interactions (Lehmann-Willenbrock, Meinecke, Rowold, & Kauffeld, 2015).

Second, crossover theory contends that psychological states can transfer from one person to another (Bakker, Westman, & Van Emmerik, 2009; Westman, 2001). People have a tendency to automatically synchronize their facial expressions, vocalizations, postures and movements to those of the persons with whom they spend time, and tend to converge emotionally (Hatfield, Cacioppo, & Rapson, 1993). In the workplace, employees can influence one another by transferring positive or negative states, such as work engagement

and burnout (e.g., Bakker et al., 2006). Bakker and Xanthopoulou (2009) found that work engagement can cross over among colleagues, and that this process is moderated by the frequency of interaction. Given the influential role of leaders in terms of follower attitudes and experiences in the workplace, engagement could also cross over from leaders to followers. We focus on this specific direction (from leaders to followers) because leaders often function as role models for their subordinates and thus shape employee attitudes (e.g., Yukl, 2013). Accordingly, we hypothesize the following:

H1: Leaders' work engagement is positively related to followers' work engagement.

The mediating role of LMX

Westman and Vinokur (1998) identified social interaction styles as a possible mediator of crossover mechanisms. Building on this work, we focus on LMX as an explanatory process for leader-follower engagement linkages for two reasons. First, engaged leaders have specific social relationships with their followers. LMX describes these relationships, which can vary in quality from one leader-follower dyad to another (Gerstner & Day, 1997; Graen & Uhl-Bien, 1995). If a leader is vigorous and enthusiastic, this will positively influence the exchange the leader has with his or her followers, which in turn may have benefits for followers' engagement. Hence, we argue that LMX is a mediator in the leader-follower engagement link. We consider LMX as a mediator rather than a moderator in this regard, since a moderator role would imply that LMX is stable and independent from the leaders' work engagement. In our opinion, LMX is not independent from leaders' engagement. Rather, we argue that LMX will increase as leaders' engagement increases, and that follower engagement will benefit in return.

Meta-analytic findings by Dulebohn and colleagues (2012) showed that LMX functions as a mediator when considering linkages between leader, follower, or interpersonal relationship characteristics on the one hand and organizational citizenship behavior and job

satisfaction outcomes on the other hand. Moreover, leader variables explained the most variance in LMX. Furthermore, followers are more strongly influenced by their leader than vice versa (Dulebohn et al. 2012). Hence, if employees perceive that their leader is highly engaged him- or herself and willing to contribute extra effort and time in order to develop trust and respect, they may feel encouraged to reciprocate by engaging in their own work tasks more.

When a leader-follower relationship is characterized as low-quality LMX, this means that the relationship can be described as a form of formally agreed upon economic exchange, or payment for performance, as noted in the employment contract (Blau, 1964). However, when a leader-follower relationship is characterized as high-quality LMX, this implies a social rather than an economic exchange (e.g., Dulebohn et al., 2012). As such, high-quality LMX entails feelings of reciprocity, mutual obligations, loyalty, support, trust, and commitment (Gouldner, 1960; Liden & Graen, 1980; Liden, Sparrowe, & Wayne, 1997; Cropanzano & Mitchell, 2005; Uhl-Bien & Maslyn, 2003). Engaged leaders may be more likely to create and maintain high-quality LMX with their followers. One of the main tasks of most leaders is to interact with his or her followers (e.g., Uhl-Bien & Ospina, 2012). We argue that a leader who is highly engaged should also invest more effort in these interactions, which will be reflected in the relationships with his followers. These in turn may explain followers' elevated work engagement. Furthermore, communicating and exchanging information with subordinates in a positive relational atmosphere are part of an engaged leaders' responsibility and task.

Second, our focus on LMX as a mediating process builds on earlier work referring to the JDR model, which showed that a high-quality relationship between leaders and followers can be regarded as a job resource (Bakker et al., 2005). Moreover, Schaufeli and Bakker (2004) found that supervisory coaching is positively related to work engagement, which hints

at the role of leader-follower relationships, or LMX, in promoting individual work engagement. Again, in following the tenets of the JDR model, LMX can be seen as a resource that fosters employee engagement. Indeed, a previous meta-analysis indicates a relationship between LMX and individual work engagement (Christian, Garza & Slaughter, 2011). Similarly, Agarwal, Datta, Blake-Beard, and Bhargava (2012) identified a positive relationship between LMX and work engagement. Moreover, in a sample of Dutch police officers, Breevaart and colleagues (2015) found that LMX was positively related to job resources, which in turn facilitated employees' work engagement and performance. These previous findings suggest that LMX plays an important part for follower engagement. Hence, we postulate that LMX may help explain why and how leader engagement can cross over and promote follower engagement. In other words, we build on and integrate earlier work on LMX, the JDR model, and employee engagement (Agarwal et al., 2012; Bakker et al., 2005; Christian et al., 2011) by examining the role of LMX as an explanatory process in the context of leader-to-follower engagement crossover. Accordingly, we anticipate that LMX mediates the crossover of leaders' work engagement to that of their followers. Put formally:

H2: The positive relationship between leaders' and followers' work engagement is mediated by LMX.

Outcomes of individual work engagement

Highly engaged employees are enthusiastic about their jobs, they work full of energy, and are willing to go the extra mile (e.g., Schaufeli & Bakker, 2010). Simultaneously, they can detach from their work and build a good work-life balance (Sonnentag et al., 2010). It is therefore not surprising that the relationship with employees' performance is a core characteristic of work engagement, which can be explained as follows (Bakker, 2009): Highly engaged employees tend to experience positive emotions at work, such as being

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happy, joyful, and enthusiastic. Happy employees are open-minded, helpful, optimistic, and are open to opportunities (Cropanzano & Wright, 2001), all of which enable them to perform well. Further, previous research shows that highly engaged employees tend to enjoy good health (Bakker, 2009; Hakanen, Bakker, & Schaufeli, 2006). Research also supports a relationship between individual work engagement and performance (e.g. Halbesleben & Wheeler, 2008; Bakker & Bal, 2010). However, because no research has examined the potential leader-to-follower crossover of engagement and the subsequent effects on individual performance, we aim to replicate the performance benefits of individual engagement in this new setting.

Moreover, we investigate whether individual work engagement, enhanced by leader engagement via LMX, can diminish turnover intentions. Turnover intentions constitute an important challenge for organizations, as turnover can be costly, due to the new recruitment, required training, and knowledge loss. Moreover, previous research shows that turnover intentions have a direct effect on actual turnover (Bedeian, Kemery, & Pizzolatto, 1991; Griffeth, Hom, & Gaertner, 2000). Employees who are highly engaged not only tend to perform better, but also tend to identify with and feel highly committed to their work (Halbesleben & Wheeler, 2008). Committed employees are thus less likely to harbor turnover intentions (Neininger, Lehmann-Willenbrock, Kauffeld, & Henschel, 2010; Stanley, Vandenberg, Vandenberg, & Bentein, 2013). Taken together, this suggests a negative link between individual work engagement and turnover intentions.

Our final set of hypotheses aligns with previous findings (e.g., Halbesleben & Wheeler, 2008; Bakker & Bal, 2010), but also extends these findings by examining the outcomes of individual engagement in the context of leader-to-follower engagement crossover. We endeavor to emphasize leader engagement's important role by establishing its effects on individual performance and turnover intentions. In sum, we expect that followers'

work engagement is positively related to performance and negatively related to turnover intentions.

H3: Followers' work engagement is (a) positively related to individual job performance and (b) negatively related to turnover intentions.

METHODS

Sample and procedure

We collected our data by means of a workplace survey in a large service organization in Germany. The organization provides labor market services for the promotion of employment opportunities, the placement of potential candidates for job interview procedures, and services regarding unemployment benefits. At the beginning of this study, the organization aimed to make the fostering of work engagement a key value for personal and organizational development, and to develop an annual work engagement measure. All employees participating in this study worked in teams, with one supervisor responsible for each team. Hence, a defining structural characteristic of these teams was that team members shared the same supervisor and that they worked in the same department. Members interacted quite regularly with their respective team leader, which aligns with our research focus on possible crossover effects of leader and follower work engagement. Moreover, many of the teams' tasks required members to work interdependently (i.e., definition of a team; e.g., Hollenbeck, Beersma, & Schouten, 2012), although there were also some tasks during which team members worked independently from each other.

We sampled teams from different organizational units, such as labor recruitment services, application processing, and internal services, such as human resources and the information technology department. The organization is hierarchically structured. Employees report to the next higher management level, which means that supervisors and subordinates

have regular and consistent contact with one another. Team leaders have several responsibilities, such as making sure that each team reaches its goals (e.g., helping unemployed persons find a job), promoting a good team climate, and fostering individual employees in keeping with their knowledge, skills, and abilities.

Participation was voluntary and data confidentiality was guaranteed. All participants were informed that the data would be used for research purposes only. A central department, responsible for the conducting of anonymous employee surveys within the organization, distributed our survey by e-mail. The survey included an anonymous team number, which allowed us to match individuals to their respective teams and supervisor. In order to investigate leaders' effect on their teams, we excluded teams with fewer than three respondents (cf. Klein, Conn, Smith, & Sorra, 2001). Furthermore, we excluded teams whose supervisors did not participate in the survey, as this was a basic requirement for testing our hypotheses. Following this procedure, our final subordinate sample consisted of 511 employees belonging to 88 teams led by 88 team leaders. The average team size (excluding the supervisor) was 5.8 members ($SD = 2.30$ ranging from 3-14). In the subordinate sample, 70% were female, 12% were younger than 30, 21% were between 30 and 39, 32% were between 40 and 49, and 35% were older than 50; 28% worked part-time. The supervisor sample consisted of 88 team leaders, of whom 43% were female. The majority of the team leaders were older than 50 years (49%), and only 8% of them worked part-time.

Measures

Followers' work engagement was measured with the nine-item version of the Utrecht Work Engagement Scale (Schaufeli, Bakker, & Salanova, 2006; translated version taken from Hering, 2008) ($\alpha = .92$). The scale measures three sub-dimensions of employee engagement (vigor, dedication, absorption) with three items each. Sample items of the three sub-dimensions were: Vigor ($\alpha = .87$): "At my work, I feel bursting with energy"; dedication ($\alpha =$

.87): "I am enthusiastic about my job"; absorption (α = .79): "I feel happy when I am working intensely". The response format was a 6-point Likert scale ranging from 1 (very often) to 6 (never).

Leaders' work engagement was assessed by the same nine-item version of the Utrecht Work Engagement Scale (Schaufeli et al., 2006; translated version by Hering, 2008), which the team leaders completed. The internal consistency of this scale was comparable to the engagement scale that the followers completed, indicated by an overall α = .90. Sample items of the three sub-dimensions were: Vigor (α = .89): "At my work, I feel bursting with energy"; dedication (α = .79): "I am enthusiastic about my job"; absorption (α = .74): "I feel happy when I am working intensely". The response format was a 6-point Likert scale ranging from 1 (very often) to 6 (never).

LMX was measured by asking the followers to rate three items originally developed by Scandura and Graen (1984) and adapted by Bauer and Green (1996) on a six-point Likert scale ranging from 1 (fully agree) to 6 (fully disagree). Due to feasibility issues, we were not able to include the full scale. Instead, we selected three items of the original scale, focusing on those items that showed high factor loadings in previous research (Joseph, Newman, & Sin, 2011). The items were translated into German by two bilingual translators, following a back translation procedure (Brislin, 1970). A sample item was, "My direct supervisor understands my problems and needs." The internal consistency of this scale was α = .93.

Turnover Intention was measured using a single item adapted from Spector, Dwyer, and Jex (1988): "During the last six months, how often did you think about quitting your job?" We used a six-point Likert scale ranging from 1 (very often) to 6 (never). The item was translated into German by two translators following a back translation procedure (Brislin, 1970).

Performance was measured by asking the respondents to indicate their annual performance assessment. The organization's performance appraisal system ensures that the appraisals are normally distributed. Grades from A to E indicate the performance: A represents the highest and E the lowest possible rating. Only 5% of the respondents receive an A, and no more than 25% a B. In order to compare the ratings with other survey scales, we converted the performance assessment letters into numbers from 1 (best performance) to 5 (worst performance). Due to confidentiality agreements with the workers council, we could not obtain the official performance records. Instead, we asked the participants to report their annual performance assessment. In support of this approach, Levy and Williams (1998) showed that there is substantial convergence between employees' self-reports of their performance appraisal and official performance appraisal records in organizations ($r = .86$).

Control variables. We controlled for gender (0 = male, 1 = female), age, work hours, and team size in all the analyses. Owing to data confidentiality agreements with the workers council, we did not assess the exact individual age, but instead measured age in four clusters: 1 (under 30 years), 2 (30-39 years), 3 (40-49 years), and 4 (over 50 years). The workers council preferred this procedure to measuring employees' exact age in order to ensure the confidentiality of the individual followers' data. Finally, we also asked whether the respondents worked full-time or part-time and converted this information into a binary dummy variable.

Data aggregation. To substantiate the aggregation of our constructs and to show interrater agreement within the teams, we calculated rwg(J) values which indicate the extent of agreement within the teams. Furthermore, we calculated intraclass correlation coefficients to examine the ratio of between-group to total variance (ICC[1]), the respective F-tests, and the reliability of team members' average ratings (ICC[2]; Biemann, Cole, & Voelpel, 2012). The values were .82 (rwg(J)), .12 (ICC[1]), *F*= 1.78, p = 0.00, and .44 (ICC[2]) for

subordinates' work engagement and .65 (rwg(J)), .16 (ICC[1]), $F = 2.11$, $p = 0.00$, and .53

(ICC[2]) for LMX. Together, these values justify applying multilevel analyses (Geiser,

2011).

Analysis

We conducted confirmatory factor analyses in MPlus 6.0 to check whether an overall

one-factor or a three-factor model of work engagement (i.e., differentiating the three

subscales) would provide a better fit to our data. Using the entire sample (leaders and

followers; $n = 599$), we compared a one-factor model of work engagement with a second-

order confirmatory factor analysis with the three sub-facets load. The second-order

confirmatory factor analysis showed a better model fit ($\chi^2 = 160.49$, $df = 23$, $\chi^2/df = 7.00$,

RMSEA = .10, CFI = .96, TLI = .94, SRMR = .04) than the one-factor model ($\chi^2 = 268.58$, df

$= 26$, $\chi^2/df = 10.33$, RMSEA = .13, CFI = .93, TLI = .91, SRMR = .05). The superiority of the

second-order solution, including the three sub-facets (vigor, dedication, and absorption) was

supported by a chi-square difference test ($\Delta\chi^2/\Delta df = 36.03$). We therefore specified the model

including the sub-facets of work engagement instead of a unidimensional construct. The

residuals of two vigor items were correlated due to their semantic similarity ("At my work I

feel bursting with energy" and "At my job I feel strong and vigorous").

Multilevel model specification

As employees were nested within teams led by one supervisor, the single observations

were not independent from one another, thus requiring multilevel modeling (Nezlek, 2011).

We tested the hypothesized relationships between the supervisors' work engagement, LMX,

individual work engagement, performance, and turnover intentions by using multilevel path

modeling in MPlus 6.0. Model fit indices ($\chi2$, RMSEA, CFI, TLI, and SRMR) were

evaluated according to recommendations by Vandenberg and Lance (2000). Because our

hypotheses were theory-driven and directional, we calculated one-tailed p-values (cf. Bolino,

Hsiung, Harvey, & LePine, 2015; Perry-Smith, 2014).

RESULTS

Tables 3.1 and 3.2 show the means, standard deviations, and zero-order correlations of

all variables included in our analyses.

Table 3.1

Means, standard deviations, and zero-order correlations of the study variables at the individual level

	M	SD	1	2	3	4	5	6	7	8
Individual level										
1. Gender										
2. Age			-.10*		.					
3. Working hours			.32**	.08						
4. Work engagement	2.57	0.95	-.08	-.20**	-.04					
5. LMX	2.48	1.30	-.04	-.05	-.04	.45**				
6. Performance	2.78	0.58	-.01	.03	.09*	.19**	.19**			
7. Turnover intention	5.20	1.38	.06	.16**	.09*	-.41**	-.38**	-.12**		
8. Team size	5.80	2.30	-.06	-.05	.03	-.02	.01	.01	.03	

Note. All variables refer to the followers in our sample. *p < .05; **p < .01. Age is coded as follows: 1 = younger than 30 years, 2 = 30-39 years, 3 = 40-49 years, 4 = older than 50 years

Table 3.2

Means, standard deviations, and zero-order correlations of the study variables at the team level

	M	SD	1	2	3	4	5	6	7
Team level									
1. Leaders' gender									
2. Leaders' age			-.19						
3. Leaders' working hours			.17	-.06					
4. Leaders' work engagement	2.49	0.81	-.34**	-.08	.08				
5. Leaders' vigor	2.49	0.90	-.18	-.05	.02	.89**			
6. Leaders' dedication	2.47	0.90	-.28**	-.06	.06	.88**	.68**		
7. Leaders' absorption	2.49	0.96	-.42**	-.11	.14	.88**	.67**	.65**	

Note. Leaders' work engagement calculated as a composite score containing the three subscales (mean score of vigor, dedication, absorption). *$p < .05$; **$p < .01$. Age is coded as follows: 1 = younger than 30 years, 2 = 30-39 years, 3 = 40-49 years, 4 = older than 50 years

In our multilevel path model, we controlled for the potential influence of leaders' and followers' age, gender, and work hours (working full-time or part-time), respectively, as well as for team size. In terms of followers' work engagement, we found a significant effect of gender (women reported higher work engagement on average; $\beta = -.09$, $p = .01$) and age (such that older employees reported higher engagement than younger employees). Full- or part-time employment showed no meaningful relationship to followers' work engagement. In terms of supervisors' work engagement, we identified a significant effect of gender, such that women reported higher work engagement than men ($\beta = -.37$, $p = .00$). Team size was not related to work engagement ($r = -.02$, $p = .60$).

The specified multilevel model provided a good fit to the data ($\chi^2 = 39.30$, $df = 25$, $\chi^2/df = 1.57$, RMSEA = .03, CFI = .95, TLI = .92, $SRMR_{within} = .02$, $SRMR_{between} = .06$). In

order to test H1 and H2, we regressed LMX on leaders' work engagement, as well as subordinates' work engagement on LMX, by applying the MLR estimator in Mplus (maximum likelihood estimation with robust standard errors), and tested for indirect effects using Bayesian confidence intervals (Falk & Biesanz, 2016). At the between level, leaders' work engagement showed a significant positive relationship to LMX ($\beta = .26$, $p = .04$). At the within level, LMX was positively related to followers' work engagement ($\beta = .46$, $p = .00$). Furthermore, there was a significant indirect effect between leaders' work engagement and follower engagement at the 90% confidence interval [.01, .23].

Since our confirmatory factor analysis revealed that it is possible to interpret the sub-facets of work engagement (absorption, vigor, and dedication) as distinct constructs, we also investigated the effects of the sub-facets of leaders' work engagement. Leaders' absorption had a significant indirect effect on followers' work engagement via LMX with a 90% confidence interval [.02, .17], whereas supervisors' vigor [-.01, .21] and supervisors' dedication [-.04, .20] had no significant effect. These findings lend support to H1 and H2 by showing that leaders' absorption can be specifically transferred from supervisors to their subordinates via LMX.

In order to test H3a and H3b, we regressed followers' work engagement on performance and turnover intentions. The results showed that the followers' work engagement was positively related to their performance ($\beta = .12$, $p = .01$), which supports H3a. Moreover, the followers' work engagement was negatively related to their turnover intentions ($\beta = -.31$, $p < .001$), which supports H3b. Figure 3.1 illustrates the results of our multilevel path analysis.

Between
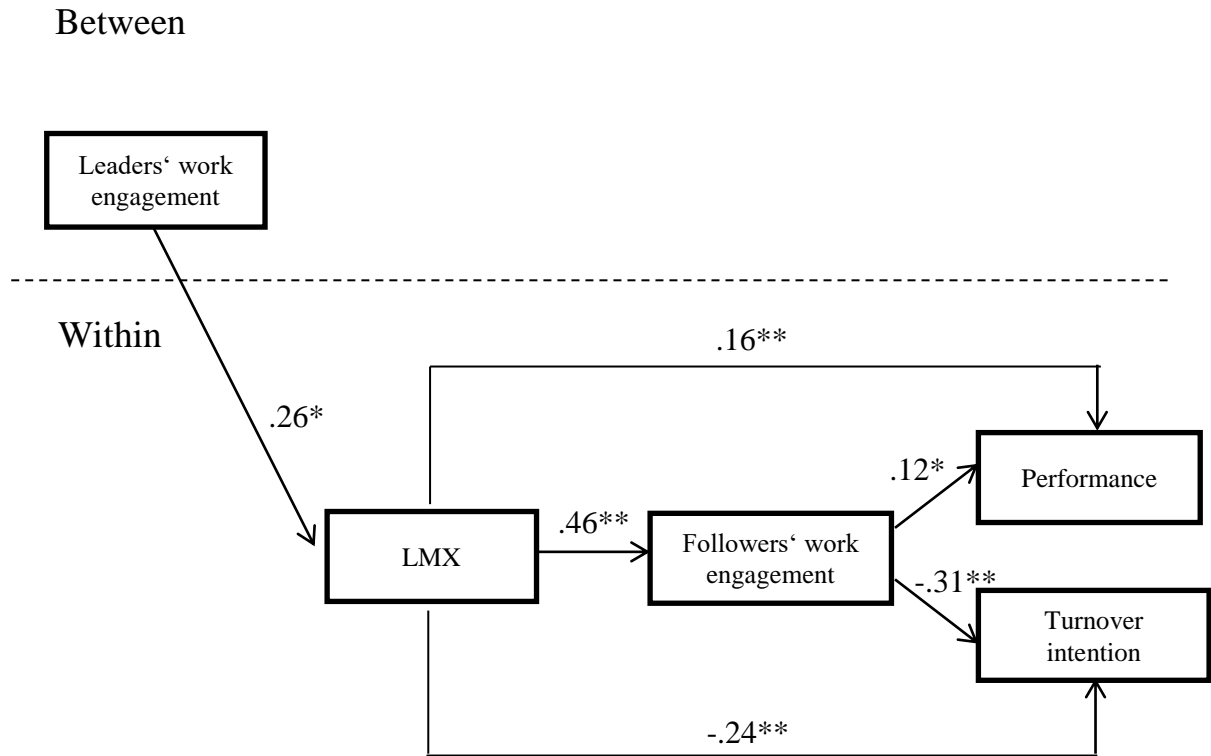
Figure 3.1. Path model showing the standardized effects of leaders' work engagement on LMX, followers' work engagement, and performance outcomes.
Note. * $p < .05$; ** $p < .01$.

Alternative models. We tested alternative models in order to compare our model to other possible models and to further enhance confidence in our results (see Table 3.3). First we specified a direct link from leaders' work engagement to performance (Alternative 1). This model showed a worse fit to the data ($\chi^2 = 360.39$, $df = 48$, $\chi^2/df = 7.51$, RMSEA = .03, CFI = .94, TLI = .91, $SRMR_{within} = .02$, $SRMR_{between} = .11$). As the correlations already depicted, leaders' work engagement and followers' performance are not related (r = -.05, $p = .24$). Moreover, we tested whether LMX was not directly related to performance and turnover intentions (Alternative 2) and found a worse fit here, too ($\chi^2 = 346.56$, $df = 41$, $\chi^2/df = 8.45$, RMSEA = .06, CFI = .85, TLI = .77, $SRMR_{within} = .03$, $SRMR_{between} = .06$). Accordingly, we rejected these alternative models in favor of our proposed model.

Table 3.3

Overview over Model Fit Indices for Proposed Model and Alternative Models

	χ^2	*df*	RMSEA	$SRMR_{within}$	$SRMR_{between}$	CFI	TLI
Proposed Model	39.30	25	.03	.02	.06	.95	.92
Alternative 1	360.39	48	.03	.02	.11	.94	.91
Alternative 2	346.56	41	.06	.03	.06	.85	.77

DISCUSSION

This study followed recent calls to investigate the role of leadership in order to understand employees' work engagement (Bakker et al., 2011). Drawing from crossover theory, we hypothesized, and found, that leaders' work engagement can have a meaningful impact on that of their followers. In terms of the underlying process behind this link, we identified that LMX plays a mediating role. Our multilevel field study thus contributes an important step toward connecting the dots between work engagement research and the leadership literature.

Three main findings accrued from this study. First, we identified leader-follower crossover effects, such that the leaders' work engagement was positively linked to that of their followers. Second, when considering the sub-facets of work engagement, we found that the leaders' absorption was specifically positively related to LMX. Moreover, we found a significant indirect effect between the leaders' absorption and their followers' work engagement via LMX (i.e., mediation model). These findings indicate that leaders' own state of mind concerning their work plays an important role in shaping their relationships with their follower and their state of mind when working. Third, our study revealed that work engagement is related to performance and reduced turnover intentions, both of which are important outcomes for an organization.

Theoretical implications

Our findings contribute to the existing research on work engagement and leadership, thus heeding calls to study the relationship between leadership and work engagement (Bakker et al., 2011). First, our finding that leaders' engagement is positively linked to that of their followers extends previous research on crossover effects, which has mainly focused on crossover between spouses (e.g., Demerouti et al., 2005) or among team members (e.g., Bakker et al., 2006; Lehmann-Willenbrock et al., 2011). Our findings align with recent work on the relevance of leaders' affective states for the follower states (Sy et al., 2005; Visser, Van Knippenberg, Van Kleef, & Wisse, 2013).

Second, whereas most previous work on crossover effects has investigated negative states and strain, our study is among the few that indicate the possibility of a positive crossover in terms of the spread of positive attitudes, such as work engagement (Bakker et al., 2006). Our finding that work engagement can be transferred from leaders to followers underscores the importance of leaders' affective states and attitudes for their followers' attitudes in general and engagement in particular. Similar to recent findings on the influence of daily leadership behavior (Breevaart et al., 2014), our study suggests that organizations aiming to reap the benefits of employee engagement should focus on their leaders. Research on work engagement has primarily focused on employee work engagement, possibly due to its theoretical basis in the JDR model (e.g., Bakker et al., 2014). However, this focus has left the role of leaders' engagement under-researched and its positive effects on employee outcomes under-explored.

Third, our study deepens our understanding of the crossover process between leaders and followers by identifying LMX as a mediator in the context of engagement crossover. Our findings suggest that a good relationship between leaders and followers can explain the transmission of work engagement from leaders to followers. Our analysis of alternative

models further supported the important role of LMX in our model. This finding corresponds to previous research on the mediating role of interpersonal exchange in the context of crossover effects (Westman & Vinokur, 1998). Moreover, our findings indicate that leader's engagement can be an important behavioral indicator and a relationship signal for followers. Among the different sub-facets of leader engagement, our finding that leaders' absorption in particular was linked to follower work engagement via LMX is somewhat intriguing. One might speculate that absorption is the facet of leaders' engagement that subordinates can most easily observe and experience. For instance, an in-depth interview study by Schaufeli and colleagues (2001) described absorption an important facet of engagement, and as the sub-facet of engagement that cannot be considered as an opposite of burnout, as opposed to vigor and dedication. Furthermore, absorption as a particular component of work engagement is closely related to 'flow', in terms of a state of optimal experience, focused attention, and intrinsic enjoyment (Nakamura & Csikszentmihalyi (2014); Schaufeli et al., 2001). Especially the last point may be an explanation why leaders' absorption may be most strongly related to followers' engagement. To explore this idea, we interviewed two of the surveyed supervisors. They maintained that one of their main tasks is to guide and to interact with their followers. This implies that a leader who is highly absorbed in his or her job is highly involved in interacting with followers and may intrinsically enjoy this, which in turn may increase the crossover of work engagement via a good leader-follower relationship. However, future research needs to establish whether this particular finding can be replicated in different organizational settings.

Finally, by linking individual work engagement to positive outcomes that are highly relevant for organizations (i.e., individual employee performance and turnover intentions), our findings underscore the value of focusing on leader-follower engagement crossover for the organization at large. Our finding that individual engagement is linked to beneficial

individual performance outcomes is aligned with previous research on engagement outcomes (e.g., Bakker & Bal, 2010), but also extends previous work to a multilevel perspective of engagement and its effects. By simultaneously considering leaders' work engagement at the team level and followers' work engagement and performance outcomes at the individual level, our study provides a nuanced perspective of engagement antecedents and outcomes in the context of leader-follower relationships.

Practical implications

Promoting work engagement at the managerial level can be a fruitful starting point for fostering an organizational culture of engagement. For example, organizations could consider making engagement a focus of their leadership development efforts. Our findings suggest that such an enhancement of managerial engagement will subsequently cascade down the organizational ranks by promoting high-quality LMX and in turn fostering individual work engagement. Hence, in times of cost-efficient training developments, organizations could utilize the multiplication effects of manager trainings. Specifically, program combinations entailing work engagement, as well as relationship building and maintenance, might ensure the facilitation of leader-follower crossover effects. One particular workplace context in which leaders can foster employee engagement is during regular workplace meetings (Allen & Rogelberg, 2013).

Furthermore, given our finding that followers' work engagement is related to positive outcomes (i.e., performance and turnover intentions), organizations would be well advised to establish work engagement as a core organizational value. To initiate such development efforts, organizations could regularly (e.g., once a year) implement large-scale work engagement surveys. These survey findings could then provide starting points for development workshops in which employees and supervisors discuss the results and decide

which working conditions need to improve in order to foster a positive work engagement climate.

Limitations and future research directions

As with any empirical study, our study has several limitations. First, we collected our data from white-collar workers in a German service organization, which potentially limits the generalizability of our findings with regard to the sample's industry, culture, and ethnic composition. Future research should aim to replicate our findings in different organizational or cultural settings, and could also take a closer look at the effects of gender in the context of leader-to-follower engagement crossover. Especially female leaders tended to report higher engagement. Different organizational settings might also lead to gender differences in terms of followers' engagement. Moreover, future research could examine how gender matching between leaders and followers might moderate the strength of leader-to-follower crossover. In addition, future research could also explore leader and follower work engagement at the larger organizational level. Note that in our study the focus was on the middle management level, due to the fact that we aimed to investigate leader-follower transference of work engagement and that we assumed that direct interaction is a requirement for such a crossover effect. Future research could expand these findings to larger organizational units. Furthermore, future longitudinal studies could help address questions of causality and examine to what extent the leader-to-follower engagement crossover as investigated in this study could also take the opposite direction.

Second, we asked employees to report their annual performance appraisal. By definition, the company requires this performance measure to follow a normal distribution across organizational units, which is at odds with research on the distribution of individual performance (e.g., Aguinis & O'Boyle, 2014). Nevertheless, we did identify a positive relationship between individual work engagement and performance, although the relationship

between follower engagement and follower performance was notably weaker than the relationship between engagement and turnover intentions. This finding somewhat diverges from previous research (Halbesleben, 2010; Halbesleben & Wheeler, 2008), perhaps due to our performance measurement approach, in terms of asking the followers to indicate their annual performance evaluation. In comparison, previous findings on the engagement-performance link (Halbesleben & Wheeler, 2008), as well as our present findings regarding turnover intentions as an engagement outcome, are based on more subjective self-report measures, which may explain the relatively stronger link between engagement and turnover intentions identified here. Moreover, individual performance may depend on a number of factors besides engagement, and different follower outcomes can be intertwined. For instance, although not the focus of our current study and theoretical model, we identified a significant negative correlation between employees' turnover intentions and performance ($r = -.12**$; $p = .01$). Future research should examine such linkages in more detail.

Third, our study investigated LMX as a mediator of the crossover effect between leader and follower engagement. Arguably, the quality of LMX hinges not only on leader engagement, but also on other factors, such as the interaction frequency between leaders and followers. Although a high-quality LMX relationship implies some interpersonal exchange between the two parties (Dulebohn et al., 2012), future research should specifically account for the amount of actual contact between leaders and followers, which could also be a boundary condition for the effects identified here. Further potential boundary conditions that provide avenues for future research concern the extent to which a leader-follower setting is hierarchical, the specific type of occupation or industry, and particularly the extent to which the followers' work is interdependent and involves input from, or reliance on, a leader. Future research can also consider other possible mediators of leader-follower-crossover, such as positive feedback.

Fourth, we relied on self-reported data for some of our study variables. As such, common method bias could be an issue in our study. To alleviate this concern, we followed recommendations by Podsakoff, MacKenzie, Lee and Podsakoff (2003) and calculated a CFA letting all items load on one single factor. The CFA indicated that a single factor was not the best fitting solution for our measurement model (χ^2 = 1708.29, df = 77, χ^2/df = 22.19, RMSEA = .20, CFI = .66, TLI = .60, $SRMR$ = .11). If common method bias was indeed a problem in our study, this factor solution would fit better or as well as our differentiated model, which was not the case ($\Delta\chi^2$/ Δdf = 908.55). However, future research should aim to replicate our findings using data from multiple sources.

Fifth, we focused on engagement transferring from leaders to individual followers (by way of LMX), but we did not investigate potential team dynamics related to leader engagement and its effects. For example, when a team leader exhibits high engagement and this impacts an individual team member, other members may "catch" engagement from that team member rather than from the leader him-/herself. This might result in positive engagement spirals in the team (cf. positivity contagion; Lehmann-Willenbrock, Chiu, Lei, & Kauffeld, 2017), which may in turn affect the leader's engagement. Such dynamic perspectives could be captured by future research using longitudinal measurements of entire teams and their leaders.

Finally, although engagement is an inherently positive construct (Bakker et al., 2008; Seligman & Csikszentmihalyi, 2000), and while our findings support this positive notion, future research should also consider possible curvilinear relationships. Engagement could become "too much of a good thing," and there may even be a dark side to engagement (cf. Bakker et al., 2011; Maslach, 2011). When leaders' engagement reaches excessively high levels, the benefits of for follower engagement might fade, or engagement crossover may diminish. Future research can pursue this idea.

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CHAPTER 4

BRIDGING THE GAP BETWEEN ORGANIZATIONAL ENGAGEMENT RESEARCH AND PRACTICE: DEVELOPMENT AND VALIDATION OF THE ENGAGEMENT-INDEX (ENG-I) IN A SCHOLAR-PRACTITIONER COLLABORATION*

ABSTRACT

Researchers have proposed different definitions of work engagement, along with a range of different approaches to assess this construct. Furthermore, the organizational practice of measuring employee engagement can diverge greatly from scientific approaches. In the present study, we introduce the Engagement-Index (ENG-I) as an instrument that aims to bridge this science-practice divide. In close collaboration with a German service organization, the ENG-I was developed and validated by means of four samples measured at four points in time, once per year ($n = 1,432$; $n = 31,590$; $n = 30,956$; $n = 29,917$). The results indicated good internal consistency and retest reliability values, as well as a stable and replicable factor structure. The ENG-I showed positive relationships with performance and turnover intentions in terms of its predictive validity. In terms of theoretical and practical contributions, the ENG-I was shown to be a measure that meets scientific and practical requirements, such as validity, reliability, acceptability, and practicality.

Keywords:

HR Measurement issues; Motivation; Scale development/validation; Strategic HR; Organizational development

INTRODUCTION

Work engagement has gained considerable attention by both practitioners and academics during the past 20 years (Bailey, in press; Guest, 2014a; Peccei, 2013). However, it can be observed that practitioner approaches to engagement have rarely been influenced by academic findings (Guest, 2014b) and that research and practice on engagement tend to develop away from each other (Bailey, in press; Wefald & Downey, 2008). As evidence-based management is more and more advocated (Rousseau, 2012), it would be beneficial if research and practice concerning the topic of engagement would move closer again (Guest, 2014a). Thus, the topic of employee engagement seems to be an example of a gap between research and practice in the field of HRM, which goes in line with previous findings that found that there is a stable research-practice gap in general and for motivation-related HR topics (Beer, Boselie, & Brewster, 2015; Deadrick & Gibson, 2009; Zhang, Levenson, & Crossley, 2015). This paper aims to bridge that gap by following an action research approach (Zhang et al., 2015) in which a new measurement of employee engagement was developed, validated, and applied together with and in the collaborating organization. The measure intends to fit scientific psychometric properties as well as practical requirements by allowing an effective human resource management with regard to the requirement of establishing continuous and dialogue-based follow-up processes after an employee survey. Combining personnel and organizational development for continuous improvement is a crucial aspect from HR practitioner's point of view regarding engagement surveys. The instrument has been applied in a nationwide German network of service organizations since 2013.

In the academic literature there are two main definitions of work engagement. Kahn (1990) was the first author who introduced work engagement as a scientific concept, which he defined in a behavioral way in terms of employees' willingness to fully invest themselves in their work roles. About a decade later, Schaufeli and colleagues (Schaufeli, Salanova,

Gonzalez-Roma, & Bakker, 2002) introduced work engagement as a positive, fulfilling, work-related state of mind, therewith positioning it in a more attitudinal way (Guest, 2014; Peccei, 2013).

Work engagement has been linked to numerous positive outcomes, such as commitment, performance, and reduced turnover intentions (Gutermann, Lehmann-Willenbrock, Boer, Born, & Voelpel, 2017; Halbesleben, 2010; Halbesleben & Wheeler, 2008). Owing to these beneficial effects, employee engagement is often seen as a competitive advantage for organizations (Gruman & Saks, 2011), thus receiving increasing attention from both researchers and practitioners in recent years (Schaufeli & Bakker, 2010).

Despite the general agreement that work engagement is an important construct within organizations, there is no consensus to date on its definition and measurement (Macey & Schneider, 2008). According to Kahn's definition (1990) of engagement as employees' willingness to physically, cognitively, and emotionally invest themselves in their work roles, the Job Engagement Survey describes Kahn's definition best until now (JES; Rich, Lepine, & Crawford, 2010). Schaufeli and colleagues (2002) define engagement as an attitude, with the Utrecht Work Engagement Scale representing their definition best (UWES; Schaufeli et al., 2002). In addition to these two different scientific approaches to defining and measuring work engagement, organizational practice has also worked on capturing employee engagement, often developing practical approaches independently from academe (Bailey, in press). In particular, consultancy firms have developed specific approaches and measurement instruments for assessing work engagement (Bailey, in press; Peccei, 2013, Wefald & Downey, 2009). However, in terms of practical approaches of employee engagement, research and practice drive seriously away from each other, which can be seen as problematic (Bailey, in press; Wefald & Downey, 2008). The Gallup organization defines employee engagement as "individual's involvement and satisfaction with as well as enthusiasm for

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work" (Harter, Schmidt, & Hayes, 2002: 269). Yet, with the exception of Gallup's Q12 employee engagement scale (Harter et al., 2002), most of these practice instruments have not been scientifically developed and evaluated (Bailey, in press; Peccei, 2013; Wefald & Downey, 2009). In sum, there are only a few scientifically validated engagement measures (Byrne, 2015; Byrne, Peters, & Weston, 2016). Since the few existing assessments (scientific and practitioner approaches) have been criticized for either not being practical enough in the work context, or for not being scientifically validated, scholars have proposed taking a step back and focusing on the measurement issues to clarify the diverging understandings of the engagement construct, which was one initial point of the present scholar-practitioner-project as well (Byrne, 2015; Cole, Walter, Bedeian, & O'Boyle, 2012).

By and large, scientific and practical approaches to measuring work engagement have often developed independently of one another. Typical causes for this have been differing logics, interests and incentives between researchers and practitioners, differing communication styles, and differing rigor and relevance (Bartunek & Rynes, 2014). Accordingly, a measurement instrument that combines and integrates practitioners' needs, that is acceptability and practicality, as well as scientific needs and requirements, that is a psychometrically valid instrument, is yet to be developed (Byrne, 2015). To address this need, the present study introduces the Engagement-Index (ENG-I) as a means of bridging the science-practice divide in the context of measuring employee work engagement. The ENG-I was collaboratively developed between a large German service organization and researchers of the VU Amsterdam and Jacobs University Bremen. By introducing this instrument, we follow Kahn's (1990) behavioral definition of work engagement, thereby addressing calls for more research into work engagement's behavioral components (Peccei, 2013). We assess work engagement in the field by combining the scientific principles of psychometrically sound scale development with practitioners' requirements. Simultaneously, this approach

links the scientifically sound diagnostics of engagement to an effective human resource management practice. Therefore, a structured follow-up process with regard to continuous development of the organization is necessary. We present findings from the collaborative instrument development process and show results of four samples at four measurement points with $n = 1,432$ to $n = 31,590$ employees in a German service organization.

THEORETICAL BACKGROUND

There are two important scientific definitions of work engagement each emphasizing different nuances. Kahn (1990) defined the concept of engagement from a behavioral perspective, describing it as employees' willingness to fully invest themselves in their work roles. A central tenet in Kahn's definition of engagement is the idea that employees can express themselves in their work roles and simultaneously fulfill their job's role requirements (Fletcher, Bailey, & Gilman, 2017; Kahn, 1990). Rich and colleagues summarized Kahn's behavioral approach by describing it as "investing the 'hands, head and heart' in active, full work performance" (Rich et al., 2010, p. 619). The second well-known definition of work engagement stems from Schaufeli and colleagues (2002), who define work engagement as a positive, fulfilling, work-related state of mind characterized by vigor, dedication, and absorption (Schaufeli et al., 2002). An important distinction between the behavioral approach by Kahn (1990) on the one hand and the attitudinal approach by Schaufeli and colleagues (2002) on the other hand concerns the focus of the two definitions and the respective measurements that come along with them. Peccei (2013) summarizes this distinction in terms of two broader categories: Attitudinal (state) work engagement (Schaufeli et al., 2002) and behavioral work engagement (Kahn, 1990). In our study, we follow Kahn's (1990) approach, which means that we emphasize the behavioral components of work engagement. Such an emphasis is important given the social context in which expressions of work engagement

typically occur and are observed by others, such as colleagues and managers (e.g., Breevaart, Bakker, Demerouti, & Van den Heuvel, 2015). Moreover, a focus on behavioral engagement aligns with important behavioral outcomes of work engagement, for example, organizational performance (e.g., Halbesleben, 2010; Harter, Schmidt, & Hayes, 2002).

Another reason for the development of an engagement measure in organizational contexts is that organizations not only conduct engagement surveys to assess employee engagement, but also use the results as a starting point for improvement processes in the organization. By doing so, one goal of practitioners is to improve their organization in terms of a cultural, transformational change by fostering good working relationships and working conditions. HR departments, managers, and executives thus need measures that are not only closely related to performance outcomes, but that can also yield insights to influence the employee-organization relationship positively (Eldor & Vigoda-Gadot, 2016).

The assessment of work engagement

Despite the distinction between behavioral and attitudinal work engagement in the literature (cf. Peccei, 2013), most scientific approaches to measuring engagement have focused exclusively on engagement as a work attitude. One of the most popular and frequently used instruments for research purposes is the Utrecht Work Engagement Scale, UWES (e.g., Schaufeli et al., 2002; Schaufeli, Bakker, & Salanova, 2004). The UWES comprises the following three dimensions: vigor, dedication, and absorption. The first version of the UWES comprised 17 items, which was later reduced to a nine-item version for improved efficiency (Schaufeli, Bakker & Salanova, 2006). However, despite its widespread use in psychological research, some scholars have also pointed out the UWES's shortcomings, particularly regarding the proposed three-dimensional structure (e.g., Shirom, 2003; Sonnentag, 2003).

In comparison to attitudinal engagement, which can be assessed with the well-known, validated UWES, the literature has, to date, less to offer for those researchers or practitioners interested in measuring behavioral rather than attitudinal work engagement. A reason for the paucity of research on behavioral engagement is the lack of a widely accepted measurement of behavioral engagement (Peccei, 2013). Rich, Lepine, and Crawford (2010) introduced an 18-item measure that corresponds to Kahn's (1990) definition by considering the physical, cognitive, and emotional components of work engagement. However, the scale is still in need of some clarification (Peccei, 2013). For example, it is not clear whether the sub-facet of emotional engagement actually represents Kahn's (1990) behavioral definition of engagement (Peccei, 2013).

Besides the emerging scientific interest in work engagement, it is also a construct of interest for many companies and consultancy firms. Accordingly, several instruments have been developed to measure engagement within organizations (Wefald & Downey, 2009). One of these instruments used in business settings is the Gallup Q-12. This measure consists of 12 items. The Gallup Q-12 to our knowledge is the only practitioner instrument that has been evaluated and published in scientific journals (e.g., Harter et al., 2002). However, there is also some criticism of the scale. Specifically, most researchers argue that the Gallup index does not assess employee engagement itself, but its antecedents (e.g., Schaufeli & Bakker, 2010).

Owing to the disagreement about the conceptualization of work engagement, the behavioral approach that follows Kahn's (1990) definition is a promising way of bringing more clarity to its conceptualization (Peccei, 2013; Wefald & Downey, 2009). First, a focus on behavioral rather than attitudinal engagement may help us bridge the gap between practitioner needs and scientific requirements for scale development, since the observable behavior that employees show is often more important than their attitude for organizational

functioning (Harter et al., 2002). Second, there are calls for more research to compare the behavioral and attitudinal engagement constructs (Peccei, 2013). We address these concerns by developing the ENG-I, and establishing its psychometric properties.

Towards a valid engagement measure that bridges the science-practice divide

Consistent with scientific requirements, we define several conditions which should be fulfilled in order to establish the psychometric quality of our new engagement measure, the ENG-I.

First, the ENG-I should show a robust and replicable construct validity (Coolican, 2014) by assessing different factors of engaged behavior, such as active participation in discussions or working on tasks persistently. We aim to check these components of engaged behavior by applying exploratory and confirmatory factor analyses (Coolican, 2014).

Second, an important aspect of construct validity is to check for the convergent validity of a new measure. The convergent validity describes the amount of variance shared by alternative measures of a construct (Coolican, 2014; see also Poropat & Jones, 2009). Since we aim to assess work engagement, we consider the UWES (Schaufeli et al., 2006) an appropriate comparison point for establishing the convergent validity of our new measure. Even though the ENG-I aims to assess behavioral engagement and the UWES assesses attitudinal engagement, the correlation between the two measures may be substantial. Intuitively, employees who have an engagement attitude will indeed show engaged behavior (Ajzen, 1991). Accordingly, we expect the correlation to be quite high, but not perfect.

Third, because reliability is an important requirement for construct validity (Coolican, 2014), we calculate two reliability measures, namely internal consistency and test-retest reliability (Coolican, 2014). The internal consistency, estimated by the alpha coefficient, indicates the extent to which items assess the same construct under the assumption of unidimensionality (Coolican, 2014). The test-retest reliability indicates the degree to which a

scale-result is related to a time-lagged result of the scale in the same sample (Coolican, 2014).

Fourth, the predictive validity of an instrument is a further important validity condition. Given that one of the core characteristic of work engagement is its relationship to performance (e.g., Bakker, 2009; Halbesleben & Wheeler, 2008), we expect the ENG-I to predict performance. Furthermore, we aim to test if the ENG-I is related to turnover intentions, as previous studies showed linkages between work engagement and turnover intentions (e.g., Brunetto, Teo, Shacklock, & Farr-Wharton, 2012; Halbesleben & Wheeler, 2008).

Fifth, as we describe that the ENG-I assesses behavioral work engagement whereas the UWES assesses attitudinal work engagement, we expect that attitudinal engagement (measured by the UWES) predicts behavioral engagement (measured by the ENG-I). Peccei (2013) already describes this idea in a theoretical manner, although empirical evidence to this end has yet to be provided. When considering the link between attitudinal and behavioral engagement in concert with our assumption that the ENG-I can predict performance (i.e., predictive validity, see above), this suggests a mediator model for ENG-I. In other words, we expect that attitudinal engagement (measured by the UWES) relates to performance via behavioral engagement (measured by the ENG-I).

In summary, we describe a series of conditions that should be met in order to support the psychometric quality of the ENG-I. These are as follows:

1. The ENG-I should show a robust construct validity by assessing different factors of engaged behavior, such as communication and willingness to strive.

2. The ENG-I is a reliable measure in terms of having a) a good internal consistency and b) high test-retest reliability at different points in time.

3. The ENG-I shows good convergent validity, which is an important aspect of construct validity, by exhibiting a high correlation with the UWES.

4. The ENG-I shows good predictive validity by predicting important engagement outcomes, such as performance and reduced turnover intentions.

5. The ENG-I forms a behavioral engagement measure, by mediating the relationship between attitudinal engagement (UWES) and performance.

METHODS

Sample and procedure

All data for this study were gathered in a nationwide network of service organizations in Germany. Data for developing and validating the instrument were gathered starting in 2012 within a pretest of the ENG-I in ten comparable organizations within this network (sample 1; $n = 1{,}432$ employees). This pretest was conducted in order to statistically develop the instrument and test its acceptability and practicality in the organization. After that, the survey was applied annually across the entire nationwide network of organizations, in 2013 (sample 2; $n = 31{,}590$), in 2014 (sample 3; $n = 30{,}956$), and in 2015 (sample 4; $n = 29{,}917$). Samples 2, 3, and 4 were mostly drawn from the same employees, although, due to strong legal privacy regulations we were unable to establish the exact percentage of overlap, or the relationships among variables across these years at the individual level but at the organizational level. Sample 1 was a subset of samples 2, 3, and 4.

The goal of the organizations that participated in the survey was to make work engagement a core value of their personnel and organizational development. They wanted to promote good working relationships and favorable working conditions, and to strengthen leadership and collaboration. Accordingly, they aimed to implement a scientifically

developed annual engagement assessment. The organization in our sample provide labor market services for the promotion of employment opportunities, the placement of potential candidates for job interview procedures, and services regarding unemployment benefits. A central department responsible for distributing employee surveys within the organization sent the surveys by email once per year at all four measurement points. Participation was voluntary, and the participants were informed that all the data would remain anonymous. The workers' council approved the study.

In sample 1, 68.2% of the employees were female, 25.3% worked part-time, and 13.5% held an executive function. The majority of the participants were older than 40 years (70%). In sample 2, 64.9% were female, 24.5%/ worked part-time, and 10.8% held an executive function. The majority of the participants were older than 44 years (51.4%). In sample 3, 65.7% were female, 24.5% worked part-time, and 10.8% held an executive function. The majority of the participants were older than 44 years (56%). In sample 4, 66.1% were female, 26.1% worked part-time, and 10.8 % held an executive function. The majority of the participants were older than 44 years (55.2%). These values correspond to the representation of the mentioned groups in the whole organization.

Instrument development

With regard to the goal to implement a scientifically developed annual engagement assessment the development process was established as a collaborative research project between the participating Universities in Bremen and Amsterdam (VU) and the central HRM department of the German service organization. To support the project, to implement the survey in the organization, and to ensure continuous transfer of knowledge in both directions, a doctoral student of the University worked in the organization for two years.

In order to develop an empirically funded model of behavioral work engagement, an interdisciplinary focus group was formed (about 12 persons) comprised of researchers,

management staff, HR survey experts in the organization, employees, and work council representatives. This focus group first identified 90 items as indicators of engagement behavior in their organizational context. In line with Kahn's (1990) definition, the item development process was focused on specifying observable engagement behaviors of employees in an organization, such as showing active participation in discussions or working on tasks persistently and in a goal-oriented manner. The focus group discussed and selected items if their peers and colleagues did indeed experience their content as engaged behavior in the work context.

After an initial item selection, group discussions were held with employees at the company headquarter, during which the item pool was reduced to 31 items. In the first pretest online survey, we used the 31 ENG-I items, as well as other relevant scales, such as performance and turnover intentions, to test the instrument's validity. Moreover, along with the pretest, we simultaneously administered the UWES (Schaufeli, Bakker, & Salanova, 2006; translated version taken from Hering, 2008) to establish the ENG-I's convergent validity. After the pretest, we conducted individual interviews with the executives of all ten participating organizations in order to verify the practical feasibility and acceptance of the survey.

Measures

Work engagement was measured with 31 ENG-I items, such as "I use my competencies in order to perform my job well" and "I actively participate in meetings." The response format was a six-point Likert scale ranging from 1 (very often) to 6 (never).

Second, we also used the nine-item version of the UWES (Schaufeli, Bakker, & Salanova, 2006; translated version taken from Hering, 2008; overall $\alpha = .92$). The scale comprises three sub-facets of work engagement (vigor, dedication, absorption) with three

items each. A sample item was, "At my work, I feel bursting with energy". The response format was a six-point Likert scale ranging from 1 (very often) to 6 (never).

Performance was assessed by asking participants to indicate the result of their annual performance assessment they received from their supervisor. Due to confidentiality agreements with the workers' council, we could not obtain the official performance records. Instead, we asked the participants to report their annual performance appraisal. Lending support to this approach, previous research has shown that there is substantial convergence between employees' self-reports of their performance appraisal and official performance appraisal records in organizations ($r = .86$; Levy & Williams, 1998). The assessments are graded from A to E. In order to link the performance ratings to other survey scales, we converted the performance assessment letters into numbers from 1 (best performance) to 5 (worst performance) respectively.

Turnover intentions were assessed using a single item adapted from Spector, Dwyer, and Jex (1988): "During the last six months, how often did you think about quitting your job?" We applied a six-point Likert scale ranging from 1 (very often) to 6 (never). The item was translated into German by two translators following a translation-back-translation procedure (Brislin, 1970).

Control variables. We controlled for gender (0 = male, 1 = female), age, leadership role (0 = leadership role, 1 = no leadership role), and full- or part-time employment (0 = part-time, 1 = full-time) in all analyses. Owing to data confidentiality agreements with the workers' council, we could not measure the exact individual age, but rather assessed age in four clusters: 1 (under 30 years), 2 (30-39 years), 3 (40-49 years), and 4 (over 50 years) in sample 1, and 9 clusters in 5-year steps in samples 2-4.

Data analysis

Applying exploratory factor analysis, a possible factor structure was extracted. Those items were selected that showed high factor loadings and, simultaneously, an unequivocal structure. Additional criteria for the selection of items were derived from item analysis concerning item difficulty, precision, and internal consistency. In order to secure the external construct validity, we applied regression analyses with relevant external variables, simultaneously with the UWES and the ENG-I in sample 1. In addition, we tested the construct validity further by using confirmatory factor analyses (CFA) in Mplus 6.0 in samples 2-4. Finally, we ensured the retest-reliability at the organizational level in samples 2-4.

RESULTS

The means, standard deviations, and intercorrelations of all the study variables of the pretest (sample 1) and the final ENG-I scale are presented in Table 4.1.

Table 4.1

Means, Standard Deviations, and Zero-order Correlations of the Study Variables (sample 1)

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Work engagement (ENG-I)	2.24	.66																
2. Identification (ENG-I)	2.78	1.01	.85**															
3. Willingness to strive (ENG-I)	1.51	.54	.75**	.48**														
4. Workability (ENG-I)	2.25	.94	.67**	.45**	.43**													
5. Individual fulfillment (ENG-I)	2.50	.99	.82**	.66**	.50**	.45**												
6. Proactive Communication (ENG-I)	2.27	.84	.76**	.47**	.60**	.35**	.54**											
7. Work engagement (UWES)	2.51	.92	.79**	.67**	.54**	.50**	.77**	.54**										
8. Vigor (UWES)	2.48	.98	.75**	.62**	.50**	.54**	.72**	.48**	.91**									
9. Dedication (UWES)	2.52	1.08	.74**	.63**	.48**	.45**	.75**	.52**	.92**	.77**								
10. Absorption (UWES)	2.53	1.01	.63**	.54**	.46**	.35**	.59**	.44**	.87**	.67**	.68**							
11. Performance	2.73	.57	.23**	.14**	.20**	.09**	.24**	.24**	.19**	.20**	.19**	.14**						
12. Turnover intention	5.30	1.28	-.43**	-.46**	-.24**	-.28**	-.45**	-.17**	-.42**	-.42**	-.41**	-.30**	-.14**					
13. Gender	.68	.47	-.09**	-.09**	-.11**	-.08**	-.04	-.01	-.08**	-.06*	-.03	-.13**	.03	.07**				
14. Age	2.98	1.02	-.04	.01	.01	.01	-.17**	-.02	-.17**	-.16**	-.16**	-.14**	-.03	.14**	-.08**			
15. Leadership function	.86	.34	.07*	.04	.02	-.10**	.08**	.22**	.05	.04	.05	.04	.12**	-.03	.21**	-.10**		
16. Full- or part-time employment	.75	.44	.03	-.04	-.01	.03	.03	-.08**	.03	.06*	-.01	.04	-.04	-.06*	-.32**	-.09**	-.15**	

Note. n = 1,432; * p < .05; **p < .01. Age was coded as follows: 1 (under 30 years), 2 (30-39 years), 3 (40-49 years), and 4 (over 50 years); gender was coded as 0 = male, 1 = female; leadership function was coded as 0 = yes, 1 = no; and full/part-time employment was coded as 0 = part-time, 1 = full-time.

Construct Validity

In order to establish the construct validity and to obtain a first impression of the developed items' factor structure, we conducted exploratory factor analyses using a varimax rotation including factors with eigenvalues equal or higher than 1 by means of SPSS. The results indicated a five-factor structure, explaining 67% of the total score variance. We selected those items of the original 31 that showed high factor loadings and, simultaneously, had an unequivocal structure (see Table 4.2). Furthermore, we checked the item difficulty, precision, and internal consistencies. Of the original 31 items, we chose 19 items that met these criteria best (see Table 2 for the final items). The five resulting factors can be described as follows:

Willingness to strive means the contribution to individual and team tasks and the support of colleagues. A sample item is, "I work on my tasks in a persistent and goal-oriented manner". The sub-facet is assessed with five items.

Proactive Communication means that employees interact actively with colleagues and managers, share and pass on knowledge, and actively involve themselves in discussions. A sample item is "I actively participate in meetings". The sub-facet is assessed with four items.

Identification means that employees act according to the organization's mission, support changes, and enjoy working for their employer. A sample item is "I align my daily work according to the goals of my organization". The sub-facet is assessed with four items.

Individual fulfillment means that employees highly merge with their work role, can realize their expectations, are able to use their professional strengths, and can express themselves in their work roles. A sample item is "In my current job, I can adequately contribute my expectations and ideas". The sub-facet is assessed with four items.

Work ability means to be able to cope with the job requirements and fulfill necessary tasks in the long term. A sample item was, "I actively contribute to the compatibility of my work and private obligations". The sub-facet is assessed with three items.

Table 4.2

Results of exploratory factor analysis (ENG-I; sample 1)

	1	2	3	4	5
Item					
1. I work on my tasks in a persistent and goal-oriented manner.	**.76**	.11	.15	.25	.13
2. I have a strong drive to achieve high quality work results.	**.75**	.23	.24	.09	.17
3. My colleagues can rely on my support even under difficult circumstances.	**.67**	.27	.16	.08	.06
4. I am willing to give my best for the achievement of team goals.	**.62**	.23	.58	.11	.07
5. I use my competencies in order to perform my job well.	**.64**	.22	.07	.32	.27
6. I actively participate in meetings.	.24	**.77**	.10	.03	.07
7. In everyday work life I actively contribute in order to excite my colleagues for ideas.	.14	**.76**	.18	.15	.27
8. I actively contribute to successful information exchange within the team.	.27	**.75**	.10	.15	.08
9. I encourage colleagues to do their utmost to support team goals.	.18	**.72**	.33	.09	.24
10. I identify with the mission of my organization.	.07	.17	**.73**	.12	.36
11. I support changes in my organization as much as possible.	.27	.19	**.69**	.14	.09
12. I align my daily work with the goals of my organization.	.37	.23	**.65**	.14	.10
13. If I had the choice once more today, I would again choose my organization as an employer.	.01	.08	**.64**	.24	.42
14. Overall, I can manage my workload (amount and quality) well.	.11	.09	.20	**.83**	.08
15. I am convinced that I can handle my job requirements in the long run.	.18	.14	.18	**.80**	.12
16. I actively contribute to the compatibility of my work and private obligations.	.21	.08	.06	**.68**	.17
17. At work I have the possibility to do what I can do best.	.25	.15	.15	.19	**.76**
18. In my current job, I can adequately contribute my expectations and ideas.	.08	.18	.33	.34	**.67**

19. My work is more than just a job for me.	.21 .29 .27 .01 **.67**	

Note. Sample 1 (n = 1,432); Factor 1: Willingness to strive; factor 2: proactive communication; factor 3: identification; factor 4: workability; factor 5: individual fulfillment

In line with our earlier exploratory factor analysis of sample 1, a confirmatory factor analysis was first conducted in sample 2. The results showed that the second-order five factor structure of the ENG-I provided the best fit to the data (χ^2 = 27021.49, df = 147, χ^2/df = 183.82, RMSEA = .08, CFI = .91, TLI = .90, SRMR = .06; see Table 4.3; due to the large sample size, $\chi^2$is not interpretable, see Raykov, 2012). We replicated these analyses in samples 3 and 4. The second-order five-factor structure provided a good fit for both additional samples (sample 3: χ^2 = 27109.19, df = 147, χ^2/df = 184.42, RMSEA = .08, CFI = .93, TLI = .92, SRMR = .06; sample 4: χ^2 = 27755.26, df = 147, χ^2/df = 188.81, RMSEA = .08, CFI = .93, TLI = .91, SRMR = .07). Taken together, these findings satisfy condition 1 regarding the ENG-I's construct validity.

Table 4.3

Results of the confirmatory factor analysis

	χ^2	df	χ^2 / df	RMSEA	*SRMR*	CFI	TLI
1-factor model (sample 2)	310323.07	171	1814.75	.24	.35	.00	.00
2-factor model (sample 2)	95535.17	151	632.68	.14	.09	.69	.65
3-factor model (sample 2)	82457.63	149	553.41	.13	.09	.74	.70
4-factor model (sample 2)	51073.57	146	349.82	.11	.07	.84	.81
5-factor second order model (sample 2)	27021.49	147	183.82	.08	.06	.91	.90
5-factor second order model (sample 3)	27109.19	147	184.42	.08	.06	.93	.92
5-factor second order model (sample 4)	27755.26	147	188.81	.08	.07	.93	.91

Note. Sample 2-4 at the individual level (sample 2: n = 31,590; sample 3: n = 30,956; sample 4: n = 29,917)

Reliability

In order to ensure the reliability (prediction 3), we calculated the internal consistency and the test-retest reliability. First, in terms of the internal consistency, the ENG-I showed good values for the full scale (α = .91), as well as for its five sub-facets: willingness to strive (α = .84), communication (α = .84), identification (α = .79), individual fulfillment (α = .77), and workability (α = .77).

Second, owing to the participating organizations aiming to assess organization-wide work engagement, we could calculate the test-retest reliability at the organizational level. We ran the analyses of samples 2-4 at three measurement points (with one year in between each measurement). The ENG-I total score, as well as its sub-facets, showed high correlations between samples 2 and 3 (*r's* ranging from *r* = .61 to *r* = .79), between samples 3 and 4 (*r's* ranging from *r* = .60 to *r* = .81), and slightly lower, but still significant, correlations between samples 2 and 4 (*r's* ranging from *r* = .53 to *r* = .66). All the values were significant at a level of *p* < .01 (see Table 4.4). In sum, these findings support condition 2 regarding the reliability of the ENG-I.

Table 4.4

Test-retest reliabilities of the ENG-I at the organizational level

ENG-I sample 2	Samples 2 and 3	Samples 2 and 4	Samples 3 and 4
ENG-I	.76**	.66**	.75**
Willingness to strive	.61**	.53**	.62**
Proactive Communication	.70**	.57**	.60**
Identification	.79**	.72**	.81**
Individual fulfillment	.74**	.64**	.75**
Workability	.72**	.63**	.77**

Notes. Test-retest reliabilities established for samples 2-4 at the organizational level, respectively (total $N = 156$ organizations).

Convergent validity

As presented in Table 4.1, the ENG-I showed a high correlation with the UWES total score ($r = .79$, $p < .01$). Since our aim was to assess work engagement, we considered the UWES (Schaufeli et al., 2006) to be an important comparison point for establishing the convergent validity of the ENG-I. However, the ENG-I aims to assess behavioral engagement in organizations, whereas the UWES assesses attitudinal engagement, which may be a predictor of engaged behavior. Accordingly, it is likely that the correlation is high but not perfect. Taken together, these findings satisfy condition 3 regarding the convergent validity of the ENG-I.

Predictive validity

We conducted regression analyses in order to establish the predictive validity of the ENG-I (sample 1). The respective results of these analyses are shown in Table 4.5. When controlling for gender, age, leadership function, and full-/part-time employment, we found that the ENG-I was positively related to performance ($\beta = .23$, $p < .01$) and turnover intention ($\beta = -.42$, $p < .01$). These findings support condition 4 regarding the predictive validity of the ENG-I.

Table 4.5

Results of regression analysis of the ENG-I (sample 1)

| Predictor	Performance (n = 1,036) β	Turnover intention (n = 1,179) β
Gender	.02	.03
Age	.01	.11**
Leadership function	.09**	-.004
Full- or part-time employment	-.01	-.05
ENG-I	.23**	-.42**
R^2	.07	.20
R^2_{adj}	.06	.20
F	15.02**	58.66**
Df	5	5

Note. Sample 1 (n = 1,432); * $p < .05$; **$p < .01$
Gender was coded as 0 = male, 1 = female; leadership function was coded as 0 = yes, 1 = no; and full/part-time employment was coded as 0 = part-time, 1 = full-time.

Mediation model on attitudinal and behavioral engagement

In order to examine how attitudinal engagement and behavioral engagement work in concert in order to predict performance, we calculated a mediation path model for sample 1 at the individual level, with attitudinal engagement (UWES) the predictor, behavioral engagement (ENG-I) the mediator, and performance the outcome variable (see Figure 4.1). The model showed a good fit to the data (χ^2/df = 3.85; RMSEA = .05; CFI = 1.00; TLI = .99; SRMR = .01). Furthermore, we found that attitudinal engagement (UWES) was positively related to behavioral engagement (ENG-I; $\beta = .70$, $p < .01$), which in turn positively predicted performance ($\beta = .21$, $p < .01$). Additionally, by applying bootstrapping analysis (CI = .07, .12; 95% confidence interval), we found that attitudinal engagement had a significant indirect effect on performance via behavioral engagement. As such, this finding satisfies condition 5.
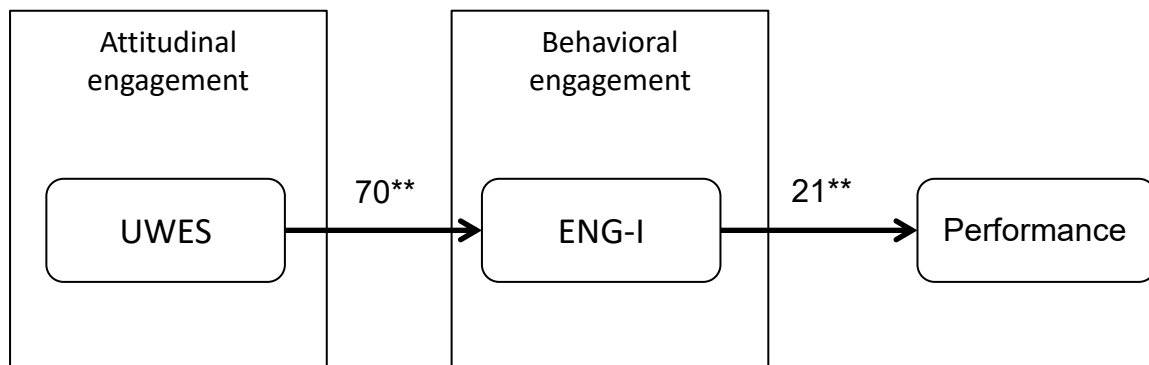
$\chi^{2}/df = 3.85$; RMSEA = .05; CFI = 1.00; TLI = .99; SRMR = .01; 95% CI = .07, .12

Figure 4.1. Path model of attitudinal work engagement's effect on behavioral engagement and performance.
Note. **p < .01

DISCUSSION

This study developed and validated a new instrument, the ENG-I, for measuring behavioral work engagement in practice. The results show that the ENG-I is a valid measure for assessing work engagement within organizations and to provide a valid starting point for HR and organizational development. Across four samples, the ENG-I exhibited good psychometric properties and met the specified conditions for a reliable and valid organizational engagement measure.

Findings

First, by applying a combination of exploratory factor analysis in our pre-test and confirmatory factor analyses in additional samples, we showed that the five-factor, second-order solution is stable and can be replicated in three samples. By calculating alternative models, we showed that the five-factor solution consistently provided the best fit to the data. As such, we established the construct validity of the ENG-I across four organizational samples.

Second, ENG-I showed high internal consistency and good test-retest reliabilities (organizational level) across three measurement points. The time lag of one year in between each set of measurement points seems to be an appropriate gap, as it prevents biases due to learning and recall. Our observation that the correlations between samples 2 and 4 were smaller than those between samples 2 and 3 and samples 3 and 4, respectively, aligns with the fact that test-retest values decrease according to the time that lies between two measurement points (Coolican, 2014).

Third, the ENG-I was highly correlated with the UWES. This finding indicates convergent validity of the ENG-I, and shows that attitudinal and behavioral work engagement

can be closely related. Fourth, the ENG-I showed good predictive validity in terms of affecting performance and turnover intentions.

Finally, a path model revealed a mediator effect, such that attitudinal engagement (UWES) predicted behavioral engagement (ENG-I), which was in turn related to performance. In other words, behavioral engagement mediated the effects of attitudinal engagement on performance. Simultaneously it shows the relationship between attitudinal engagement and behavioral engagement, which reflects the high correlation between the UWES and the ENG-I.

Theoretical implications

This study addressed previous calls to capture work engagement in a way that fulfills practical as well as scientific requirements (Vance, 2006; Wefald & Downey, 2009). Moreover, our study addressed calls to investigate attitudinal and behavioral engagement (Macey & Schneider, 2008; Peccei, 2013, Wefald & Downey, 2009) and their relationship. Our findings extend research on work engagement as a meaningful construct in three key ways:

First, our study addresses the definition and assessment of work engagement by focusing on behavioral expressions of engagement (Macey & Schneider, 2008; Peccei, 2013; Wefald & Downey, 2009). Our choice to focus on behavioral rather than attitudinal components of engagement aligns with the idea that behavior is more observable than attitudes and may therefore be more strongly related to important organizational outcomes such as performance (Cascio, 2007; Wefald & Downey, 2009). For instance, the ENG-I includes items such as "I actively participate in meetings," and "I work on my tasks in a persistent and goal-oriented manner". These items align with the notion of behavioral engagement as described by Kahn (1990). Kahn (1990) describes that engaged employees

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can fully express themselves in their work roles. The ENG-I addresses this point with the sub-facet 'individual fulfillment.'

Second, by evaluating the predictive validity of the ENG-I we found that the ENG-I was positively related to performance and negatively related to turnover intentions. Given the importance of performance outcomes for organizations, our finding is not only theoretically but as well practically meaningful (Gruman & Saks, 2011) because many organizations aim to implement regular engagement measures in order to start continuous, dialog-based, follow-up improvement processes and thereby increase performance (Vance, 2006; OECD, 2016).

Third, the ENG-I is an instrument that bridges the gap between science and practice by meeting both organizational and research-based requirements for engagement measures: Organizations typically aim to implement measures that are accepted by the employees and that yield applicable results. However, these needs have not always been met by scientific measures developed to date (Bailey, in press). Several authors (e.g., Bailey, in press; Guest, 2014a; Wefald & Downey, 2009) have pointed out that engagement research and practice have drifted apart. As Wefald and Downey (2009) point out, a lack of consensus on the conceptualization of engagement in research and practice carries the risk of increasing diversity in the measurement and understanding of this construct, which would deepen the gap between research and practice. In a qualitative study, Bailey (in press) interviewed practitioners in the UK who considered it important that practitioners know academic research on work engagement in order to foster an evidence-based engagement approach (Rousseau, 2012). This finding is in line with the finding of a research-practice-gap regarding motivational topics in HRM (Deadrick & Gibson, 2009). With the aim to bridge this research-practice divide, the ENG-I was developed out of an organizational need and by integrating the views and opinions of both practitioners and researchers, while simultaneously

establishing good psychometric properties. The specific perspectives of practitioners and academics could thus be integrated (Bartunek & Rynes, 2014).

Practical implications

The psychometric qualities of the ENG-I as established in the present study have implications for organizations that aim to foster an engaged workforce. Developed in an interdisciplinary collaboration between practitioners and researchers, the ENG-I is a scientifically validated instrument that meets practical requirements. The practical experiences with the ENG-I in the organizational context are good to date. In the meantime, the instrument has been applied in a nationwide network of service organizations for four years. Moreover, the instrument has been included in best practice documentations of the OECD (2016) as well as of the EU commission (2016).

The ENG-I can be applied in a fixed rhythm (e.g., annually) and therewith may identify strengths and weaknesses in organizations and organizational units. In doing so, a continuous process to review and a sound follow-up process to improve employee engagement in that organization can be established. The organizational follow-up process can, for example, comprise workshops in which employees and their supervisors discuss the ENG-I results, identify possibilities for improving their working conditions and working relationships, and commit themselves to an action plan that helps foster a positive engagement climate. By doing so, it becomes possible to analyze engagement improvements, which may follow organizational actions aimed at fostering employee engagement. In the organization that implemented the ENG-I, the results of the corresponding employees have also become part of executives' performance appraisals. Results at the level of the organization as a whole and of diverse groups (like older or younger employees, male or female employees) can be used to implement differentiated HR policies in an evidence-based way (e.g. regarding reconciliation of work and family).

The collaborating organization conducted a follow-up process as follows. As the organization comprises 156 sub-organizations, each of these units analyzed the results and conducted workshops in which employees and supervisors worked out improvements that foster good work environments and work relationships. The improvements that have been worked out, can be roughly clustered in four categories. These are: Work organization, leadership, team, and appreciation. Specific improvements are for example the optimization of collaboration between different departments, an increased presence of the management, teambuilding activities, and the fostering of a culture of appreciation.

Finally, it would be a possibility to study a "business case for engagement" by analyzing the working conditions of top scoring organizations and the relative changes in the distribution of engagement results in organizational units. Such information can expand knowledge about possible levers or predictors of engagement within organizations and provide an intra-organizational benchmark.

Limitations and future research directions

As in any empirical study, several limitations need to be acknowledged, which indicate opportunities for future research. First, all of the data in the present study were obtained from questionnaires and relied on employees' self-reports, which may induce common-method bias. Accordingly, it is difficult to investigate causal influences in these data. However, we also asked the employees to indicate their formal annual performance assessment, which was based on external ratings. Levy and Williams (1998) were able to show that there is considerable convergence between official performance appraisal records within organizations and employees' self-reports of these records ($r = .86$). Future research could address this issue by applying multi-data sources and time-lagged designs in order to explore a framework of more antecedents and consequences of behavioral-based employee engagement and address causality issues.

Second, in order to assess real behavior in the field, behavioral observations by experts are needed. However, it is hard to implement such observations in field studies with the sample sizes we investigated and to obtain realistic and generalizable findings. We aimed to address this issue by forming an interdisciplinary focus group to develop and discuss items for behavioral engagement in the work context.

Third, all our organizational samples comprised white collar workers in German service organizations. This may limit the generalizability of our findings in terms of the culture and kind of industry. Our study's aim was to develop and validate a German version of the ENG-I that can be used across a range of different organizations. Future research could develop the ENG-I for other languages, organizations, and cultural settings.

The ENG-I is an instrument for measuring behavioral engagement in the work context that aims to initiate a process for the fostering work engagement in practice. As research and practice diverge in this respect (Wefald & Downey, 2009), the ENG-I provides an assessment that covers scientific and practical requirements. Since employee engagement surveys within organizations aim to foster an engaged workforce, it would be an important research question under which conditions changes and improvements in engagement occur.

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CHAPTER 5

ORGANIZATIONAL WORK ENGAGEMENT AS A KEY TO

ORGANIZATIONAL PERFORMANCE*

ABSTRACT

Individual work engagement has been heralded for its manifold positive individual outcomes. However, few studies have investigated work engagement at the level of entire organizations, which is an important oversight given its potential relevance for organizational functioning. To address this research gap, we examined whether organization-level engagement was able to predict objective organizational performance of employment agencies, in terms of customer satisfaction and employee placement success. To investigate longitudinal patterns and test causal directions, we collected organization-wide data at two time points with an interval of one year. Our sample included 29,997 employees at t1 and 27,472 employees at t2, belonging to 156 organizations. Cross-lagged path modeling revealed that organizational engagement meaningfully predicted organizational-level customer satisfaction as well as placement success. The findings furthermore indicated that organizational engagement predicted organizational performance, and not the other way around. Our findings contribute to the theory and nomological network surrounding work engagement by conceptualizing it as an organizational construct and demonstrating its importance for organizational performance. Moreover, our findings provide insights into the causality between organization-wide engagement and performance in a time-lagged design. Our results suggest fostering an organization-wide work engagement climate in order to promote organizational performance.

Keywords:

Organizational work engagement; organizational performance; cross-lagged path modeling

INTRODUCTION

Organizations depend on employees who deploy their whole capacity and willingness to work, who identify with the company's vision, and who work according to the organization's goals in order to face current organizational challenges (e.g., Gruman & Saks, 2011). At the level of individual employees, work engagement is associated with numerous positive outcomes, such as enhanced innovative work behavior, commitment, reduced turnover intentions, and performance (e.g., Agarwal, Datta, Blake-Beard, & Bhargava, 2012; Gutermann, Lehmann-Willenbrock, Boer, Born, & Voelpel, 2017; Halbesleben, 2010; Rich, LePine, & Crawford, 2010). These relationships between individual work engagement and the various positive attitudes and behaviors of employees suggest that work engagement may be an important competitive advantage for organizations.

Two prominent definitions of *work engagement* appear in the literature. Schaufeli, Salanova, Gonzalez-Roma, and Bakker (2002) define work engagement as a positive, fulfilling, work-related state of mind (see also Breevaart et al., 2014; Tims, Bakker, & Xanthopoulou, 2011). Kahn (1990) defines work engagement in a more *behavioral* manner by understanding it as employees' willingness to fully invest themselves in their work roles – physically, cognitively, and emotionally (see also Barrick, Thurgood, Smith, & Courtright, 2015; Harter, Schmidt, & Hayes, 2002; Peccei, 2013; Rich, Lepine, & Crawford, 2010). Despite these definitional distinctions, both conceptualizations of work engagement share common ground by regarding engagement as a valuable construct that involves employees' energy, enthusiasm, and focused effort (Macey & Schneider, 2008) that may benefit performance (e.g., Halbesleben & Wheeler, 2008; Rich, LePine, & Crawford, 2010). Given the many advantages of individual work engagement, Gruman and Saks (2011) have argued that a focus on fostering employee engagement can be an important means for

enhancing the performance management process in entire organizations. However, the vast majority of previous research on work engagement has been conducted at the individual level (Pugh & Dietz, 2008), and there has been little research on work engagement and performance at the organizational level. Whereas several prior studies have shown that individual work engagement relates to employees' individual-level performance (e.g., Halbesleben & Wheeler, 2008; Rich, LePine, & Crawford, 2010), to date there are only two studies on work engagement and performance outcomes at the level of larger social units in organizations (Harter, Schmidt, & Hayes, 2002; Salanova, Agut, & Peiro, 2005). There is only one prior study on collective engagement (Barrick et al., 2015), which term refers to the organizational level, showing relations between organizational sub-sample engagement and organizational performance. We seek to expand these findings by introducing the term *organizational engagement* and showing its causal relationship with organizational performance, which has, to the best of our knowledge, not been done before. As such, we address scholarly calls to investigate work engagement at the organizational level and its relationship to organizational performance while considering causality issues (Barrick et al., 2015; Demerouti & Cropanzano, 2010; Harter et al., 2002; Peccei, 2013; Salanova et al., 2005; Vance, 2006).

To derive arguments toward work engagement as a broader organizational construct, we draw from crossover theory as well as from the concept of corporate culture. Crossover theory maintains that persons who interact with one another will transfer their behaviors and states to each other (e.g., Westman, 2001). For the context of work engagement, crossover theory suggests that engagement can spread in social contexts, perhaps "infecting" entire units or organizations as a whole. Indeed, previous research suggests that work engagement may cross over from leaders to followers or among members of the same team (Bakker, Van

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Emmerik, & Euwema, 2006; Gutermann et al., 2017). Hence, over time, employees in the same organization may develop similar levels of engagement.

Similarly, the idea of corporate culture suggests that engagement is not only an intrapersonal attribute, but can rather be shared and spread throughout an organization. Corporate culture is defined as a set of shared norms and values within an organization (O'Reilly & Chatman, 1996). Employees in the same organization develop shared attitudes because they work in a shared environment, which has implications for work engagement as a particular type of attitude as well. Employees working in the same organization may develop a shared culture of work engagement because they experience the same leadership, demands, and resources in their organization (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007).

Conceptualizing engagement as a construct at the organizational level requires a consideration of organization-level outcomes of engagement as well. Organizational-level performance is a result of collective positive attitudes and behaviors produced by an organization (Demerouti & Cropanzano, 2010). In our study, we focus on organization-level performance outcomes in service organizations, with particular attention to client satisfaction. Client satisfaction is often the result of the combined action of several engaged employees working in an organization (Salanova, Agut, & Peiro, 2005). Accordingly, we argue that it is important to consider collective engagement within organizations at the organizational-level for organizational performance outcomes. To know about the relationship of organizational engagement and performance would be an important finding, as the value of employee engagement for organizations could inform larger-scale human resource initiatives. These initiatives could be arranged more efficiently and cost-saving at the organizational level than arranging them at the individual level of every single employee. Barrick and colleagues (2015) described such initiatives as firm-level resources.

In sum, this study builds on and extends previous findings on the engagement-performance link by moving these concepts from the level of individual employees and organizational units to entire organizations. As such, we expand the nomological network surrounding work engagement and situate this construct in the broader organizational scope, thus paving the way for larger human resource management initiatives that focus on work engagement as a core organizational value. To the best of our knowledge, this study is the first to investigate work engagement at the organizational level. We empirically examine the performance consequences of work engagement at the level of entire organizations, implementing a time-lagged design in 156 well-comparable organizations ($N = 29,997$ employees at time 1 and $N = 27,472$ employees at time 2, one year later among the same employees). By considering organizational performance across time and by implementing cross-lagged panel analysis, our research breaks new ground by identifying causal directions regarding the engagement-performance link at the organizational level.

THEORETICAL BACKGROUND

There are at least two definitions of work engagement in the literature. Both of these highlight positive connotations of the engagement construct, yet they also emphasize different aspects of work engagement. Peccei (2013) clusters these different definitions of work engagement in two main categories: attitudinal or state work engagement on the one hand and behavioral work engagement on the other hand. Given our interest in work engagement in the broader organizational context rather than at the individual level, we focus on the behavioral approach to work engagement.

Kahn (1990) was among the first to define *work engagement* from a behavioral stance. He described engagement as employees' behavior to fully invest themselves in their work roles—physically, cognitively, and emotionally—while *disengagement* means that employees

extricate themselves from their work roles. A core tenet of Kahn's (1990) conceptual approach is that highly engaged employees are able to express their preferred selves and simultaneously satisfy their role requirements in the job. Engaged employees undertake physical effort, they are cognitively alert, and they are emotionally linked to their work (Kahn, 1990). Rich and colleagues (2010) summarize these behavioral connotations of work engagement in terms of "investing the 'hands, head and heart' in active, full work performance" (Rich et al., 2010, p.619).

Following Kahn's (1990) approach, in investigating the organization-wide effects of employee engagement, we emphasize the behavioral components of engagement rather than employees' state of mind. Peccei (2013) argues that research applying Kahn's (1990) definition is a promising way forward for engagement research. Because the attitudinal approach to work engagement has drawn criticism concerning its assessment applying the Utrecht Work Engagement Scale (Byrne, Peters, & Weston, 2016) researchers called for more research on behavioral engagement (Peccei, 2013). Hence, in our paper, we focus on the behavioral definition of the work engagement construct and its consequences at the organizational level. We argue that work engagement as a behavior is observable and will accordingly likely manifest itself as a collective construct at the organizational level rather than attitudinal work engagement, which may be a more individual or team-level construct.

Conceptualizing Work Engagement at the Organizational Level

Most previous studies have investigated work engagement at the individual level and focused on individual-level antecedents and consequences (e.g., Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009). Fewer studies have considered engagement in the context of dyadic relationships (Breevaart et al., 2014), at the team level (Bakker et al., 2006), or at the level of organizational units (Harter, Schmidt, & Hayes, 2002; Salanova, Agut, & Peiro, 2005). However, engagement has

rarely been considered in the context of entire organizations, even though scholars have repeatedly called for more research on work engagement at the larger organizational level (e.g. Demerouti & Cropanzano, 2010; Rich et al., 2010).

There is considerable empirical evidence that members of groups and organizations tend to develop shared affects, attitudes, and behavioral and motivational patterns (e.g., Bakker et al., 2006; Barsade & Knight, 2015; Duffy, Shaw, & Stark, 2000; Felps et al., 2009; George, 1990; Lehmann-Willenbrock & Allen, 2014; Salanova et al., 2005). One reason for such shared experiences in the workplace concerns the social observation of behavior among co-workers. For example, employees working in the same team or in the same organization observe the extent to which their coworkers and supervisors work enthusiastically. They notice if their colleagues smile when talking about their job or if they complain about the tasks they have to fulfill, and they notice whether or not others actively engage in team meetings (Costa, Passos, & Bakker, 2014; Sy, Côté, & Saavedra, 2005). Importantly, such observations are not merely informative, but also have important consequences for observers' own behavior in the workplace. In other words, the behavior of employees' peers in larger organizational units can affect employees' own behaviors.

A theoretical approach that can help explain why employees may develop similar levels of work engagement levels within organizations concerns crossover processes (e.g., Pugh, 2001; Westman, 2001; Westman & Etzion, 1999). Crossover in this context means that behaviors and states can transfer from one person to another (Westman, 2001). Research has repeatedly shown that people tend to automatically synchronize facial expressions and movements, and tend to emotionally converge with persons with whom they spend time (e.g., Barsade, 2002; Hatfield, Cacioppo, & Rapson, 1993; Lehmann-Willenbrock, Meyers, Kauffeld, Neininger, & Henschel, 2011). One possible explanation for such a crossover process, for example for engagement, is that employees of an organization interact with each

other, work interdependently, and develop an understanding of what is expected and appreciated in their organization (Klein, Conn, Smith, & Sorra, 2001).

There is some prior empirical support for the notion of crossover in the context of work engagement. Previous research on engagement at the team level indicates that work engagement can 'infect' colleagues and can result in a shared collective work engagement climate (Bakker et al., 2006). In particular, Bakker and colleagues (2006) found that group-level work engagement relates to individuals' work engagement. This transfer of work engagement from the group level to individual employees occurred independently of the demands and resources to which individual employees were exposed. These previous findings imply that engaged teams transfer their optimism, positive attitudes, and proactive behavior to their colleagues, resulting in a positive team climate and improved team performance (Bakker et al., 2006). When extrapolating from these earlier findings regarding individual- and team-level engagement to the broader organizational level, we can assume a similar mechanism at play. A result of these processes may then be that engagement emerges as a property of entire organizations, and that different organizations can be distinguished from one another according to their level of engagement (Rich et al., 2010). Such an approach would also link more closely to practical approaches, as most interventions that are aimed at fostering an engaged workforce are conducted at the organizational level. Again, this suggests the need for research to consider organizational rather than individual engagement (Pugh & Dietz, 2008).

Moreover, different levels within organizations influence each other (e.g., Scott & Davis, 2016). We assume that organizations develop a corporate engagement culture. Corporate culture is defined as a set of shared norms and values in an organization (O'Reilly & Chatman, 1996) in which employees work in highly motivated ways and are dedicated to

shared goals (Sørensen, 2002). By extrapolating this theoretical frame to engagement, we assume that organizations build up a certain corporate culture for engagement.

The above arguments in support of an organizational engagement construct notwithstanding, it is chronically difficult to realize empirical efforts to this end due to data collection issues and to establish the effects of engagement at the level of entire organizations. Such efforts require not only substantial efforts to gather data on organization-wide employee engagement, but also the means to match such data to objective performance measures that are comparable between organizations. Furthermore, according to Dunbar's number, people are able to maintain interpersonal relationships with only 100 to 200 persons, owing to neocortical restrictions (Dunbar, 1992), which makes it challenging to even imagine constructs such as work engagement at the level of entire organizations (which often comprise more than 200 members). To the best of our knowledge, there is only one previous study which investigated work engagement at the level of entire organizations by introducing the idea of *collective work engagement* as a shared perception of work engagement within an organization. Specifically, Barrick and colleagues (2015) described collective organizational engagement as "a firm-level construct and an indicator of the overall motivational environment within the firm" (p. 113). To assess collective engagement, the authors applied a referent shift model (Chan, 1998). Accordingly, the authors did not aggregate individual responses but rather asked a sub-sample of each organization (10 %) for their perceptions of the organizational members' engagement. Hence, work engagement in the previous study by Barrick et al. (2015) was still assessed at the individual level, but the referent of the items was changed from the individual to the collective, thus describing the perceived overall engagement in the organization (Barrick et al., 2015).

To overcome these potential shortcomings of a referent shift model, in this study we apply a direct consensus model (Chan, 1998), building on earlier work by Barnes, Lucianetti,

Bhave, and Christian (2015). In a direct consensus model, data are collected at the individual level and then are aggregated to a higher level (Chan, 1998)—in our case, from the level of individual employees to entire organizations. Accordingly, we assessed individual-level work engagement and aggregated it to the level of entire organizations. In line with this approach, a recent meta-analysis showed that it is more appropriate to aggregate motivationally laden variables (such as work engagement) from the individual level to a higher level than to assess the experiences of others within a workgroup by using a referent shift model (Wallace et al., 2013).

In sum, we conceptualize work engagement at the organizational level and refer to a direct consensus model (Chan, 1998). We define organizational engagement as *the extent to which the members of an entire organization are engaged in their work*. When organizational engagement is high, the collective of the organization's employees is physically, cognitively, and emotionally engrossed in their work. In viewing organizational engagement as a defining characteristic of an entire organization, we assume that employees work for the organization's goals, that they actively participate in team meetings, and that they enjoy performing their tasks. In other words, we expect that employees of engaged organizations *collectively* invest their "hands, head and heart in active, full work performance" (Rich et al., 2010: 619). Moreover, it follows from our definition that this shared level of collective engagement can differ substantially between organizations. Furthermore, we expect that employees of a collectively engaged organization are motivated to behave in ways that benefit the organization as a whole, such that collectively engaged organizations should also experience performance benefits. According to the target similarity model (e.g., Lavelle, Rupp, & Brockner, 2007), relationships between variables are the strongest if they refer to the same target. Hence, we hypothesize about linkages between collective organizational engagement and organizational outcomes, such as organizational performance.

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Performance Outcomes of Work Engagement at the Organizational Level

Several researchers, consultants, and practitioners have emphasized the meaning of employee engagement for organizational performance, arguing that work engagement is a competitive advantage for organizations (e.g., Harter et al., 2002; Vance, 2006). However, the relationship between organizational engagement and organizational performance has received only limited scholarly attention to date, and empirical findings remain sparse.

At the individual level, the relationship between employee engagement and individual performance is well understood. Because highly engaged employees work with focused energy which is directed toward accomplishing organizational goals (Macey et al., 2009), it is likely that engaged employees will also show high performance for a number of reasons. Among others, Bakker (2009) argued that work engagement relates to performance because engaged employees often experience positive emotions such as joy and enthusiasm, which enable them to work using their personal resources. Furthermore, engaged employees typically experience good health and well-being, which enables them to fully dedicate their skills and energy to their work (Bakker, 2009; Cole, Walter, Bedeian, & O'Boyle, 2012). Finally, work engagement can be transferred from one individual to another, resulting in a good team and unit performance (Bakker, 2009). When extrapolating to the context of collective organizational engagement, these earlier arguments also hint at the possibility of organization-level performance benefits.

Several previous studies have linked individual work engagement to individual performance rated by the direct supervisor, colleagues, or the employees themselves and found positive relationships between individual engagement and performance, with correlations ranging from $r = .18$ to $r = .34$ (e.g., Breevaart, Bakker, Demerouti, Sleebos, & Maduro, 2014; Breevaart, Bakker, Demerouti, & Van den Heuvel, 2015; Halbesleben & Wheeler, 2008). However, individual performance is just one way to consider performance in

broader organizational contexts. For instance, performance can also be assessed at the level of organizational units, and at the level of organizations at large. Here, in focusing on organization-level performance, we take both conceptual and practical considerations into account. Conceptually, when considering the larger organizational context, performance can be regarded as the result of the combined effort of many employees (Demerouti & Cropanzano, 2010). Moreover, practitioners and consultants often build on the assumption that the fostering of work engagement within units and organizations relates to enhanced unit and organizational performance (e.g., Harter et al., 2002; Macey, Schneider, Barbera, & Young, 2009). Yet, to the best of our knowledge, only one previous study has investigated work engagement at the organizational level (Barrick et al., 2015) and found linkages to performance. Specifically, Barrick and colleagues (2015) investigated the collective work engagement among a sub-sample of 83 credit unions located throughout the United States, and identified a significant and meaningful relationship between collective engagement in these sub-samples and organizational performance ($r = .28$).

Furthermore, there are two prior studies that analyzed work engagement and performance at the unit level (Harter et al., 2002; Salanova et al., 2005). First, Salanova and colleagues (2005) investigated 114 Spanish work units of hotel front desks and restaurants, using aggregated measures of n = 342 employees and n = 1,140 customers. The authors surveyed three employees from every unit, and found that unit-level work engagement positively related to customer satisfaction via service climate ($r =$ between .07 and .18). Second, a meta-analysis of cross-sectional findings covering a sample of 7,939 business units of 36 companies showed a relationship between unit-level engagement and business outcomes at the unit level ($r = .26$; Harter et al., 2002). The authors based their meta-analytical conclusions on survey results of work units of different organizations and focused on different performance outcomes, respectively. However, all of the three forgoing studies

reached the conclusion that time-lagged research is needed in order to investigate causality issues concerning unit or organizational engagement on the one hand and performance on the other hand (Barrick et al., 2015; Harter et al., 2002; Salanova et al., 2005).

To address this need, we adopted a direct consensus approach (Chan, 1998) at the level among entire organizations and implement a time-lagged design. Furthermore, we matched our data on organizational engagement with objective performance measures of every organization that are comparable across organizations, thus addressing the question if engagement at the organizational level is related to company performance. For investigating these organization-level questions, we focused on service organizations, specifically public employment agencies tasked with combating unemployment and helping people find work. These organizations provide a particularly intriguing study context for examining linkages between organizational engagement and performance given how important the quality of their services is not only for the individual customers who receive advice (and ideally, job placements) but also for societal functioning and well-being at large (e.g., Gregg & Wadsworth, 1996; Winterhager, Heinze, & Spermann, 2006).

Especially for service organizations, customer satisfaction is an important evaluation of performance. We expect that service organizations in particular experience benefits for their customer satisfaction as a result of their engaged workforce, as customer interaction is a core task for employees of these organizations. The satisfaction of customers is highly related to the interaction between employees and customers (Salanova et al., 2005). Employees who are engaged work enthusiastically and are physically, cognitively, and emotionally occupied with their work (Kahn, 1990), and therefore will likely assist their customers in a persistent and friendly manner. We expect that for organizational collectives of employees who share a high organizational engagement, these interactions are mostly positive, and these employees try to cater on costumers individually so that customers will report favorable satisfaction.

Hence, engaged organizations should experience performance benefits in terms of customer satisfaction. Accordingly, our first hypothesis is as follows:

Hypothesis 1. Organizational work engagement is a positive predictor of customer satisfaction.

Given our study focus, in addition to customer satisfaction, we also investigate the effects of organizational engagement on a second indicator of organizational performance, namely job placement success. For the service organizations under study here, job placement success is one of the most important performance measures (Winterhager et al., 2006). The objective measure of placement success entails the amount of unemployed customers that can be placed in a job again.

The assistance of persons finding a job again is often a challenging task. For instance, job agency employees often work with customers who are not motivated to seek employment or who experience difficulties finding a job over a longer period of time (Sianesi, 2008). Accordingly, employees who collectively work enthusiastically and motivated may achieve higher results in the overall organizational job placement success. Put formally, our second hypothesis is as follows:

Hypothesis 2. Organizational work engagement is a positive predictor of job placement success.

Causality Considerations

Finally, we address calls for research on causality issues in the context of organizational engagement and performance (Barrick et al., 2015; Harter et al., 2002; Salanova et al., 2005) by investigating the relationships described above in a time-lagged design. Insights into the direction of these effects, in terms of establishing whether organizational-level work engagement predicts organizational performance (and not the other way round), are not only scientifically meaningful but can also offer important directions for

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HR initiatives aimed at fostering an engaged workforce and promoting organizational performance.

To date, there are just a few studies on longitudinal effects of work engagement, and none of these previous studies have considered the causal direction of organizational engagement and performance. In particular, Hakanen, Schaufeli, and Ahola (2008a) used a cross-lagged design to analyze the causal direction of demands and resources as predictors, work engagement and burnout as mediators, and commitment and depression as outcome variables (Hakanen et al., 2008a). The authors indeed found a causal influence in the expected direction, such that demands and resources predicted the outcome variables via work engagement and burnout (Hakanen et al., 2008a). In another cross-lagged panel design study, Hakanen, Perhoniemi, and Toppinen-Tanner (2008b) found that individual job resources predicted individual work engagement, which predicted personal initiative, which in turn predicted work-unit innovativeness. Furthermore, there is previous evidence on the relationship between frontline employees' satisfaction and customer satisfaction. However, the findings on the causal direction of this relationship are diverse. Whereas Netemeyer, Maxham, and Lichtenstein (2012) found that employee satisfaction predicted customer satisfaction, Zablah et al. (2016) showed an 'outside-in' effect, such that customer satisfaction also predicted employee satisfaction. Accordingly, both directions are thinkable. However, these studies focused on employee satisfaction. We would like to expand these findings by referring to work engagement.

In our study, we expect a causal influence of organizational engagement on (1) organization-level customer satisfaction and (2) job placement success, which means that we expect an inside-out rather than an outside-in effect (Zablah et al., 2016). We expect that organizational engagement predicts organizational performance, and not the other way round,

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based on our earlier argument that engagement, unlike satisfaction, is a behavioral construct (e.g., Peccei, 2013; Macey & Schneider, 2008). Accordingly, we hypothesize:

Hypothesis 3. Across time, organizational work engagement is a positive predictor of performance and not the other way around.

METHODS

Sample and Procedure

We gathered data in 2013 and 2014 in a nationwide network of service organizations in Germany that provides labor market services to promote employment opportunities, the placement of potential candidates for job interview procedures, and unemployment benefits services. The organizations sought to make work engagement a key value for personal and organizational development. The employees who participated in this study worked in 156 different and independently working organizations at different places across the whole of Germany. There were on average 364 employees in each organization. The organizations were tasked with labor recruitment services, application processing, or internal services such as human resources and the information technology department. Although these sub-organizations work independently from each other, they are comparable because the central part of the organization defines the standards and goals for the organizations, for instance, certain target numbers by which the organizations can be compared. These target numbers include the number of unemployed persons integrated into the job market. Nonetheless, the organizations have considerable autonomy in how they achieve their goals.

A central department responsible for conducting employee surveys in the organization distributed the surveys per email at two measurement points, with one year in between. To ensure data confidentiality, this department included an anonymous number that allowed us to allocate the individuals to their respective organization. Our final sample consisted of

29,997 employees at time 1 and 27,472 employees one year later at time 2 belonging to 156 independent working organizations having a response rate of 52.8% at time 1 and 48.9% at time 2. Furthermore, we could match customer satisfaction ratings and the job placement success of the various organizations at both measurement points.

At time 1, 67% of the employees in our sample was female, 24% worked part-time, and 10% held an executive function. The majority of this sample was older than 45 years (52%). At time 2, 68% was female, 25% worked part-time, and 10% held an executive function. The majority of the employees was older than 45 years (53%).

Measures

To avoid common method bias, we gathered data from different sources, including self-reports of engagement, customer interviews on their satisfaction, and company key figures on organizational performance.

Work engagement. Access to organization-wide data on employee work engagement was made possible using a scale we developed specifically for this organization (engagement index: ENG-I). We developed the ENG-I in order to address an organization's need to apply an instrument that focuses on behavioral engagement and is accepted in the organization (see also Chapter 4 of this dissertation). We developed items via an interdisciplinary focus group of researchers, executives, survey experts in the organization, and employees. To validate the scale, we performed a pre-test in 2012 with a smaller sample of 1,432 employees. In the pre-test, we used the 31 items developed for the ENG-I along with the validated items of the Utrecht work engagement scale (UWES) (Schaufeli, Bakker, & Salanova, 2006). The pre-test showed a good correlation with the UWES ($r = .79$). By conducting exploratory factor analyses and item analyses, we reduced the 31 items to 19 items, belonging to five sub-facets. Furthermore, reliability ($\alpha = .91$) was secured for the scale. According to the Vandenberg and Lance (2000) criteria, the confirmatory factor analysis showed a good fit to the data

(χ^2 = 27109.19, *df* = 147, χ^2/df = 184.42, RMSEA = .08, CFI = .93, TLI = .92, SRMR = .06; because the large sample size , the chi square value is not interpretable, see Raykov & Marcoulides, 2012). Moreover, after the pretest, we conducted 10 interviews with the executives of the 10 participating organizations in order to verify the practical feasibility and acceptance of the final 19 items. The engagement index has been conducted on an annual basis since 2013. The 19 items of the final ENG-I belong to five sub-dimensions. The overall scale (*α t1* = .91; *α t2* = .93) showed good reliabilities. Sample items are *"I have a strong drive to achieve work results of a high quality"* and *"I actively participate in meetings"*. The response format was a 6-point Likert scale ranging from 1 (*very often*) to 6 (*never*).

Customer satisfaction. Organization-wide customer satisfaction was assessed by four items in *n* = 200 customer interviews for each of the 156 organization (in sum, 31,200 interviews) which are conducted each year by an external provider. The customers were asked for their satisfaction concerning the placing of unemployed employees, the possibility to gather information, the satisfaction with the employees of the organization, and with the general circumstances. The response format corresponded to that of the work engagement scale with a 6-point Likert scale ranging from 1 (*very satisfied*) to 6 (*not satisfied at all*).

Job Placement Success. We matched our data to an objective performance measure of each sub-organization, namely their job placement success. This rate describes the percentage of unemployed persons that could be placed in an employment again assisted by the employees of the organizations investigated. The performance measure on job placement success takes into account the employment market of the regions so that the rate is well comparable between each sub-organization. The measure ranges from 0 to 100, representing percentages.

Control variables. We controlled for gender (0 = *female,* 1 = *male,*), age (assessed in 9 clusters), work hours (0 = *full-time*, 1 = *part-time*), and leadership function (0 = *employee*,

1 = *executive*) in all analyses. Owing to data confidentiality agreements with the workers' council, we could not assess employees' exact individual ages, but measured age in nine clusters instead: 1 (*under 25 years*) to 9 (*older than 60 years*) in five-year increments. We calculated demographic information at the organizational level as follows: (1) Average age, in clusters ranging from 1 to 9 as indicated above; (2) percentage of full-time employees per organization; (3) gender distribution, in terms of the percentage of female employees in each organization; and (4) percentage of employees with managerial responsibility in each organization.

RESULTS

Descriptives

Analyses of the demographic variables at the organizational level showed that the percentage of women within organizations ($r = .39$, $p < .001$), the percentage of persons with a managerial position ($r = .20$, $p < .05$), and the percentage of employees holding a full-time contract ($r = .21$, $p < .05$) are positively related to organizational engagement. We did not find a significant effect for age ($r = -.04$, $p > .05$). We included the significant relationships as control variables in our cross lagged path analyses and found a nearly similar pattern, with the percentage of women having the strongest effect ($\beta = .40$, $p < .001$). The effect of the percentage of managerial positions within the organizations did not become significant in the path analyses ($\beta = -.07$, $p > .05$).

Table 5.1 shows the means, standard deviations, and zero-order correlations of all variables included in our analyses.

Table 5.1

Means, Standard Deviations, and Zero-order Correlations of the Study Variables at the Organizational Level at t1 and t2

	M	SD	1	2	3	4	5	6	7	8	9	10
1. Work engagement t1	2.18	.14										
2. Work engagement t2	2.06	.14	.76**									
3. Customer satisfaction t1	2.01	.10	.30**	.19*								
4. Customer satisfaction t2	1.99	.11	.36**	.28**	.67**							
5. Job placement success t1	44.59	4.30	.18*	.15	.38**	.43**						
6. Job placement success t2	44.06	5.10	.24**	.19*	.38**	.45**	.96**					
7. Average employee age	5.29	.39	-.04	-.15	.11	.12	.04	.05				
8. Percentage of women	.31	.07	.39**	.27**	.37**	.31**	.31**	.32**	.13			
9. Percentage of employees with leadership function	.10	.02	.20*	-.21**	-.13	-.06	-.03	-.07	.17*	-.10		
10. Work hours	.26	.07	.21*	.26**	.12	.12	.01	.01	.08	.03	-.10	-.36**

Notes: N= 156 organizations.
* $p < .05$
** $p < .01$.

Cross-lagged path models

Organizational-level work engagement was calculated by aggregating individual responses to the organizational level. We calculated intraclass correlation coefficients in MPlus 6.0 in order to establish the amount of variance explained by the organizational level. Geiser (2011) notes that already small ICCs of 0.05 or 0.01 can indicate that there is variance that can be explained by the organizational level. Our results show that there seems to be such a part of variance (ICC[1] time 1 = 0.03; ICC[1] time 2 = 0.03). To test if organizational-level work engagement was related to different performance measures, we ran two cross lagged path models in MPlus 6.0. We controlled for gender, work hours and leadership function in all the analyses, because these were the control variables that seemed to show relationships with work engagement due to the correlation table.

Organizational work engagement and customer satisfaction

We first calculated a cross lagged path model for organizational engagement and customer satisfaction. Our model showed a good fit to the data ($\chi^2 = 8.76$, $df = 7$, $\chi^2/df = 1.25$, RMSEA = .04, CFI = .99, TLI = .99, SRMR = .05). Figure 5.1 shows a simplified summary of the model (path coefficients are depicted). We found that organizational engagement ($\beta = .76$, $p < .001$) as well as customer satisfaction ($\beta = .62$, $p < .001$) were stable over the time. We controlled for gender, function, and work hours and found a significant effect of gender ($\beta = .40$, $p < .001$), and work hours ($\beta = .22$, $p < .001$). The cross lagged paths furthermore showed that organizational engagement at t1 was indeed related to customer satisfaction at t2 ($\beta = .18$, $p < .001$) but that customer satisfaction at t1 was not related to work engagement at t2, as expected ($\beta = -.03$, $p = .54$). Accordingly, our first hypothesis and the first part of the third hypothesis (H1 and H3) were supported.
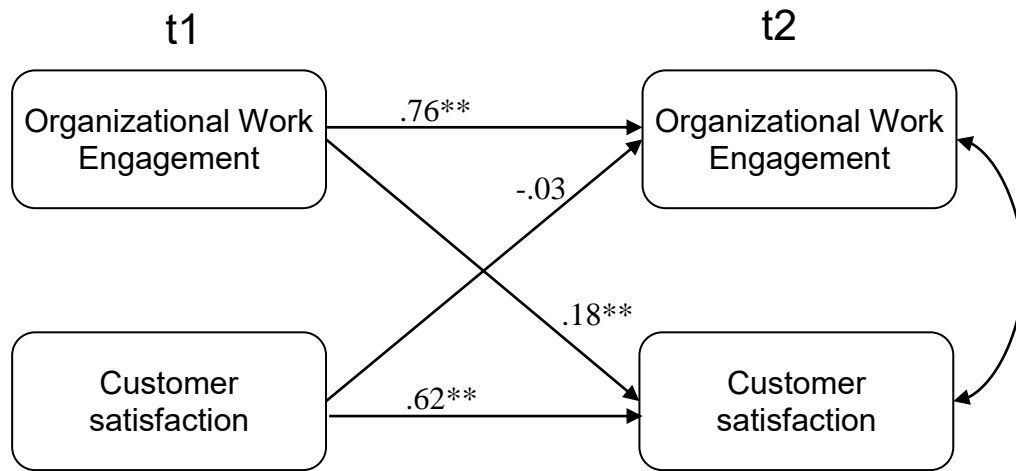
Figure 5.1. Cross Lagged Path Model Showing the Standardized Effects of Organizational Work Engagement (in the Year 2013) on Customer Satisfaction One Year Later

Note. Standardized Path Coefficients.
* *p* < .05
** *p* < .01

Organizational work engagement and job placement success

In a second cross lagged path model, we calculated the effects or organizational work engagement on the job placement success (i.e. successful job placement). The model showed a good fit to the data (χ^2 = 13.57, *df* = 7, χ^2/df = 1.94, RMSEA = .08, CFI = .99, TLI = .98, SRMR = .03). Figure 5.2 shows a summary of the model (unstandardized path coefficients are depicted). Organizational engagement (β = .75, *p* < .001) and job placement success (β = .95, *p* < .001) were stable over the time. We controlled for gender, function, and work hours and found the same effect as in the other model for gender (β = .40, *p* < .001), and work hours (β = .22, *p* < .001). The cross lagged paths furthermore showed that organizational engagement at t1 was indeed related to the job placement success at t2 (β = .07, *p* < .001) but that the job placement success at t1 was not related to work engagement at t2, as expected (β = .01, *p* = .82).

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Accordingly, our second hypothesis and the second part of the third hypothesis (H2 and H3) were supported.

t1   t2

```
┌────────────────────┐      .75**      ┌────────────────────┐
│ Organizational Work│─────────────────▶│ Organizational Work│
│ Engagement         │        .01       │ Engagement         │
└────────────────────┘                  └────────────────────┘

┌────────────────────┐      .95**      ┌────────────────────┐
│ Job placement      │─────────────────▶│ Job placement      │
│ success            │        .07**     │ success            │
└────────────────────┘                  └────────────────────┘
```
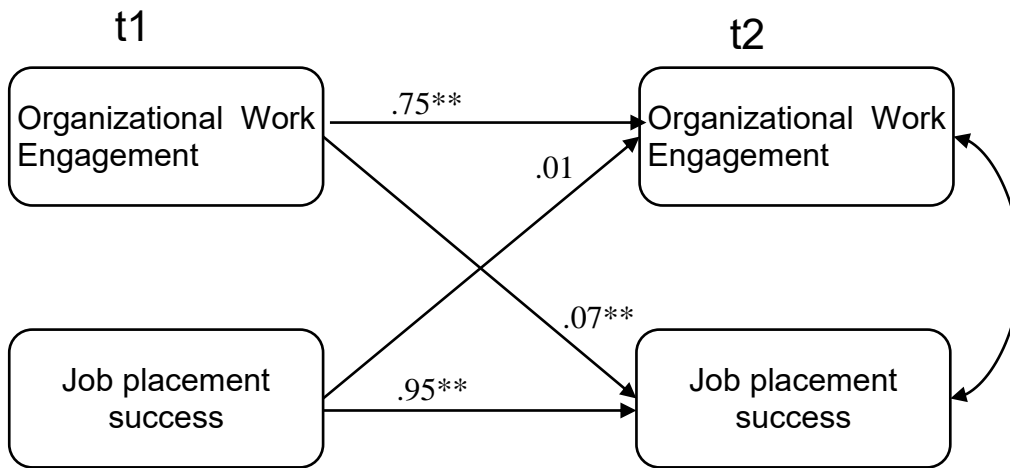
*Figure 5.2.*Cross Lagged Path Model Showing the Standardized Effects of Organizational Work Engagement (in the Year 2013) on the Job placement success one Year Later

Note. Standardized Path Coefficients.
* $p < .05$
** $p < .01$.

In sum, these results show that organizational work engagement at time 1 is positively related to organizational performance indicators (customer satisfaction and the job placement success) at time 2. Furthermore, the cross lagged paths suggest that organizational work engagement caused performance, and not the other way around. Taken together, these findings support all or hypotheses (H1, H2, and H3).

DISCUSSION

This study addressed previous calls to investigate the concept of work engagement at the organizational level (e.g., Peccei, 2013; Vance, 2006), to establish its relationship with organizational performance (Demerouti & Cropanzano, 2010), and to examine causal relationships between organizational engagement and performance (e.g., Barrick et al., 2015; Harter et al., 2002; Salanova et al., 2005). To this end, we investigated work engagement at the level of entire organizations in a time-lagged design. In doing so, we extended previous individual-level findings on the engagement-performance link by moving these concepts to the level of entire organizations and introducing the term *organizational engagement*. Building on crossover theory (e.g., Pugh, 2001; Westman, 2001) and the notion of corporate culture (e.g., Sørensen, 2002), we situated the engagement construct in the broader organizational scope, thus paving the way for human resource management initiatives that focus on work engagement as a key organizational value.

Two main findings accrued from this study. First, the results showed that organizational work engagement meaningfully relates to objective performance measures of entire organizations. The specific performance indices of interest here (customer satisfaction and job placement success) are the most important performance indicators for the type of service organizations (i.e., employment agencies) investigated here. Further, by investigating

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engagement and its consequences at the level of entire organizations, we established the relevance of work engagement as a construct at the organizational level. Second, the results of the cross-lagged path analyses indicated a causal direction such that organizational work engagement predicts company performance (and not vice versa). Our field study samples of 29,997 employees at t1 and 27,472 at t2 belonging to 156 organizations provides representative and practically relevant insights into engagement as an organizational construct as well as its performance consequences.

Theoretical Implications

Our findings extend research on work engagement as a meaningful organizational construct in three key ways. First, we expanded previous research on individual work engagement (e.g., Bakker et al., 2007; Xanthopoulou et al., 2009) and team-level influences (e.g., Bakker et al., 2006), and extended the nomological network surrounding the engagement construct to the organizational level. Building on crossover theory (Pugh, 2001; Westman, 2001; Westman & Vinokur, 1998), we argued that organizational engagement can be regarded as a shared behavior in organizations, including high motivation and employees who engage in their job physically, cognitively, and emotionally. Our findings expand previous work by Barrick and colleagues (2015), who introduced the notion of collective engagement by applying a referent shift model (Chan, 1998) in order to assess engagement at the organizational level. Moving beyond this previous work, however, we followed previous meta-analytical advice by Wallace and colleagues (2013) and applied a direct consensus model (Chan, 1998) in order to operationalize work engagement at the organizational level. If organizational engagement is high, employees work in line and for the organization's goals, actively participate in meetings, and tend to engage in behaviors that benefit the whole organization. Accordingly, by conceptualizing engagement at the level of entire organizations, we expanded the nomological network surrounding the engagement construct. We opened new research questions of work engagement at the organizational level. Our findings suggest that researchers should move

beyond the traditional research focus on work engagement at the individual level and should also consider how work engagement can function as a broader organizational construct.

Second, our finding that organizational work engagement relates to organization-wide customer satisfaction and job placement success expands previous work on engagement and performance (e.g., Halbesleben & Wheeler, 2008; Harter et al., 2002; Rich et al., 2010; Salanova et al., 2005) by establishing this relationship at the organizational level. Whereas some previous studies have departed from the traditional focus on individual engagement and its individual-level consequences, analyzing work engagement at the unit level (Harter et al., 2002; Salanova et al., 2005) or among organizational subsamples (Barrick et al., 2015), we could show that work engagement also matters at the organizational level in terms of impacting organizational performance outcomes. Although practitioners and consultants have often emphasized that work engagement forms a competitive advantage for organizations, empirical support for this thought received limited attention to date (Macey et al., 2009; Vance, 2006). Our study provides empirical support to this end and underscores the value of engagement for organizations at large. Moreover, our findings extend previous work on service organizations' performance outcomes by showing that organizational engagement relates to performance indices that are typical for such an organization in the public sector (Salanova et al., 2005). The performance indices we investigated, including objective criteria, are the most important performance indicators for that organization type. As such, we extended previous work on the link between engagement and business unit performance (Salanova et al., 2005) to the domain of entire organizations.

Third, our findings address repeated calls to study the causal relationship between work engagement and performance at the level of organizations in a time-lagged design (Barrick et al., 2015; Demerouti & Cropanzano, 2010; Harter et al., 2002; Salanova et al., 2005). Specifically, we implemented a cross-lagged panel design. Cross-lagged analyses involve collecting the same variables at two (or more) measurement points and then calculating cross-lagged paths while

controlling for each variable's value at the first point in time (Lian, Ferris, Morrison, & Brown, 2014). By including the temporal separation of cause and consequence in this manner, it becomes possible to undertake causality investigations (Lian et al., 2014). In field studies, cross-lagged analyses are the most appropriate method for establishing the causality of effects (Lang, Bliese, Lang, & Adler, 2011). Our finding of a causal direction from organizational engagement to organizational performance represents an important addition to the engagement literature, given the paucity of previous work on engagement as a broader organizational construct overall and the predominant reliance on cross-sectional designs in the few previous studies on this topic, which generally do not permit causal inferences (for an overview, see Harter et al., 2002). Our findings of causal directions between organizational engagement and organizational performance also expand previous research by Hakanen et al. (2008a, 2008b), who mainly investigated causal directions of the JD-R model. Moreover, we could show an "inside-out" effect of organizational engagement on organizational performance, such that organizational engagement influences organizational performance and not the other way around. This finding makes an important contribution to the literature on performance outcomes by considering studies that showed a reciprocal effect of customer and employee satisfaction (e.g., Zablah et al., 2016). To the best of our knowledge, there are no studies on engagement and performance on this causality issue.

Taken together, our research expands the literature on engagement and its performance consequences by conceptualizing work engagement as an organizational-level construct, establishing its relationship with organizational performance, and by identifying the causal directions of this relationship. As such, our findings also have a number of important implications for organizational practice, such as human resource development strategies and performance management at the organizational level, as detailed next.

Practical Implications

Our findings have practical implications for organizations that seek an engaged workforce. Specifically, we foresee that implications for diagnosing and developing work

engagement in human resource development should be based on an adequate assessment of training and development needs if it is to be successful (e.g., Brown, 2002; Werner & DeSimone, 2011).

First, from a diagnostic perspective, our findings point to the benefits of organization-wide employee surveys for measuring work engagement. In organizational practice, employee surveys are often evaluated at the organizational level. As such, our organizational-level conceptualization of engagement is not only a theoretical expansion of the engagement construct, but also holds practical relevance (Vance, 2006). By regularly assessing organizational engagement (e.g., annually), it becomes possible to identify strengths and weaknesses of organizations. Moreover, regular organization-wide measures of engagement can serve as evaluations of potential improvements after conducting organizational actions to develop engagement. Further, the assessment of organizational engagement enables the identification of business cases for engagement, for example by analyzing the working conditions of top-scoring organizations that achieve the best results in organizational engagement surveys. Such an approach would enhance practical knowledge about possible enablers of engagement at the organizational level.

Second, from a human resource development perspective, our finding that organizational work engagement relates to important performance outcomes suggests that organizations should actively invest in fostering the work engagement of entire organizations. For instance, organizations could include work engagement in their mission statements and could make engagement a core value of corporate development and HR development efforts. To initiate such efforts and diagnose needs for development, organizations should first implement regular work engagement assessments at the organizational level. Based on this diagnosis, organizations could then conduct workshops in which employees and their supervisors might discuss these results, identify the necessary improvements to working conditions, and develop action items to foster a

positive work engagement climate. Our findings suggest that such investments would be worthwhile, since more engaged organizations will enjoy meaningful performance benefits. Accordingly, we propose that fostering employee engagement should be considered as an integral part of an organization's performance management process.

Limitations and Future Research Directions

As any empirical research, this study also has several limitations that provide opportunities for future research endeavors. A first limitation concerns the fact that we surveyed white-collar workers in German service organizations, which may limit the generalizability of our findings to this industry and cultural composition of our sample. However, with our sample we can represent an important entire service sector (Winterhager et al., 2006). Future research should investigate whether our findings can be replicated in other organizational or cultural settings. Further, we investigated performance outcomes that are very typical of the sample organization. In particular, job placement success is a performance outcome that is fairly specific to these types of service organizations. Other organizations might focus more on regular sales and earning indices or other financial indicators. Accordingly, future research should investigate whether the link between organizational engagement and performance replicates in different organizational types with different performance ratings.

Second, although cross-lagged analyses represent a fairly conservative measure of causality (Geiser, 2011) and although this approach underscores the strength of our conclusions, firm conclusions regarding causality would require an experimental manipulation of engagement. However, this raises ethical questions. As such, experimental manipulations of engagement in order to investigate causal links to performance are not feasible in the field. Instead, in field studies, cross-lagged analyses are the most appropriate method for analyzing causality (Lang et al., 2011), which deems our study approach adequate. Note that we calculated our path model at the level of 156 organizations, which allows us to interpret the path coefficients instead of effect sizes because our sample was not that large as we could not do this.

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In addition, despite significant findings obtained from our cross-lagged analyses, both the independent and the dependent variable might have been influenced by a common third variable. To account for this issue, we included potentially relevant third variables such as gender and leadership function as control variables. Nevertheless, future research should explore to what extent the link between work engagement and performance at the level of organizations may hinge on certain boundary conditions, such as organizational-level leadership or other climate factors that can make a difference between more or less engaged organizations.

Third, we assessed work engagement with a self-developed but empirically validated questionnaire (the engagement index; ENG-I). Our choice for this questionnaire was motivated by referring to the behavioral approach of engagement using Kahn's (1990) definition because it is more observable than the attitudinal approach. Moreover, several authors have noted that no consistent term has been used for employee engagement yet (Macey & Schneider, 2008; Peccei, 2013), and that instruments are needed that operationalize work engagement in a behavioral way by referring to Kahn's definition and by being applicable as employee survey in organizations (Peccei, 2013; Vance, 2006). By developing and applying the ENG-I, we sought to address this concern. Nonetheless, we need studies to further validate the ENG-I in field studies, especially by including further potential predictors such as leadership climate and consequences such as organizational commitment.

Finally, future studies could investigate organizational engagement and especially crossover effects within organizational collectives of employees by investigating organizational engagement in a multilevel design. In the present study, the dependent variable (organizational performance) was already located at the between-level, which made it unnecessary to calculate between-level effects on within-level variables. Nonetheless, in addition to organizational-level performance indicators, future research might also consider individual performance outcomes. In the latter case, a multilevel design might investigate how organization-level engagement affects

individual performance over time. Given the current findings, we would expect similar benefits of organization-level engagement for individual performance as identified for organizational performance here, but future research should examine whether these effects translate from the organizational to the individual level. Moreover, future research using a multilevel design and including longitudinal measures could address the processes by which collective organizational engagement emerges. While this was not the focus of the present study, such an approach could shed light on the ways in which collective engagement comes about in the first place.

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CHAPTER 6

GENERAL DISCUSSION

This dissertation had the aim to deepen the understanding of work engagement at different organizational levels. Additionally, it considered leadership as a lever (chapters 2 and 3) and work performance as an important outcome (chapters 3 and 5). Furthermore, in order to bridge researchers' and practitioners' demands concerning the assessment of work engagement, a behavioral engagement measure, the ENG-I, was developed and validated (chapter 4) that meets both scientific and practical needs. Whereas all four empirical studies presented in chapters 2-5 contribute to the overarching goals described above, they were presented separately. The following general discussion explains how these separate findings relate and integrate with one another.

OVERVIEW OF THE MAIN FINDINGS

First, by following the idea that when leadership functions as a lever, the effects of bad leadership are stronger than the effects of good leadership (see also Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001), our research indeed revealed that this was the case for work engagement and exhaustion (chapter 2). Whereas ethical leadership was positively related to work engagement and negatively related to exhaustion, our study showed a stronger negative effect of toxic leadership on work engagement. Furthermore, the study identified LMX as mediating these relationships. Moreover, it has been found that the mediation of the effect of toxic leadership on work engagement and exhaustion via LMX was stronger than the mediation of the effect of ethical leadership. Finally, employees' need for autonomy was able to buffer the effect of a toxic leader on LMX by moderating the relationship between toxic leadership and LMX. This moderation effect implied that the relationship between toxic leadership and LMX was less negative for employees who had a high need for autonomy.

Second, the relationship was investigated between leaders' work engagement and followers' work engagement, performance, and turnover intentions (chapter 3). Results showed that leaders' work engagement was positively related to followers' work engagement via LMX.

Hence, leaders who are highly engaged themselves can transfer this state of engagement to their followers via a good leader-follower relationship. Additionally, in line with previous research, employee engagement was positively related to individual work performance and negatively related to turnover intentions.

Third, chapter 4 presented the development and validation of the ENG-I. As a new engagement assessment that aims to measure behavioral engagement of employees in organizational settings, the ENG-I meets scientific and practitioners' demands. As such, ENG-I had a robust construct and convergent validity, good internal consistencies and test-retest reliabilities. Finally ENG-I had a good predictive validity, by predicting performance. Additionally, practical experience with the ENG-I in the collaborating organization to date is perceived to be good.

Finally, chapter 5 reports on a study about work engagement at the organizational level. To this end, the term of organizational engagement was introduced, which showed a relationship to organizational performance. Findings confirmed causal linkages such that organizational engagement predicts organizational performance and not the other way around.

THEORETICAL IMPLICATIONS

Taken together, the four empirical chapters provide several theoretical contributions to the literature on work engagement.

First, the focus was on work engagement at different organizational levels. Therefore, the studies were based at the individual, team, and organizational level (chapters 2, 3, and 5). Second, calls were addressed for more research on the role of leadership for work engagement (Bakker, Albrecht, & Leiter, 2011). Accordingly, the role of ethical leadership, toxic leadership, LMX, and leaders' own work engagement as possible predictors for work engagement were studied (chapters 2 and 3). Third, this dissertation aimed to bridge the science-practice divide in

assessing organizational engagement and addressing calls for more research on behavioral engagement by developing and validating the Engagement-Index as a new measure for behavioral work engagement (chapter 4). Finally, the research focused on the causal link between work engagement and employee and organizational performance (chapters 3 and 5). In the following, these four theoretical implications are discussed in more detail.

Theoretical challenge 1: Work engagement at different organizational levels

To the best of our knowledge, there have been only a few studies that have studied work engagement at higher organizational levels than the level of individual employees, namely the team and the organizational level (e.g., Bakker, Van Emmerik, & Euwema, 2006; Harter, Schmidt, & Hayes, 2002; Salanova, Agut, & Peiró., 2005; Tuckey, Bakker, & Dollard, 2012). Addressing recent calls for research on work engagement at different organizational levels (e.g., Bakker & Demerouti, 2016), work engagement was investigated at the individual, team, and organizational level.

First, the finding that work engagement can be transferred from leaders to followers via LMX, which, in turn, is related to employee performance and turnover intentions (chapter 3) builds on and expands earlier research on contagion effects of work engagement among team members (e.g., Bakker et al., 2006). This study expands these findings by showing in chapter 3 that engagement *contagion* can also occur between leaders and followers. Additionally, this study highlighted LMX as a mediator in the relationship of leadership and work engagement. As such, these findings shed light on predictors of work engagement by expanding existing knowledge on job resources (Demerouti, Bakker, Nachreiner, & Schaufeli., 2001) and transformational leadership (Breevaart et al. 2014) as engagement predictors at the team level.

Second, the same study (chapter 2) enlarged earlier findings by Tuckey and colleagues (2012), who found that empowering leadership was positively related to employees' work engagement in a sample of firefighters and their supervisors. Additionally, these authors uncovered that a good work environment is an important underlying process between

empowering leadership and work engagement (Tuckey et al., 2012). The study in chapter 2 expanded upon these findings by showing that leaders' own work engagement is related to employees' work engagement, and that this process can be explained by LMX.

Third, the research contributes to the existing research on work engagement at the organizational level by showing that organizational engagement leads causally to objective organizational performance measures (chapter 5). Whereas previous studies focused on work engagement within units (Harter et al., 2002; Salanova et al., 2005) or in organizational sub-samples (Barrick, Thurgood, Smith, & Courtright, 2015), this study is - to the best of our knowledge - the first that investigated work engagement at the organizational level in a time-lagged design. By collecting data at two measurement points in a cross-lagged model, our research could consider causality issues. Our findings showed that organizational engagement leads to performance and not the other way around. This result thus addresses several calls to uncover such causal linkages (Barrick et al., 2015; Harter et al., 2002; Salanova et al., 2005).

Theoretical challenge 2: Leadership and work engagement

Most studies that have investigated the antecedents of work engagement have relied on the Job Demands-Resources model in order to explain the emergence of work engagement (e.g., Hakanen, Schaufeli, & Ahola, 2008). Yet, little research has explicitly investigated the relationship between leadership and work engagement. Most previous studies in this regard have focused on positive leadership styles, such as transformational leadership, because of the motivational potential of such styles for employees (e.g., Breevaart et al., 2014; Breevaart, Bakker, Demerouti, & Derks, 2016). By focusing on both positive and negative leadership styles, this dissertation contributes to the existing research body of leadership and work engagement.

First, the finding that negative or destructive - in our case toxic - leadership has a stronger negative effect on work engagement than does positive or constructive - in our case ethical - leadership (chapter 2) complements existing research on positive leadership styles and work

engagement. As an example of existing research, Breevaart and colleagues (2014) found that daily transformational leadership was positively related to employees' work engagement, and that this process was mediated by job resources, which finding indicates that transformational leaders create a positive work environment for their subordinates. Our study expanded this finding by confirming that positive (ethical) leadership is positively related to work engagement, whereas the opposite holds for toxic leadership.

Second, this dissertation expanded the knowledge on possible boundary conditions or moderators for the effects of specific leadership styles on employee engagement. Specifically, the finding that employees' need for autonomy can buffer the negative effect of toxic leadership on employee engagement adds to the existing research by showing that employee variables interact with a destructive leadership style in such a way that the negative relationship between toxic leadership and LMX is less strong for employees high in their need for autonomy. Similarly, previous research by De Vries, Roe, and Taillieu (2002) identified the need for leadership as a moderator between leadership and employee outcomes. As such, the finding that the need for autonomy of employees moderates the effect of leadership styles ties in with the findings by de Vries and colleagues (2002) and adds to this knowledge.

Third, two studies investigated whether LMX was a mechanism underlying the relationship between leadership and employee engagement (chapters 2 and 3). The finding that LMX mediates the relationship between ethical leadership and toxic leadership on the one hand, and employees' work engagement on the other hand, aligns with meta-analytic findings by Dulebohn, Bommer, Liden, Brouer, and Ferris (2012), who identified LMX as a mediator between leadership variables and employee outcomes. Furthermore, the findings build on previous work by Breevaart, Bakker, Demerouti, and Van den Heuvel (2015), who found that LMX was positively related to job resources, which, in turn, were related to work engagement. As such, our findings confirm the relationship between LMX and work engagement and add to

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this research theme by showing that LMX works as a mediator between leadership variables and employees' work engagement.

Theoretical challenge 3: Bridging the science-practice divide in assessing organizational engagement

During the past 20 years, work engagement has received attention by many researchers and practitioners alike (Bailey, in press). However, there is a clear tendency that the foci of research and practice on engagement are moving away from one another (Wefald & Downey, 2009). Organizations often use their own engagement surveys which most of the time are not validated empirically. Furthermore, organizations often do not apply instruments based on empirical evidence in practice (Bailey, in press). By introducing the ENG-I as a psychometrically sound and simultaneously practice-approved measure, chapter 4 aimed to tackle this issue.

Peccei (2013) differentiates between behavioral and attitudinal engagement. The Utrecht Work Engagement Scale (UWES, Schaufeli, Salanova, Gonzalez-Roma, Bakker, 2002) is a well-known instrument in academia that assesses attitudinal work engagement. Considering the fact that organizations are often interested in behavioral aspects of engagement while the scientific literature has less to offer for assessing such aspects, the ENG-I was intended to form an instrument that addresses this concern by considering both scientific standards and practical needs. Chapter 4 describes the research in which we attempted to operationalize work engagement in a way that fulfills scientific as well as practical requirements (Vance, 2006; Wefald & Downey, 2009). This study adds to findings from studies measuring work engagement in the following three ways.

First, chapter 4 focuses on behavioral components of work engagement (cf. Macey & Schneider, 2008; Peccei, 2013; Wefald & Downey, 2009). Behavioral aspects of work engagement may be more strongly related to organizational performance than attitudinal

engagement because attitudes lead to behavior which in turn lead to work performance (e.g., Cascio, 2007; Wefald & Downey, 2009). Items in the ENG-I such as "I actively participate in meetings," or "I work on my tasks in a persistent and goal-oriented manner" align with the definition of behavioral engagement by Kahn (1990).

Second, the findings related to the ENG-I's predictive validity for employee performance and turnover intentions showed that the ENG-I was positively related to employee performance, whereas the opposite was the case for turnover intentions. As organizations are interested in fostering employees' motivation and well-being and improving their organizational performance based on measuring employees' engagement, this finding is meaningful for theory and practice (Gruman & Saks, 2011, Vance, 2006; OECD, 2016).

Finally, the ENG-I is a measure that integrates scientific and practical requirements for engagement assessment. Organizations often have the aim to use an engagement measure that is accepted by their employees and executives. Unfortunately, organizations hardly apply measures that are offered in the academic literature (Bailey, in press). Instead, research and practice on engagement often seem to develop away from each other (e.g., Bailey, in press; Guest, 2014a; Wefald & Downey, 2009). However, an interview study by Bailey (in press) revealed that practitioners regard it as important to know academic approaches to work engagement in order to apply evidence-based human resources management. The ENG-I was developed in order to bridging this research practice divide, by means of meetings with an interdisciplinary focus group of scholars and practitioners. The ENG-I indeed appears to fulfill practical and scientific requirements, such as acceptability, applicability, and good psychometric properties.

Theoretical challenge 4: Engagement as a predictor for employee and organizational performance

Finally, the studies in this dissertation contribute to theoretical knowledge regarding the relationship between engagement and performance. The study reported in chapter 2 investigated

this relationship at the individual level (chapter 2) whereas the study reported in chapter 5 investigated it at the organizational level (chapter 5).

First, the findings confirmed the idea that employees' work engagement is related to individual work performance. This finding is in line with earlier findings in different organizational contexts (e.g., Bakker & Bal, 2010; Halbesleben & Wheeler, 2008).

Second, the result that organizational engagement predicts objective organizational performance expands research on engagement and performance (e.g., Halbesleben & Wheeler, 2008; Harter et al., 2002; Rich, Lepine, & Crawford, 2010; Salanova et al., 2005). Whereas previous studies on engagement beyond the individual level had investigated unit-level engagement (Harter et al., 2002; Salanova et al., 2005) or engagement in organizational subsamples (Barrick et al., 2015), the present findings showed that the engagement-performance link applies to the organization as a whole. Even though practitioners and consultants have labeled the relationship to organizational performance a core characteristic of work engagement, the empirical literature has had little to offer in this regard until now (Macey, Schneider, Barbera, & Young, 2009; Vance, 2006). The present findings address this research gap and emphasized the meaning of work engagement as a competitive advantage for organizations as a whole. This systemic perspective of engagement and its performance consequences as an organizational phenomenon constitutes an important conceptual advance beyond the individual-level roots of the engagement construct.

Third, the identified link between organization-wide engagement and performance was based on a cross-lagged design. This design and the corresponding findings speak to calls to answer causality issues concerning engagement and organizational performance (Barrick et al., 2015; Harter et al., 2002; Salanova et al., 2005).

PRACTICAL IMPLICATIONS

The studies reported in chapters 4 and 5 were executed in close collaboration with an organization. Moreover, chapters 2 and 3 were based on field data. Taken together, the empirical findings reported in these four chapters provide several managerial implications.

First, the insights from this dissertation offer knowledge about the antecedents and consequences of work engagement at different organizational levels. Specifically, the findings reveal that work engagement can be fostered at the individual and dyadic level by promoting positive leader behavior and leader engagement, and by promoting good relationships between leaders and employees. Moreover, the finding that organization-wide engagement is important for organizational performance suggests that organizations should approach enhancing engagement at different levels. Regular dialogues and dyadic feedback between supervisor and employee could be a starting point for increasing engagement at the individual level. Additionally, the finding that constructive leadership styles predict engagement suggest that stimulating a culture of employee-oriented leadership is an important lever for promoting an engaged workforce, and that leaders' own work engagement can be a fruitful starting point. Organizations should strive to make engagement and employee-oriented leadership a core value of their leadership development efforts.

Second, the ENG-I forms an engagement measure that meets both scientific and practical requirements. The ENG-I has been applied in a nationwide network of service organizations since 2013, and has been described in best practice publications of the OECD (2016) and the European commission (2016). The instrument is currently being applied in a fixed rhythm followed by a continuous follow-up process to improve engagement in this organization. In this process, the respective organizational units discuss the results, identify strengths and weaknesses, conduct workshops to identify steps for improvements, and implement these improvements until the next ENG-I assessment. This organization-wide, systematic process

ensures that engagement is at the core of human resource management and development. Moreover, it is possible to analyze the results of different groups, such as age or gender groups, and to use these results in order to implement differentiated HR instruments.

LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

The studies reported upon in this dissertation have several strengths, including the use of field data, the consideration of engagement at multiple levels, the implementation of a research design that allows causal interpretations regarding the engagement-performance link at the organizational level, and the close collaboration with organizational practice. Yet, the cumulative findings still should be viewed in the light of their limitations and the associated need for future research.

First, most of the data for this dissertation were collected among white-collar workers in a German nonprofit service organization. Hence, the present findings do not necessarily generalize to different groups of employees (such as blue-collar workers) or different cultural settings. Accordingly, future research should focus on data from other industries and cultures. For example, the leader-follower transference of engagement (chapter 3), might be weaker in cultures that are more hierarchical, and stronger in cultures that are less hierarchical (such that followers may feel relatively close to their leaders).

Second, future research may integrate the focal variables of chapters 2 and 3 into one empirical study to be able to investigate followers' need for autonomy or personality traits as possible moderators of leader-follower engagement transference. Other relevant boundary conditions could include the amount of contact and interaction frequency between leaders and followers, and interdependent work, which might moderate the relationship. It may, for instance, be expected that a transference of work engagement might be stronger for leaders and followers who interact very frequently with one another.

Third, all studies in this dissertation assumed engagement to be an inherently positive construct. This approach aligns with the research stream of positive psychology (Seligman & Csikszentmihalyi, 2000). Yet, there might also be "too much of a good thing", namely a dark side of engagement (cf. Bakker et al., 2011; Maslach, 2011). Regarding other positive constructs, authors argued that too much commitment could lead to employees' losing their critical thinking in organizations (Randall, 1987). Similarly, employees' high self-esteem can lead to an underestimation of time that is needed to fulfill a task (Bakker et al., 2011; Buehler, Griffin, & Ross, 1994). Additionally, it has been shown that too much optimism can lead to insufficient preparation, underestimation of risks, and lower performance (Brown & Marshall, 2001; Grant & Schwartz, 2011). Accordingly, it is conceivable that there might be a dark side of engagement as well. As such, it may be that intensely engaged employees are excessively absorbed in their work, work overtime regularly, or take work home, which might undermine recovery and may lead to work-family conflict (e.g., Nohe, Meier, Sonntag, & Michel, 2015). Researchers similarly have pointed out that "in order to burn out, a person needs to have been on fire at one time" (Pines, Aronson, & Kafry, 1981, p. 4). Although work engagement is negatively related to burnout (e.g., Maslach, Schaufeli, & Leiter, 2001), there might be a curvilinear effect of engagement in such a way that too much engagement can lead to exhaustion and less performance. Future research could consider this idea by applying longitudinal research designs.

Fourth, although the ENG-I and the related findings focus on behavioral aspects of engagement, the study still relied on survey methodology to measure engagement. Hence, future research could apply actual behavioral measures, such as behavioral observations by experts, in order to validate the findings.

CONCLUDING REMARKS

Work engagement is an asset for employees and organizations and can form an important competitive advantage. Therefore it is important to know the drivers and outcomes of

engagement and how engagement can be enhanced at different organizational levels, namely the individual, team, and organizational level. This dissertation addressed four challenges presented in four empirical chapters on how work engagement can be managed in organizations. By means of field data from research-practice collaborations, it was shown that leaders affect work engagement at the individual and team level. Furthermore, the studies reported upon showed how behavioral work engagement can be assessed in organizations, and how work engagement is causally related to work engagement at the organizational level. As such, this dissertation aimed to offer knowledge on drivers and outcomes of work engagement, which forms an asset for organizational success and for employees' well-being.

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APPENDIX

CHAPTER 2

Measure of Ethical leadership

Ethical leadership was measured using ten items of a validated German version of the Ethical Leadership Scale (ELS-D; Rowold, Borgmann, & Heinitz, 2009), adapted from the English version by Brown, Treviño, and Harrison (2005). The response format was a 6-point Likert scale ranging from 1 (never) to 6 (very often).

1. Listens to what employees have to say.

2. Disciplines employees who violate ethical standards.

3. Conducts his/her personal life in an ethical manner.

4. Has the best interests of employees in mind.

5. Makes fair and balanced decisions.

6. Can be trusted.

7. Discusses business ethics or values with employees.

8. Sets an example of how to do things the right way in terms of ethics.

9. Defines success not just by results but also the way that they are obtained

10. When making decisions, asks "what is the right thing to do?"

Toxic leadership was measured using 23 items of the Toxic Leadersip Scale developed by Schmidt (2008). The items were translated to German by two bilingual translators, following a translation-back translation procedure (Brislin, 1970). The response format was a 6-point Likert scale ranging from 1 (never) to 6 (very often).

1. Controls how subordinates complete their tasks.

2. Invades the privacy of subordinates.

3. Does not permit subordinates to approach goals in new ways.

4. Will ignore ideas that are contrary to his/her own.

5. Is inflexible when it comes to organizational policies, even in special circumstances.

6. Determines all decisions in the unit whether they are important or not.

7. Has a sense of personal entitlement.

8. Assumes that he/she is destined to enter the highest ranks of my organization.

9. Thinks that he/she is more capable than others.

10. Believes that he/she is an extraordinary person.

11. Thrives on compliments and personal accolades.

12. Drastically changes his/her demeanor when his/her supervisor is present.

13. Denies responsibility for mistakes made in his/her unit.

14. Will only offer assistance to people who can help him/her get ahead.

15. Accepts credit for successes that do not belong to him/her.

16. Acts only in the best interest of his/her next promotion.

17. Has explosive outbursts.

18. Allows his/her current mood to define the climate of the workplace.

19. Expresses anger at subordinates for unknown reasons.

20. Allows his/her mood to affect his/her vocal tone and volume.

21. Varies in his/her degree of approachability.

22. Causes subordinates to try to "read" his/her mood.

23. Affects the emotions of subordinates when impassioned.

Need for autonomy was measured using three items of a sub-facet of the Manifest Needs Questionnaire (MNQ) developed by Steers and Braunstein (1976). Following a translation-back translation procedure, the items were translated into German by two bilingual translators (Brislin, 1970). The response format was a 6-point Likert scale ranging from 1 (never) to 6 (very often).

1. In my work assignments, I try to be my own boss.

2. I go my own way at work, regardless of the opinions of others.

3. I disregard rules and regulations that hamper my personal freedom.

LMX was measured using nine items developed by Graen and Uhl-Bien (1995). The items were translated into German by two bilingual translators, following a back translation procedure (Brislin, 1970). The response format was a 6-point Likert scale ranging from 1 (never) to 6 (very often).

1. I like my supervisor very much as a person.

2. My supervisor is the kind of person one would like to have as a friend.

3. My supervisor is a lot of fun to work with.

4. My supervisor defends my work actions to a superior even without complete knowledge of the issue in question.

5. My supervisor would come to my defense if I were "attacked" by others.

6. My supervisor would defend me to others if I made an honest mistake.

7. I am impressed with my supervisor's knowledge of his job.

8. I respect my supervisor's knowledge and competence on the job.

9. I admire my supervisor's professional skills.

Work engagement was assessed with the nine-item version of the Utrecht Work Engagement Scale (Schaufeli et al., 2006; translated version taken from Hering, 2008). The response format was a 6-point Likert scale ranging from 1 (never) to 6 (very often).

1. At my work, I feel bursting with energy.

2. At my job, I feel strong and vigorous.

3. I am enthusiastic about my job.

4. My job inspires me.

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

6. I feel happy when I am working intensely.

7. I am proud of the work that I do.

8. I am immersed in my work.

9. I get carried away when I am working.

Exhaustion was measured using the sub-facet exhaustion of the Maslach Burnout Inventory (MBI; Maslach & Jackson, 1993). The items were translated into German by two bilingual translators, following a back translation procedure (Brislin, 1970). The response format was a 6-point Likert scale ranging from 1 (never) to 6 (very often).

1. I feel emotionally drained from my work.

2. I feel used up at the end of the workday.

3. I feel fatigued when I get up in the morning and have to face another day on the job.

4. Working with people all day is really a strain for me.

5. I feel burned out from my work.

6. I feel frustrated by my job.

7. I feel I'm working too hard on my job.

8. Working with people directly puts too much stress on me.

9. I feel like I'm at the end of my rope.

CHAPTER 3

Leaders' and followers' work engagement was measured with the nine-item version of the Utrecht Work Engagement Scale (Schaufeli, Bakker, & Salanova, 2006; translated version taken from Hering, 2008). The response format was a 6-point Likert scale ranging from 1 (very often) to 6 (never).

1. At my work, I feel bursting with energy.

2. At my job, I feel strong and vigorous.

3. I am enthusiastic about my job.

4. My job inspires me.

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

6. I feel happy when I am working intensely.

7. I am proud of the work that I do.

8. I am immersed in my work.

9. I get carried away when I am working.

LMX was measured by asking the followers to rate three items originally developed by Scandura and Graen (1984) and adapted by Bauer and Green (1996) on a six-point Likert scale ranging from 1 (fully agree) to 6 (fully disagree). The items were translated into German by two bilingual translators, following a back translation procedure (Brislin, 1970).

1. My direct supervisor understands my problems and needs.

2. My supervisor recognizes my potential well

3. I would characterize the working relationship I have with my supervisor as extremely effective.

Turnover Intention was measured using a single item adapted from Spector, Dwyer, and Jex (1988): "During the last six months, how often did you think about quitting your job?" We

used a six-point Likert scale ranging from 1 (very often) to 6 (never). The item was translated

into German by two translators following a back translation procedure (Brislin, 1970).

Performance was measured by asking the respondents to indicate their annual

performance assessment.

CHAPTER 4

Work engagement was assessed with the ENG-I. The response format was a six-point Likert scale ranging from 1 (very often) to 6 (never). Second, we also used the nine-item version of the UWES (Schaufeli, Bakker, & Salanova, 2006; translated version taken from Hering, 2008; overall $\alpha = .92$). The response format was a six-point Likert scale ranging from 1 (very often) to 6 (never).

ENG-I:

1. I work on my tasks in a persistent and goal-oriented manner.

2. I have a strong drive to achieve high quality work results.

3. My colleagues can rely on my support even under difficult circumstances.

4. I am willing to give my best for the achievement of team goals.

5. I use my competencies in order to perform my job well.

6. I actively participate in meetings.

7. In everyday work life I actively contribute in order to excite my colleagues for ideas.

8. I actively contribute to successful information exchange within the team.

9. I encourage colleagues to do their utmost to support team goals.

10. I identify with the mission of my organization.

11. I support changes in my organization as much as possible.

12. I align my daily work with the goals of my organization.

13. If I had the choice once more today, I would again choose my organization as an employer.

14. Overall, I can manage my workload (amount and quality) well.

15. I am convinced that I can handle my job requirements in the long run.

16. I actively contribute to the compatibility of my work and private obligations.

17. At work I have the possibility to do what I can do best.

18. In my current job, I can adequately contribute my expectations and ideas.

19. My work is more than just a job for me.

UWES:

1. At my work, I feel bursting with energy.

2. At my job, I feel strong and vigorous.

3. I am enthusiastic about my job.

4. My job inspires me.

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

6. I feel happy when I am working intensely.

7. I am proud of the work that I do.

8. I am immersed in my work.

9. I get carried away when I am working.

Performance was assessed by asking participants to indicate the result of their annual performance assessment they receive from their supervisor.

Turnover intentions were assessed using a single item adapted from Spector, Dwyer, and Jex (1988): "During the last six months, how often did you think about quitting your job?" We applied a six-point Likert scale ranging from 1 (very often) to 6 (never). The item was translated into German by two translators following a translation-back-translation procedure (Brislin, 1970).

CHAPTER 5

Work engagement was assessed using 19 ENG-I items. The response format was a 6-point Likert scale ranging from 1 (*very often*) to 6 (*never*).

1. I work on my tasks in a persistent and goal-oriented manner.

2. I have a strong drive to achieve high quality work results.

3. My colleagues can rely on my support even under difficult circumstances.

4. I am willing to give my best for the achievement of team goals.

5. I use my competencies in order to perform my job well.

6. I actively participate in meetings.

7. In everyday work life I actively contribute in order to excite my colleagues for ideas.

8. I actively contribute to successful information exchange within the team.

9. I encourage colleagues to do their utmost to support team goals.

10. I identify with the mission of my organization.

11. I support changes in my organization as much as possible.

12. I align my daily work with the goals of my organization.

13. If I had the choice once more today, I would again choose my organization as an employer.

14. Overall, I can manage my workload (amount and quality) well.

15. I am convinced that I can handle my job requirements in the long run.

16. I actively contribute to the compatibility of my work and private obligations.

17. At work I have the possibility to do what I can do best.

18. In my current job, I can adequately contribute my expectations and ideas.

19. My work is more than just a job for me.

Customer satisfaction was assessed by four items in n = 200 customer interviews for each of the 156 organization (in sum, 31,200 interviews) which are conducted each year by an

external provider. The customers were asked for their satisfaction concerning the placing of unemployed employees, the possibility to gather information, the satisfaction with the employees of the organization, and with the general circumstances. The response format corresponded to that of the work engagement scale with a 6-point Likert scale ranging from 1 (*very satisfied*) to 6 (*not satisfied at all*).

Job Placement Success. We matched our data to an objective performance measure of each sub-organization, namely their job placement success. This rate describes the amount of unemployed persons that could be placed in an employment again assisted by the employees of the organizations investigated. The performance measure on job placement success takes into account the employment market of the regions so that the rate is well comparable between each sub-organization. The measure ranges from 0 to 100, representing percentages.

ACKNOWLEDGEMENTS

When I started my PhD, I did not know what type of interesting and adventurous journey would lie in front of me. Visiting places around the world did not only mean that I could develop academically and personally, but it also meant meeting inspiring people along the way, who supported and encouraged me, and whom I would like to thank at this point.

First, I would like to thank my supervisors Prof. Sven Voelpel, Prof. Marise Born, and Prof. Nale Lehmann-Willenbrock, who supported me all the way through my thesis, the development of my scientific understanding, and the development of myself as a person. Sven, thank you very much for all the learning opportunities you gave me, and for the trust, autonomy and support when needed. Thank you for believing in my skills and for teaching me to aim high. Marise, thank you very much for several great meetings in which we discussed our papers, which allowed me to profit from your great scientific expertise and knowledge. Thank you for your feedback, your support, and your warm and welcoming manner, which encouraged me in stressful PhD-times. Nale, thank you very much for your enduring support in manifold ways. I could learn so much from your impressive writing skills, your forward-looking mentality, and your scientific knowledge. I could count on your feedback and your answers to my questions even in very busy times. I am deeply thankful that the three of you, Sven, Marise, and Nale supported this project over the last years.

A further special thank goes to Prof. Diana Hanke-Boer. Diana, you were always there when I had questions. Thank you for your contagious enthusiasm for research and your impressive methodological skills that encouraged me to learn manifold different statistical methods. It was your encouragement that made me become passionate about methods today. Additional thanks goes to Prof. Sonia Lippke for her valuable and useful feedback on my research and for joining my dissertation committee. Thank you for providing fast feedback, even from Hong Kong. A further big thanks goes to Prof. Ronald Piccolo, who made it possible that I

could have a research stay at his department at the University of Central Florida in Orlando. Ron, thank you for taking time to discuss my research, answer my questions, and share your thoughts about engagement and motivation research.

Additionally, I would like to express a deep gratitude to Dr. Beatrix Behrens and Dr. Dominik Hecker from the Federal German Employment Agency, who gave me the possibility to work on the topic of engagement in practice. Thank you for the collaboration that made it possible to do applied research. I also thank all participants of the data collections.

A very deep thank you goes to Prof. Markus Bassler, Dr. Wolfgang Pfeiffer, and Silke Ohlwein from the German Pension Service, who gave me the possibility to finish this dissertation. Thank you for a wonderful work environment - I could not have wished for a better one - for encouraging and always supporting me in my work, my research, and for making it possible for me to have research visits in Amsterdam and Florida. Dr. Pfeiffer, thank you for several valuable conversations about research, work, and life, for becoming a mentor for me, and for being the best example that ethical leadership can be really good and effective. It was and is a pleasure to collaborate with you. Additionally, I would like to thank the German Academic Exchange Service that made it possible for me to present my research at the Academy of Management.

Additional deep thank goes to Uwe Oentrich and Emely Rausch from the Daimler AG who supported me during the last months of this thesis. Thank you for the support and the interest you show in my research. It is a big pleasure to work with you.

A further big thanks goes to my colleagues and former colleagues from the WISE research team (Fabiola, Iane, Karina, Doris, Jan, and Anika), who provided feedback, shared laughs, and who became dear friends. Fabiola, thank you for great conference journeys, and Iane, thank you for the valuable research and methods discussions from which I could learn a lot. Although we never found a goldfish for our office, it was a pleasure to share it with you. Additionally, I would like to thank many dear friends who always had an ear for me and who

reminded me that life is enjoyable. Ines and Annemarie, thank you for your support, on which I always can count.

Furthermore, I would like to thank my parents, Almut and Jürgen, who encouraged me and always believed in me. Thank you for your love and your support in every decision I take. I am overwhelmed by the faith you have in me. Finally, I would like to thank my dear Markus for sharing the ups and downs of this PhD phase. Thank you for your priceless support, your faith in me, and for making every day joyful and bright.

Thanks!

Daniela

Bremen, 17.12.2017 and East London, 30.05.2018