WORK ENGAGEMENT:
AN EPISODIC PERSPECTIVE

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Chapter 1

General Introduction

Experiencing positive emotions is important to most people and it is a fundamental human experience (Diener & Diener, 1996). Considering that many people spend forty hours per week at work, it is important to take into account how positive emotions are nurtured in the workplace. An important representation of a work-related positive affective state (Bakker & Oerlemans, 2011) is work engagement – a positive state of mind characterized by vigor, dedication, and absorption (Schaufeli, Salanova, González-Romá, & Bakker, 2002). More specifically, the vigor dimension of work engagement is characterized by high levels of energy and persistence while working and investing effort in one's work (Salanova, Schaufeli, Llorens, Peiró, & Grau, 2000; Schaufeli et al., 2002). Additionally, the dedication dimension is characterized by high levels of enthusiasm, pride, inspiration, challenge, and meaning towards one's job. Finally, absorption is characterized by being completely concentrated in the task while feeling that time is flying and that you let yourself be fully immersed in your work. In summary, work engagement is a positive cognitive-affective motivational work related construct that can be pervasive and enduring.

Work engagement has mainly been studied as an enduring affective motivational state (cf. Christian, Garza, & Slaughter, 2011; Crawford, LePine, & Rich, 2010; Halbesleben, 2010; for meta-analyses). Nevertheless, in the last decade, it has been shown that employees also experience intra-individual variations in work engagement (Bakker, 2014). Actually, Kahn (1990) was the first to describe the experience of work engagement as a transient experience that fluctuates within the day. Through interviews, he observed that in a working day there were variations in how much people brought themselves in and out of a task. Additionally, Sonnentag, Dormann, and Demerouti (2010) highlighted that examining within-person variability in work engagement could provide a complimentary view to the trait perspective. In summary, work engagement can also be studied as a state that can vary over short periods of time (state-trait continuum).

From a theoretical point of view, having an understanding of the within-day fluctuations in work engagement is essential in order to have a more comprehensive view of the work engagement construct (Sonnentag et al., 2010). By studying work engagement at the episodic level, we can understand why an employee who is generally highly engaged can have a moment of low work engagement during a day at work. When taking into account a real work context in which activities may vary from one work episode to the next, a microscopic and dynamic approach to the study of work engagement may enhance our understanding of the construct.

Empirical studies have revealed that work engagement can change from week to week, day to day, and moment to moment (see Bakker, 2014 for an overview). For instance, Tadić, Oerlemans, and Bakker's (2017) diary study revealed that work engagement systematically changes from day to day depending on the daily work demands that employees face. One step ahead, Kahn (1990) used theory and qualitative data to argue and show that engagement fluctuates with the ebbs and flows of the work, implying that work engagement is a transient state that can change from one moment to the next.

Although social scientists have looked at the fluctuations in work engagement within different time frames, little research has examined the fluctuations in work engagement within one day. Except for a few studies (e.g., Bakker & Oerlemans, 2019; Reis, Arndt, Lischetzkea, & Hoppe, 2016; Sonnentag, 2017), the majority of work in this area has generally ignored how engaged employees can have peaks and lows within a working day.

The few studies on work engagement that focus on the momentary or episodic level present an example of how work engagement is a dynamic, affective, motivational construct that can fluctuate from one work episode to the next. For example, the ambulatory study by Reis et al. (2016) examined the sub dimensions of work engagement within a day. The authors showed that these dimensions fluctuate less than other affective states, such as happy-unhappy, content-discontent, tired-awake, and others. Additionally, they revealed that there is still a significant proportion of within-day variability in state work engagement. In conclusion, episodic work engagement does not fluctuate as much as other affective states (e.g., happy, content, tired), but still it has enough meaningful within-day variance.

Nevertheless, the relationship between work engagement its predictors and outcomes at the episodic level has received little attention. As such, in this dissertation, I build upon Kahn's proposition of work engagement as a momentary experience and extend it by theoretically contextualizing it in the moment using the episodic process model (EPM) of performance (Beal, Weiss, Barros, & MacDermid, 2005; Weiss, Ashkanasy, & Beal, 2004).

According to Beal et al. (2005), the stream of experiences during a workday can be organized around performance episodes. These behavioral segments are thematically structured around organizationally relevant goals or objectives. When looking at the experience of work engagement from this episodic perspective, we gain insights about situational factors that correlate with employees' levels of vigor, dedication, and

absorption. The episodic perspective can provide a more accurate understanding of the most proximal correlates of the experience of what we term *episodic work engagement*.

In the following sections, I will first introduce the concept of work engagement. Having established the conceptual space of work engagement, I then discuss a prominent theory of job stress and well-being that helps explain the antecedents and outcomes of work engagement: Job Demands-Resources (JD-R) theory. Then, I will discuss the EPM to understand the processes of work engagement at the episodic level. Finally, I will formulate the research questions that are addressed in this dissertation, and describe the studies designed to answer these questions (Refer to Figure 1 for the overall theoretical model).

Work Engagement

One of the most popular definitions in the scientific literature of work engagement is that of Schaufeli et al. (2002) where work engagement is defined as "a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" (p. 74). Engaged employees are full of energy, enthusiastic, and they feel that time passes quickly at work. In addition, engaged workers are persistent, and spend considerable time and effort at work.

The Utrecht Work Engagement Scale (UWES; Schaufeli et al., 2002) has been used to capture the three dimensions of vigor, dedication, and absorption of work engagement. Various confirmatory factor analyses have provided evidence to support the three-factor structure (Salanova et al., 2000; Schaufeli et al., 2002). However, most research on work engagement has focused on the trait perspective. That is, work engagement has mainly been studied as an enduring and pervasive experience. Methodologically, this body of research is represented by between-person studies that show why one person is more engaged than another. Nevertheless, Sonnentag et al. (2010) brought to attention that a differentiation between the state (i.e., transient experience) and trait perspective could be made with work engagement as with other affective constructs. Specifically, Sonnentag and colleagues proposed that work engagement as an experiential state can vary over short periods of time, such as weekly, daily, or even within a day – from one task to the next.

The trait perspective uses retrospective measures that provide a generalized perspective while ignoring the dynamic nature of state work engagement. Nevertheless, the dynamic perspective on the other hand pinpoints why an employee who is generally engaged may have a peak-day and may have better performance on that day compared to

other days. This means that in order to get a more complete understanding of the experience of state work engagement more within-person studies are required (Bakker & Oerlemans, 2019; Breevaart, Bakker, Demerouti, & Hetland, 2012; Sonnentag et al., 2010).

A within-person study can answer the question of why a person may feel more engaged on one day versus another day. Collecting data from all these levels (i.e., trait, day, episode) can shed light on the drivers of work engagement at the trait level versus the episodic level. In summary, the trait and state views provide complementary information about the experience of work engagement. Therefore, in order to fully understand work engagement, the full experiential state needs to be studied (Breevaart et al., 2012; Sonnentag et al., 2010).

Breevaart et al. (2012) studied the conceptualization and operationalization of work engagement at the day-level by asking participants to complete a short version of the UWES for five working days. This study found evidence for an invariant factorial structure of work engagement at the day level. During a working day, participants experienced vigor, dedication, and absorption, which reflected the original conceptualization of work engagement. Additionally, Breevaart et al.'s study showed substantial within-person variability. This means that individuals are more engaged on some days than on others. Thus, the modified UWES allows us to capture within-person variability in state work engagement. This study also provided support for the use of the modified UWES at the day level because it captures the three-dimensional conceptual space of work engagement. Based on these findings, in this dissertation, I adopt the three-dimensional conceptualization of work engagement and study it at the episodic level.

Kahn (1990) originally proposed studying the momentary experience of work engagement, which was defined as employees expressing the self – physically, cognitively, and emotionally -during role performance. Kahn's conceptualization of personal engagement is a manifestation of psychological presence (being fully there and attentive) during a work task where employees are able to connect with their work activities and others. For example, a scuba diving instructor describes a scuba diving expedition during an interview, where he experienced a moment of personal engagement by being physically involved while diving and preparing the gear. Additionally, he was cognitively involved by being aware of the divers, the marine life, and the weather conditions. Lastly, he was emotionally involved by empathizing with the emotions of the new divers (see also Bakker & Oerlemans (2019)). As Kahn and other authors have stated, focusing on the moment gives a complimentary view to the existing research on differences in trait work engagement that shows how people feel in general. Thus, the focus of this dissertation is

on the transient experience of episodic work engagement that fluctuates within individuals over the course of one working day.

In order to elucidate the antecedents and consequences of engagement at the episodic level, a more fine-grained nomological network is necessary (Dalal, Brummel, Wee, & Thomas, 2008). For example, JD-R theory provides a clear view of this picture by distinguishing the construct of interest from its predictors and outcomes. Additionally, it is imperative to look at other theoretical frameworks that can help explain within-day changes such as the EPM (Beal et al., 2005). The EPM, as suggested by Xanthopoulou and Bakker (2013) provides a structure in which we can frame work engagement and examine the experience for each work episode across the day, separately. For example, some employees may feel more engaged during meetings with clients than when they are confronted with bureaucracy. Additionally, someone might be more engaged when working together with someone on a project than when doing administration work alone. In this dissertation, I investigate the conceptual space of episodic work engagement as well as possible antecedents and outcomes. To this end, JD-R theory and the EPM are now discussed.

JD-R Theory and the Challenge Stressor-Hindrance Stressor Framework

According to JD-R theory, there are two processes that affect work-related well-being (i.e., work engagement and fatigue): The motivational process and the health impairment process (Bakker & Demerouti, 2017). The former is directed by job resources while the latter is triggered by job demands. Job resources (e.g., job autonomy, skill variety, social support) refer to physical, psychological, social, and organizational aspects of the job that promote learning, development, and growth, and help employees to reach their work-related goals. On the other hand, job demands refer to physical, social, and organizational aspects of the job that require sustained effort and therefore come at physiological and psychological costs. Research has shown that in addition to depleting energy levels, job demands may also have motivating potential when they are perceived as challenging (Bakker & Sanz-Vergel, 2013; LePine, Podsakoff, & LePine, 2005; Rodell & Judge, 2009).

Meta-analytic studies have shown that despite individual differences, certain demands are more likely to be appraised as challenging and others as hindering (LePine et al., 2005). These findings are based on studies that look at differences between people and are based on the rationale of finding work stressors that adversely affect most individuals (Brief & George, 1995). According to the challenge and hindrance stressor-

framework (Crawford et al., 2010), challenge job demands are experienced as stressful, but can also be energizing by promoting mastery and personal growth. Examples of challenge job demands are work pressure and task complexity. Contrarily, hindrance job demands are mainly experienced as stressful and thwart personal growth and the attainment of goals (Crawford et al., 2010). Examples of hindrance job demands are role conflict, role ambiguity, or hassles. In this dissertation, I examine the relation between challenge and hindrance job demands with work engagement at the episodic level.

Additionally, JD-R theory proposes that job resources interact with job demands affecting work engagement (Bakker & Demerouti, 2017). On the one hand, job resources buffer the effect of hindrance job demands on work engagement by reducing the physiological cost that demands have on well-being. On the other hand, challenge job demands boost the effect of job resources on work engagement because job resources become more salient when employees are challenged (Bakker & Demerouti, 2017). Recently, Tadić et al. (2017) conducted a diary study integrating JD-R theory with the challenge stressor-hindrance stressor framework to examine the interaction between job demands and job resources on well-being. The results of this study show that daily job resources boosted the positive effects of challenge demands on work engagement. In addition, job resources buffered the negative effects of hindrance demands on work engagement. In this dissertation, I will examine the interaction between resources and demands on work engagement at the even more fine-grained episodic level. In addition to examining how job resources protect employees' episodic engagement levels while they are facing episodic hindrance job demands, in this dissertation I propose mindfulness as a protective mechanism.

Mindfulness and Episodic Work Engagement

According to Brown and Ryan (2003) mindfulness is defined as bringing one's complete attention to the present moment with an accepting attitude where one is able to perceive one's thoughts and external sensations without trying to avoid them or judge them as good or bad. Taylor and Millear (2016) suggested that mindfulness could be considered an internal personal resource that can be used in stressful work conditions. Due to the awareness that comes from being mindful, one is more attentive of one's internal state and the reactions that one has towards the external environment. In this way, when one is confronting a hindrance job demand while being mindful, it is possible that the person becomes the observer of the bodily sensations and thoughts that arise without judging them as good or bad or getting lost in them. One can observe the

sensations come and go without acting out on them or using up more energetic resources in rumination or making the demand bigger than it is. In this dissertation, I integrate the challenge stressor-hindrance stressor framework in JD-R theory at the episodic level, and examine how job resources and mindfulness interact with job demands affecting employees' episodic work engagement.

Episodic Process Model

Beal et al. (2005) proposed the EPM of performance in order to provide a theoretical framework for how performance fluctuates within a working day. The EPM postulates that the stream of experience during a workday can be organized around performance episodes, which are behavioral segments that are thematically organized around organizationally relevant goals or objectives. Having a goal helps dictate our perception of when episodes begin and end while providing structure to our daily activities. In this dissertation, I study employees' episodic work engagement levels during a performance episode. Additionally, I examine how episodic job resources and demands interact in influencing employee's episodic work engagement and performance during one episode.

The EPM (Beal et al., 2005; Weiss et al., 2004) highlights the importance that attentional processes have on the quality of performance and employee's motivation during a performance episode. Specifically, according to the model, when people invest all their attention and cognitive resources in a work activity during any particular performance episode, their performance will be enhanced. However, if their attention is focused elsewhere, their performance will suffer.

According to the EPM, there are different attentional processes that influence the allocation of attention during a performance episode, such as attentional pull and cognitive interference. On the one hand, attentional pull refers to aspects of the task that draw a person's attention to it (Beal et al., 2005). For example, a person finding a task interesting for itself facilitates self-regulation of attention towards the activity. Specifically, allocation of attention to completely autonomous tasks requires little to no effort, compared to tasks that are less self-determined. In this dissertation, we focus on the phenomenological experience of attentional pull, that is a person's experience of their attention being drawn to a work activity. On the other hand, cognitive interference refers to distracting thoughts that prevent the individual to giving full attention to the task at hand (Sarason, Sarason, Keefe, Hayes, & Shearin, 1986). Because cognitive interfering thoughts are not about the focal performance, they are demanding on the person's

attention and may have a negative impact on one's performance (Beal et al., 2005). The studies included in this dissertation build on this preliminary work. Specifically, in a series of quantitative experience sampling studies, I test the proposition that during a performance episode, attentional pull and cognitive interference influence employees' episodic work engagement levels and thereby their episodic performance.

For research purposes, structuring a day according to performance episodes provides a structure for capturing critical moments during a working day. Specifically, boundaries between episodes are important for the consolidation and encoding of our experiences in our memory. To that end, I chose to use the experience sampling method (ESM) to capture various performance episodes during a person's working day. ESM refers to a method of data collection in which participants respond to repeated signals over the course of time while functioning within their natural setting (Hektner, Csikszentmihalyi, & Schmidt, 2007). Analytically, the ESM gives clarity of the level of analysis for a study design, where performance episodes are nested within days, and days are nested within a person. Additionally, having multiple data points from one working day provides a stream of performance episodes, which gives us a picture of the within-day variability of one person's episodic work engagement and performance levels during a working day (Refer to Figure 1 for the overall model).

Research Aims and Questions

The research aims of this dissertation are summarized below in four research questions that will be answered throughout the different chapters included in this dissertation.

Research Question 1: To what extent does the work engagement of one person fluctuate within a working day?

The first goal of this dissertation is to explore if work engagement exists at the episodic level. For that I will examine the conceptual space of episodic work engagement and its variability within one day. Kahn (1990) first proposed the concept of work engagement as a momentary experience. This implies that the extent to which individuals are immersed in a particular task is constantly changing depending on the ebbs and flows of the work environment during a particular day. Notwithstanding this initial conceptualization, further research on work engagement emerged out of the burnout literature, where engagement was conceptualized as the antithesis of burnout (Maslach,

Schaufeli, & Leiter, 2001). More specifically, Schaufeli et al. (2002) conceptualized and operationalized work engagement in its own right as a pervasive trait characterized by high levels of activation and pleasure opposite to burnout which are low levels of activation and pleasure.

However, according to Sonnentag and colleagues (2010), the state perspective of work engagement provides a complimentary view to the trait perspective of work engagement. The between-person level refers to the stable individual differences between people in their engagement levels; this experience is commonly referred to as trait work engagement while the episodic level refers to the moment-to-moment fluctuations in engagement levels within a day for one individual. Previous research shows a positive relation between the three dimensions of work engagement, vigor, dedication, and absorption at the trait and state level (Breevaart et al., 2012). This is an indicator that trait work engagement is not conceptually different from state work engagement, only that how engaged someone feels is affected by the particular day.

In an effort to integrate these different perspectives and advance our understanding of the conceptualization and operationalization of work engagement at the episodic level versus the trait level, **Chapter 2** describes a study in which I asses the within-day variability of episodic work engagement and its convergent validity with trait engagement. To make the UWES questionnaire suited as an episodic questionnaire, the time frame of the items is adjusted, so the questions refer specifically to the activity level. Additionally, I use a multilevel confirmatory factor analysis to examine the episodic and between-person level structure of the construct. Finally, **Chapter 5** provides further evidence for the convergent validity of episodic work engagement with episodic fatigue by showing that the two variables are negatively correlated at the episodic level in a similar way as trait work engagement is negatively related to burnout.

Research Question 2: What are the predictors of episodic work engagement?

The second goal of this dissertation is to examine the nomological network of episodic work engagement. To this end, I use JD-R theory, which is the most often used model when it comes to work engagement. I integrate the EPM (Beal et al., 2005) and the challenge stressor-hindrance stressor framework (LePine et al., 2005) in JD-R theory to understand how challenge job demands versus hindrance job demands influence episodic fluctuations in episodic work engagement. There is ample empirical evidence (cf. Bakker & Demerouti, 2018) indicating that job resources are the main drivers of work engagement

at the trait and the day level. Studies also indicate that employees engagement levels can fluctuate daily depending on the resources and demands they face on that day (Tadić et al., 2017). By integrating these findings in an episodic approach, **Chapter 2** provides insight into the main effects that episodic job demands and resources have on work engagement. Additionally, in **Chapters 3** to **5**, I use the EPM to examine attentional factors that may influence episodic processes, such as attentional pull and cognitive interference. I explore whether attentional pull can enhance employees' engagement levels, while cognitive interference can be a deterring experience for one's episodic engagement.

Research Question 3: What are the moderators that influence the relationship between episodic work engagement and its antecedents?

In order to better understand the nomological network of episodic work engagement, it is important to examine not only the main drives of work engagement, but also how they interact with each other in predicting one's engagement. According to JD-R theory, job resources interact with job demands in predicting work engagement (Bakker, 2014). As such, in this dissertation, I build on this proposition by integrating it with the challenge stressor-hindrance stressor framework to examine how job resources interact with episodic challenge and hindrance job demands in predicting work engagement. Furthermore, I additionally integrate the EPM to JD-R to further examine the interaction proposition at the episodic level and explore how an episodic attentional process, such as cognitive interference interacts with episodic job demands in predicting episodic work engagement.

Specifically, **Chapter 3** builds on **Chapter 2** by examining interactions between resources and challenge and hindrance job demands on work engagement. Moreover, **in Chapter 4**, I explore whether not only job resources interact with hindrance demands in protecting employee's episodic work engagement levels, but also if mindfulness can be an additional protective strategy. Finally, **Chapter 5** further distinguishes how cognitive interference deteriorates the relation that episodic demands have with episodic work engagement and episodic fatigue, while episodic job resources protect the relation between episodic job demands and episodic work engagement.

Research Question 4: How do work engagement and performance relate at the episodic level?

Finally, the third goal of this dissertation is to test whether the engagement-performance link also takes place at the episodic level. There is a vast amount of research indicating that (Halbesleben & Wheeler, 2008) engaged employees perform well due to their constant effort, dedication, and concentration in their work. Additionally, the EPM states that the quality of performance in a work activity depends on how cognitive and self-regulatory resources are allocated (Weiss et al., 2004). A central proposition of the EPM is that if an employee can dedicate all his/her cognitive resources to the activity at hand, he/she may achieve optimal performance. By integrating this knowledge, I expect that engaged employees due to their concentration will have better performance during a work activity. **Chapters 2** to **4** provide empirical evidence of this relation by testing the engagement performance link at the episodic level. In sum, **Chapter 3** and **Chapter 4** build on Chapter 2 by providing evidence for the ecological validity of episodic work engagement and showing that the work engagement – performance link also takes place at the episodic level.

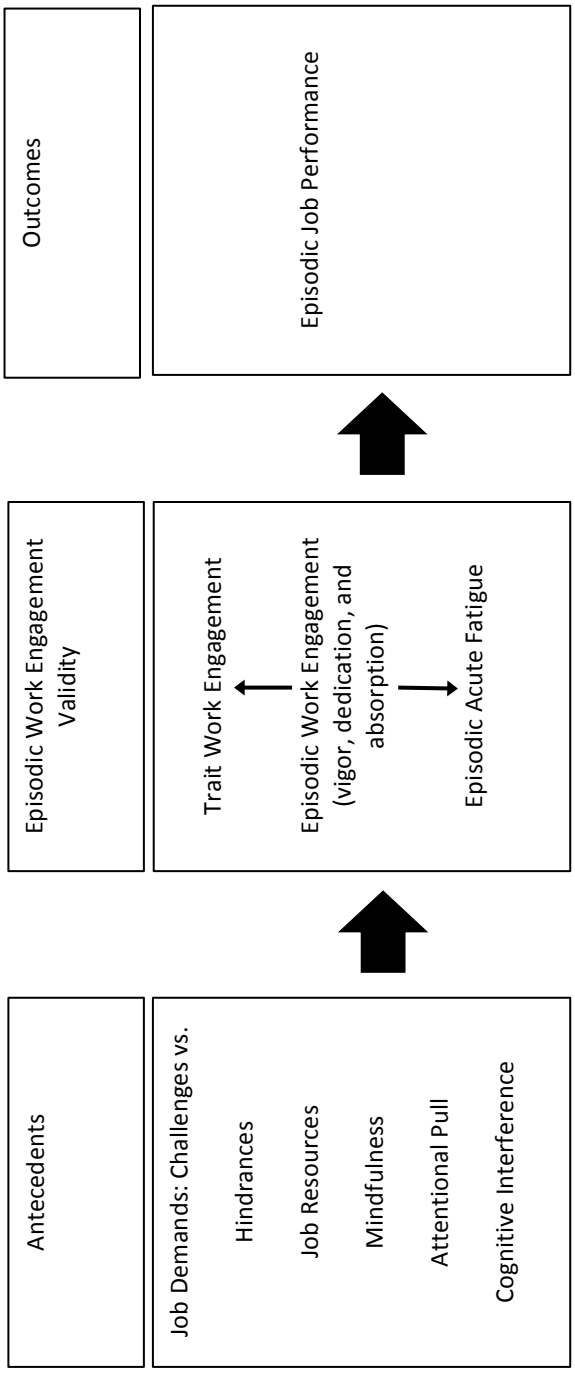

Figure 1. Overview of variables that are included in the studies presented in this dissertation.

Chapter 2

Episodic Demands, Resources, and Engagement: An Experience-Sampling Study

This chapter has been published as:
Reina-Tamayo, A. M., Bakker, A. B., & Derks, D. (2017). Episodic demands, resources, and engagement: An experience-sampling study. *Journal of Personnel Psychology, 16*, 125-136. doi: 10.1027/1866-5888/a000177

Abstract

This study contributes to the literature on work engagement and job demands-resources (JD-R) theory by exploring the momentary relations between episodic demands, resources, engagement, and performance during various activities (e.g., checking e-mails) within a day. Using experience-sampling methodology, 61 Dutch employees completed activity characteristics, engagement, and performance surveys at three different times during the day for one week. Results from 413 observations showed that 88% of the total variance in engagement fluctuates from activity to activity. Multilevel path analysis results confirmed that during activities, episodic engagement was positively related to performance, and mediated the positive associations of resources and negative associations of hindering demands with performance.

Keywords: Work engagement; ESM; Job demands-resources theory; Episodic performance model

Introduction

According to job demands-resources theory (JD-R; Bakker & Demerouti, 2014), employees are most engaged on days that job demands (e.g., workload) are high and when there are sufficient job resources (e.g., autonomy) available. In the present study, work engagement is defined as "… – a positive, fulfilling work-related state of mind that is characterized by vigor, dedication, and absorption" (Schaufeli, Bakker, & Salanova, 2006,p. 702). Vigor refers to high levels of energy, persistence, and the desire to invest considerable effort in work. Dedication is the motivational dimension of work engagement and refers to high levels of enthusiasm, pride, inspiration, and meaning in relation to work. Finally, absorption indicates that one is fully immersed in work activities, while experiencing that time flies (cf. Schaufeli et al., 2006). We argue that engagement does not only fluctuate from day to day, but also from activity to activity as a function of the demands and resources that vary in the activities people are involved in throughout the day. Consider, for example, that a day in the office is full of different activities, from emailing to attending meetings and writing reports. Each of these activities has a different kind of demand (e.g., high work- load represented by hundreds of e-mails) and resources (e.g., autonomy in deciding how to perform an activity). Therefore, we would expect that these characteristics of the work activity influenced people to engage and disen- gage in a particular task. The incremental value of using this momentary within-person design is that we can add a complementary view of engagement to the one obtained by diary and general-level studies, such as examining if the processes that take place during the day and general level also apply to the episode level.

This perspective is consistent with Kahn's (1990) conceptualization of engagement as a transient experience that is a function of the "ebbs and flows of work." Consequently, our research uses the experience-sampling methodology (ESM) to collect data several times a day for one working week and capture the factors that influence the transient experience of engagement with minimal recall bias due to the real-time assessment form. We use the episodic performance model (Beal, Weiss, Barros, & MacDermid, 2005) to provide an episodic context to the dynamic processes proposed by JD-R theory. Specifically, we examine the influence of activity's resources and demands on engagement and performance within a performance episode: "Behavioral segments that are thematically organized around organizationally relevant goals or objectives" (Beal et al., 2005,p. 1055).

The present study's contribution is to advance JD-R theory by examining the processes that influence engagement at the momentary level. We use the episodic

performance model to contextualize these processes at the moment level (Beal et al., 2005). Thus, we give insight into a dynamic process model that explains moments of what we will call "episodic" engagement within a day.

Theoretical Background

Work engagement was originally conceptualized as a state during which individuals express themselves physically, cognitively, and emotionally during role performances (Kahn, 1990). Furthermore, Bakker and Oerlemans (2011) have argued that work engagement is characterized by high-arousal emotions such as excitement. These conceptualizations emphasize that work engagement is an affective state that, consequently, should fluctuate over time, particularly in response to situational triggers such as being able to use your skills during an activity.

The momentary, transient nature of engagement can be observed in how engagement fluctuates throughout different activities employees perform during a day. White-collar workers, for example, may have meetings with their clients, work on business reports, or answer e-mails. It is unknown how the characteristics of these activities influence employees' engagement levels. Existing theories of engagement do not consider within-day fluctuations in work engagement, but instead propose that engagement levels are relatively stable across days, weeks, or months (Bakker & Demerouti, 2014). In the present study, we argue that activity characteristics, such as how resourceful and demanding the activities are, may immediately relate to engagement and performance.

Episodic resources and demands

The present study integrates the episodic performance model with JD-R theory in order to understand the momentary influences of resources and demands on engagement.

We expect that resources will have a positive influence on episodic engagement based on the motivational process proposed by JD-R theory (Bakker & Demerouti, 2014). Job resources refer to those physical, psychological, social, or organizational aspects of the job that help in achieving goals, reduce job demands, and stimulate personal growth and development. Job resources (e.g., feedback) have motivating potential because intrinsically they meet basic human needs (Bakker & Demerouti, 2014). Additionally, job resources enhance people's willingness to invest effort in accomplishing an activity (Bakker & Demerouti, 2014). The increased likelihood of accomplishing a task induces a sense of fulfillment (Hackman & Oldham, 1980) that will boost engagement and

performance. In a similar vein, job characteristics theory (Hackman & Oldham, 1980) proposes that five job characteristics (skill variety, task identity, task significance, autonomy, and job feedback) have intrinsic value by inducing the psychological experiences of meaningfulness, responsibility, and sense of results. Therefore, activities that contain any of these characteristics are expected to influence engagement through the motivational path.

On the other hand, we expect that demands will influence episodic engagement based on the health impairment process proposed by JD-R theory. Job demands are physical, psychological, social, or organizational aspects of the job that require sustained physical and psychological effort, which result in physiological and psychological costs. Job demands (e.g., role conflict) cost effort and consume energetic resources leading to exhaustion, which affects engagement in a negative way (Bakker & Demerouti, 2014).

The episodic performance model contextualizes the influence of resources and demands on engagement during different performance episodes. People thematically organize their days in performance episodes. Effective performance during these episodes depends on stable as well as transient factors that influence attention toward accomplishing an activity (Beal et al., 2005). We propose that within a performance episode, transient factors such as how resourceful or demanding an activity is, will correlate with employees' engagement and their performance. Recent studies using JD-R framework have shown that work engagement fluctuates from day to day, and spikes on the days that are characterized by high resources and high demands (Bakker, 2014). The motivating potential that job resources have on engagement has received empirical support from diary studies. These studies have demonstrated that job resources, such as supportive colleagues, relate positively to daily work engagement (Xanthopoulou & Bakker, 2013). Conversely, there is additional evidence for the health impairment process. Simbula's (2010) diary study offers evidence for the moti- vating and health-impairing path proposed by JD-R theory showing that on days that teachers experienced higher levels of job demands (work/family conflict), they experienced more exhaustion, leading to lower levels of satisfaction and mental health. On the other hand, on days that teachers reported higher resources (i.e., social support), they experienced higher levels of engagement, satisfaction, and mental health.

In the present study, we argue that the motivational and health impairment processes proposed by the JD-R theory will influence engagement and performance within one performance episode. If we have observed that day-level variability in job demands and resources can trigger the motivational- and health impairment processes at the day

level, we can deduce how momentary variability in these job characteristics would also influence engagement at the episode level. For example, Ilies, Dimotakis, and De Pater (2010) revealed that events high on workload lead to affective distress, which in turn leads to lower daily well-being. Other scholars have demonstrated how workers use job control and social support present in the activity to express affect (Daniels, Harris, & Briner, 2004), and to protect well-being (Daniels, Beesley, Wimalasiri, & Cheyne, 2013). Therefore, we expect JD-R processes to vary accordingly.

In order to represent job resources in the present study, we focused on the five job characteristics proposed by Hackman and Oldham (1980) that have been shown to have considerable motivating potential at the general level – namely autonomy, feedback, skill variety, task signifi- cance, and task identity. Hackman and Oldham (1980) defined each facet in the following manner. Autonomy refers to the extent to which employees have control over what to do and the time frame for completing an activity. Feedback is defined as the extent to which employees receive information on how well they are performing. Task significance refers to the extent to which the employees' work has an impact on other people or the community at large. Finally, task identity is defined as the extent to which employees are accomplishing a complete identifiable out- come. Accordingly, we propose that the same motivating mechanism triggered by these job characteristics at the general level might also be applicable to the episode level. Thus, we predict:

> **Hypothesis 1**: Episodic resources (autonomy, feed- back, skill variety, task significance, and task identity) are positively related to episodic engagement.

Furthermore, in terms of job demands, we focused on role conflict and workload. Role conflict occurs when a person experiences two or more role demands in a workspace and complying with one demand impedes compliance with the other demand (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964). Workload refers to a person investing high effort in meeting job demands (Ilies et al., 2010). We chose these demands because in the past decade the literature on demands suggests that different demands may have opposite effects on well being depending on how challenging or hindering demands are experienced (Crawford, Lepine, & Rich, 2010). Previous research has suggestedthat workloadmay be categorizedasachallenge demand and role conflict as a hindering demand (e.g., Crawford et al., 2010). The present study will be the first to explore the immediate link of these demands to well-being. The closest study that resembles these dynamic relations between demands and engagement is Tadić, Oerlemans, and Bakker's (2014) diary study among teachers. This study found that daily challenge demands, including workload, have positive effects on daily work engagement and daily positive affect

because teachers experience them as rewarding and meaningful. In contrast, daily hindering demands, including role conflict, have negative effects on daily work engagement and daily positive affect because teachers experience that these demands are not aligned with their interests and values. In the current study, employees report their experience of role conflict and workload in regard to the work activity they are doing at different moments of the day. Thus, we predict:

Hypothesis 2a: Episodic hindrance demands (i.e., role conflict) are negatively related to episodic engagement.

Hypothesis 2b: Episodic challenge demands (i.e., workload) are positively related to episodic engagement.

In addition to the main effects of demands and resources, JD-R theory also proposes interaction effects (Bakker & Demerouti, 2014). In the present study, we focus on how the motivational process can be enhanced as opposed to how the health impairment process is buffered (i.e., when resources reduce the effect of demands on exhaustion). Specifically, we expect that episodic demands can boost the positive impact of episodic resources on engagement because these resources become salient when the demands are high (Bakker & Demerouti, 2014). Thus, based on JD-R theory, we aimed to test whether episodic demands moderate the relation between highly resourceful activities and episodic engagement. Accordingly, we formulated the following hypotheses:

Hypothesis 3: Episodic role conflict and workload boost the effect of episodic autonomy, feedback, skill variety, task significance, and task identity on engagement. Specifically, the positive relationship between resources and engagement is stronger when demands are high (vs. low).

Validity of episodic engagement

For all our hypotheses, we hold that the conceptual space of work engagement follows the three-dimensional structure of vigor, dedication, and absorption proposed by Schaufeli et al. (2006). Therefore, we decided to conduct amultilevel confirmatory factor analysis (MCFA) to test whether the structure of episodic engagement may be similar on both the between-person level and episode level. With this analysis, we expect to find that person-level engagement will be positively related to episodic engagement.

Hypothesis 4: Employees' averaged report of their level of engagement in various activities (their episodic engagement) is positively related to general work engagement.

In order to assess the convergent validity of our measure, we propose that episodic engagement will be positively related to episodic performance. According to JD-R theory, work engagement leads to positive organizational and personal outcomes (Bakker & Demerouti, 2014). There is ample empirical evidence that work engagement is related to job performance (Bakker & Bal, 2010; Halbesleben, 2010). Similarly, we expect engagement to be positively related to performance within a performance episode. The reason for this positive relation can be understood within Beal et al.'s(2005) episodic performance model which states that the more one focuses one's attentional resources on a task, the better one'sperformance will be during the task. Because engaged workers experience high levels of vigor (i.e., energy) and absorption (i.e., concentration) toward their work this implies that they will allocate their energetic and cognitive resources to the activity they are doing. We expect this to result in optimal performance.

Hypothesis 5: Episodic engagement is positively related to episodic performance and mediates the relationship between (a) episodic demands and resources, and (b) episodic performance.

Figure 1 gives an overview of all the hypothesized relation- ships including time as a control variable. In testing our hypotheses, we preferred conducting a path analysis over separate regression analysis because the path model allows various predictors to be entered in the same model and assess their unique contribution relative to the other predictors. In addition, with the path model, we are able to assess the indirect effect of all resources and demands on performance through engagement. Finally, the path model provides fit indices indicating how well the model fits the data (Streiner, 2005).

Method

Procedure

The study was advertised on different online media channels (e.g., LinkedIn, Facebook, Twitter) as an online study in the Netherlands that monitors engagement levels throughout the day. Via the advertisement link, participants were invited to register for the research project by filling out a survey with their contact details. Participation was voluntary and there was no reward.

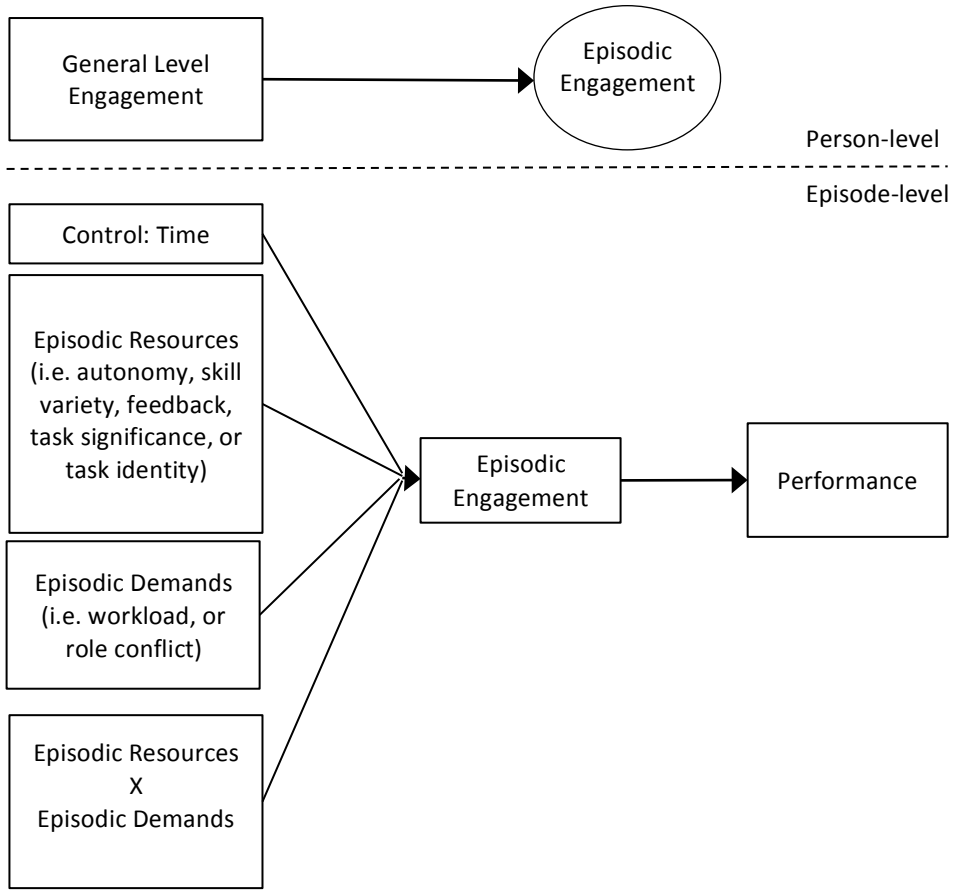

Figure 1. Episodic engagement model
Note. Episodic Engagement at the person-level is in a circle because this latent variable refers to individual baselines (variation between persons).

After registration, participants received an email with a link to fill out a web-based questionnaire about general work engagement and demographics. In order to assure participants' anonymity, the responses were identified with a unique ID and stored in a separate database from the participants' contact details database.

Additionally, participants were given the successive week to collect data using ESM. ESM requires participants to answer brief questionnaires at random times through- out the day, in order to capture real-time information about their context and subjective experiences without ret- rospective bias (Hektner, Csikszentmihalyi, & Schmidt, 2007).

Throughout the ESM part of the study, data was collected using the Engagement app, a smartphone application for iPhone and Android mobile phones. Signal-contingent experience sampling was used, hence participants reported their episodic experience

when they were signaled by the app. Participants received three alerts per day via the app at random times, between 9:00 and 17:00 from Monday to Friday. The signals were at least 1 hr apart. These alerts directed the participants to the app, which asked them to record their time-stamped answers about the activities they were executing in real time. All questionnaires were in Dutch.

Participants

Of the 112 Dutch participants who enrolled in the study, 61 completed the general questionnaire as well as at least one experience-sampling measure. These participants were included in our analyses. The average numberof experience-sampling measures filled in was 6.77 (*SD* = 4.50), with 43% of the participants answering 1–5 times, 29% answering 6–10 times, and 28% of the participants answering 11–15 times out of 15 total prompted responses during the working week. The distribution of the observations was as follows: 44% of the observation were for the first 1–5 times, 28% for the middle 6–10 times, and 28%for thelast 11–15 times. In total, 430 activities were obtained from 61 individuals (response rate: 45%). A comparison of participantswho filled out general questionnaires only versus those who also filled out the episodic assessments yielded no significant differences in age, gender, educational level, and person-level engagement. Furthermore, participants who filled out one experience-sampling survey versus those who filled out more than one survey did not differ regarding mean momentary engagement scores, *M* = 5.33 (*SD* = 1.10) versus *M* = 4.79 (*SD* =.69), *t*(9.10)= -1.42, ns.

The average age of the sample who participated in the study was 36.40 years (*SD* = 10.26) and 57%ofthe sample was female. On average, the employees worked 39.26 hr per week (*SD* = 9.60) and 74% of the sample held a university degree. There were 28% participants living together with a partner, 30% living alone, and 31% had a family with children. Participants were mainly from white-collar jobs, 28% were financial/HR advisors, 11% weremanagers, 11% were researchers, and 16% were social or health service employees. Lastly, we coded the open- ended responses to the activity question into categories by means of thematic analysis. Coding categories were derived fromthe raw data. The category of the activity took into account the location and type of company the person had while doing the activity. Table 1 provides the coding frame that we developed for categorizing the episodic activities, including several examples of each code. We had 10% of the data scored by a second rater who was blind to the study hypotheses. The inter-rater reliability showed substantial agreement (κ = .77). Of the 430 reported activities, 48% (*N* = 208) corresponded with performing solitary work activities, 35% (*N* =

149) with performing interpersonal activities, and 17% (*N* = 73) with performing nonwork activities.

Table 1. Coding Frame and Example Findings of Episodic Activities

Category	*Description*	*Examples*
Performing a solitary work activity	• The person is working alone on a work related task. • The person can be emailing, doing administrative work, working on reports, driving to visit a client, patient, or appointment. • While doing the work-related task, the person is not interacting with someone else.	"Installing an oracle interface" "Reading an email that contains an exciting question about the board I chair" "Driving to client"
Performing a non-work related activity	• During this activity, the person is not doing a task that is work related. • Even if the person is in the office, the person can be taking a break alone or with a colleague, or chatting with colleagues. • The person can be performing a task at home with kids, driving, walking, and commuting from one place to another. • The person does not emphasize any work related issue during the description of the activity	"Watching TV" "Going home in the train" "Drinking coffee with colleagues"
Performing an interpersonal work activity	• The person is executing a work-related task that requires social interaction. • During this time, the person is doing a work activity with other(s). • The interactions can be face to face, over the phone, through video chatting, or any communication medium where the person receives immediate social feedback. • The person can be in a meeting, workshop, lecture, class, or conference where work related issues are discussed.	"Conference call with the supplier" "Meeting with executives via Skype" "Calling"

Measures

General assesments

Person-Level Work Engagement. This was measured with the 9-item Utrecht Work Engagement Scale (UWES; Schaufeli et al., 2006). These items covered the three-dimensional structure of work engagement: vigor (sample item: "I feel strong and vigorous in my work"), dedication (sample item: "I am enthusiastic aboutmy job"), and absorption (sample item: "I get carried away by my work"). Participants answered the items (α = .93) ona 7-point frequency rating scale (0 = never, 6 = always).

Episodic Assessments

Ohly, Sonnentag, Niessen, and Zapf (2010) recommend using abbreviated scales or even single-item measures when conducting diary studies by selecting items with the highest item-total correlation from a multi-item scale in order to reduce the burden on the participants. In the present study, we used this procedure to select the items for the episodic measures and therefore we had several 1-item measures. In addition, the scales were adapted to the activity level by reframing the question to the amount of engagement, resources, and demands people experi- enced during the activity they were doing just before they were signaled by the app. All items were scored on a 7-point scale (1 = *not at all*, 7 = *very much*) except for performance.

Episodic Activities. These were measured with one open-ended question (i.e., "What activity were you doing?") and two questions about location and accompanying person.

Episodic Engagement. This was assessed with three items of the UWES (Schaufeli et al., 2006) covering the three dimensions of engagement: vigor (item: "During this activity, I feel full of energy"), dedication (item: "During this activity, I feel enthusiastic aboutwhatIdo"), and absorption (item: "During this activity, I am totally immersed in what I do"). The average coefficient α for the engagement scale across the measurement occasions was .81 (*SD* = .05).

Episodic Resources. These were measured using five items from the validated Dutch version of the Job Diagnostic Survey (Valkeneers, Bossaert, & Buys, 2011). These items cover five aspects of the job characteristic model: autonomy (item: "Could you take part in decision-making that has to do with this activity?"), feedback (item: "This activity gives me a lot of information about how (good or bad) I perform"), task significance (item: "The way I implemented this activity has a significant influence on other people"), task variety (item: "The activity requires a lot of my skills and talents"), and task identity (item: "This activity has a clear beginning and end").

Episodic Demands. These were assessed with two items from Rodell and Judge's (2009) instrument. The first one being a workload item, namely "Do you work extra hard during this activity?" The second one being a role conflict item, namely "Do you experience conflicting demands during this activity?"

Episodic Performance. This construct was measured using one item ("How would you rate your performance on the activity you were doing?") proposed by Fisher and Noble (2004). The rating scale ranged from 1 to 5 and the anchors were bad, poor, average, good, and excellent.

Strategy of Analysis

The data had a hierarchical structure with episodes nested within persons. Therefore, multilevel linear modeling (MLM) was used to distinguish between two levels of analyses: The between-person level (level 2) and the episode level (level 1). Person-level predictor variables were centered on the grand mean, and episode-level predictor variables were centered on the person mean. Data was analyzed using IBM SPSS 19.0 and Mplus. Zero-order correlations were used to examine the relations between the predictor variables (episodic resources and demands) and dependent variables (episodic engagement and performance). Hypotheses were tested by MLM path analysis in Mplus. For each hypothesized interaction effect, we tested various path models that included three predictors (one of the two episodic demands, one of the five episodic resources) and two dependent variables (episodic engagement and episodic performance). In total, we tested 10 different models, one for each possible interaction effect between each episodic demand and episodic resource included in the study. Figure 1 graphically represents the model thatwas applied for each of the two episodic demands and five episodic resources separately. In order to test if an interaction contributed to the explained variance in episodic engagement and performance, a model with and without the interaction term was tested and the ΔR^2 was calculated.

In order to evaluate the fit of our models, multiple fit indices were used: chi-square, Tucker-Lewis index (TLI; Tucker & Lewis, 1973), the comparative fit index (CFI; Bentler, 1990), the root-mean-square error of approximation (RMSEA, Steiger, 1990), and the standardized root-mean- square residual (SRMR). Values equal to or lower than .08 for RMSEA and SRMR in addition to values greater than .90 for CFI and TLI are considered to indicate good model fit (Kline, 2005). In addition, we examined the measurement model of engagement to support the operationalization.

Results

Descriptive Statistics Table

Table 2 shows zero-order correlations and descriptive statistics for the study variables. Before testing the hypotheses, intraclass correlation coefficients were obtained from intercept only MLMs. It was found that no less than 88% of the total variance in engagement, 85% of skill variety, 72% of task identity, 80% of feedback, 85% of autonomy, 93% of task significance, 83% of workload, 67% of role conflict, and 87% of performance was attributable to within-person variation. This means that there is considerable variation at the episode level for each of the model variables.

Table 2. *Summary of Intercorrelations, Means, and Standard Deviations for the Study Variables*

	M	*SD*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
1. Engagement	4.87	.78	-	.25***	.32***	.42***	.15**	.01	.08	-.11*	.55***
2. Autonomy	5.11	1.35	.19	-	.18***	.20***	.18***	.04	.07	-.01	.17***
3. Feedback	3.14	1.18	.28*	.17	-	.49***	.33***	.06	.32***	.13**	.26***
4. Skill variety	3.88	1.19	.24	.26*	.41**	-	.32**	.04	.42***	.10*	.28***
5. Task significance	4.29	1.27	.16	.46***	.22	.54***	-	.01	.30***	.18***	.15**
6. Task identity	5.04	1.61	.17	.13	.23	.06	-.09	-	.04	-.06	.14**
7. Workload	2.54	1.04	.07	.21	.53***	.43**	.29*	.04	-	.25***	.03
8. Role conflict	2.41	1.21	-.17	.05	.31*	.27*	.24	-.04	.53***	-	.01
9. Performance	3.65	0.56	.53***	.16	.22	-.04	-.15	.36**	.04	-.06	-
10. Engagement[a]	5.00	1.04	.51***	.26*	.02	.04	.05	.12	-.11	-.20	.36**

Note. Below the diagonal (n = 61) episodic-level variables were averaged across 5 days. Above the diagonal: episodic-level data (n = 412 - 431) were person-centered.

[a]Person-level variable. All other variables are episodic-level variables.

*p < .05, **p < .01, ***p < .001.

Measurement Model

Furthermore, in order to test the validity of our episodic engagement measure, we conducted a MCFA to the episodic and person-level engagement items. The results supported the representation of vigor, dedication, and absorption in one general engagement factor at the episode and person level, $\chi^2(8) = 13.39$, RMSEA = .02; CFI = 0.99; TLI = 0.98; SRMR (within-level) = .00, SRMR (between-level) = .07. Factor loadings for the one-factor solution ranged from .67 to .86 at thewithin-person level. The output of this MCFA is available from the first author upon request.

Test of the Structural Model

Hypotheses were tested with MLM path analysis and the estimator used was Maximum Likelihood Robust (MLR). We expected a positive relation between episodic resources and engagement (Hypothesis 1). In all models, episodic feedback (γ = .31, SE = 0.06, p < .001, γ = .33, SE = 0.04, p < .001), autonomy (γ = .22, SE = 0.05, p < .001, γ = .23, SE = 0.06, p < .001), skill variety (γ = .44, SE = 0.05, p < .001, γ = .41, SE = 0.05, p < .001), and task significance (γ = .12, SE = 0.06, p < .05, γ = .17, SE = 0.06, p < .01) were related to engagement. However, task identity was not related to engagement (γ = .01, SE = 0.05, p = .908, γ = -.00, SE = 0.04, p = .936). These results offered the first partial evidence for Hypothesis 1. Furthermore, we expected hindering demands to be negatively related to

engagement (Hypothesis 2a) and challenging demands to be positively related to engagement (Hypothesis 2b). Role conflict was negatively related to engagement in three out of the five models (-.10 < γ < -.15, p < .05), but workload was not related to engagement in four out of the five models (-.02 < γ < .08, p > .05). Thus, we found limited support for Hypotheses 2a and 2b.

For Hypothesis 3, we predicted interaction effects between resources and demands on engagement. However, only 1 out of the 20 possible interactions was significantly related to engagement and this interaction was in an unexpected direction. In this interaction, workload moderated the relation between task significance and episodic engagement (γ = -.14, SE = 0.05, p < .01), in such a way that the positive relation between task significance and episodic engagement disappeared when the workload was high. Furthermore, adding the interactions to the separate models did not explain unique variance in episodic engagement and performance, except for the interaction between workload and task significance with a ΔR^2 of 2%. The table containing all possible interactions and main effects is available from the first author upon request.

In order to examine the unique predictive value of each resource and demand, a second model without the interac- tions and with indicators for all the resources and demands together was tested. Model two is displayed in Figure 2. This model fitted well to the data, $\chi^2(1) = 1.48$,RMSEA = .03; CFI = 0.99; TLI = 0.96; SRMR = .01 (within-level) and .00 (between-level).

In this second model, we expected the paths from resources to engagement to be positive and significant (Hypothesis 1). While autonomy (γ = .14, SE = 0.05, p < .01), feedback (γ =.15, SE = 0.06, p < .05), and skill variety (γ =.35, SE = 0.06, p < .001) were positively related to engagement, task significance and task identity were not significantly related to engagement. Thus, this new analysis and new model further confirmed that Hypothesis 1 is partially supported. In addition, we expected the path from role conflict and engagement to be negative (Hypothesis 2a) and the path from workload and engagement to be positive (Hypothesis 2b). We found role conflict was negatively related to engagement (γ = -.14, SE = 0.05, p < .01), but workload was not related to engagement (γ = -.09, SE = 0.07, p = .06). Thus, Hypothesis 2a was supported, but Hypothesis 2b was not supported.

Hypothesis 4 stated that the measure of episodic engagement would be positively related to person-level engagement. The results of the path analysis indicated that these two measures indeed related positively and signifi- cantly (γ =.50, SE = 0.14, p <.001). This

finding together with the reliability and the MCFA of the scale confirms that the short scale adequately assesses episodic engagement, supporting Hypothesis 4.

Hypothesis 5 stated that engagement mediates the relationship between episodic resources and demands to performance. Results showed that the path from engagement to performance was significant (γ = .55, *SE* = 0.04, $p < .001$). Furthermore, in order to test the significance of the indirect effects, Selig and Preacher's (2008) online interactive tool was used. This tool uses the parametric bootstrapped method to create confidence intervals. Table 3 shows that the mediation effects were significant for skill variety, autonomy, feedback, and role conflict, but not for task identity, task significance, and workload because the latter job characteristics were not directly related to episodic engagement in the first place. This means that Hypothesis 5 was partially supported. The final mediation model (see Figure 2) included the direct effects of episodic resources and demands on performance. In this model, episodic resources and demands explained 23% of the variance in episodic engagement.

Table 3. *Maximum likelihood estimates, standard errors, and bootstrapped confidence intervals for the indirect effects (N = 61, N = 413 activities)*

	Unstandardized			95% CI	
	Est.	*S.E.*	*p*	*Lower*	*Upper*
1. Skill variety → Engagement → Performance	.10	.02	< .001	.07	.14
2. Autonomy → Engagement → Performance	.04	.01	< .05	.01	.06
3. Feedback → Engagement → Performance	.04	.02	< .05	.01	.08
4. Role Conflict → Engagement → Performance	-.05	.02	< .01	-.08	-.02

Discussion

This study set out to explore episodic fluctuations in engage- mentandexamined themost proximal predictors and conse- quences of this experience. We found that engagement is highly dynamic and fluctuates significantly and substantially from one activity to another. This extends our knowledge on engagement by providing quantitative empirical evidence to Kahn's (1990) proposal that engagement is constantly changing depending on the characteristics of the activity. In addition, engagement explained the positive relations between how resourceful or how demanding an activity is to performance. In this study, we decided to test all the vari- ables together in one path analysis to test the episodic engagement model because in this way we were able to

examine the structural relationships between all the model variables (Streiner, 2005). The fit indices showed that the proposed model fitted well to the data. Previous studies on work engagement using JD-R theory (e.g., Hakanen, Perhoniemi, & Toppinen-Tanner, 2008; Schaufeli & Bakker, 2004; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009a) have used structural equation modeling (SEM) and also found evidence for JD-R theory at the between-person level, by providing evidence for the motivational pathway from job resources to engagement using a range of specific job resources. This study is unique in that it quantitatively tested the existence of episodic changes in engagement and tested the validity of a measure of episodic engagement.

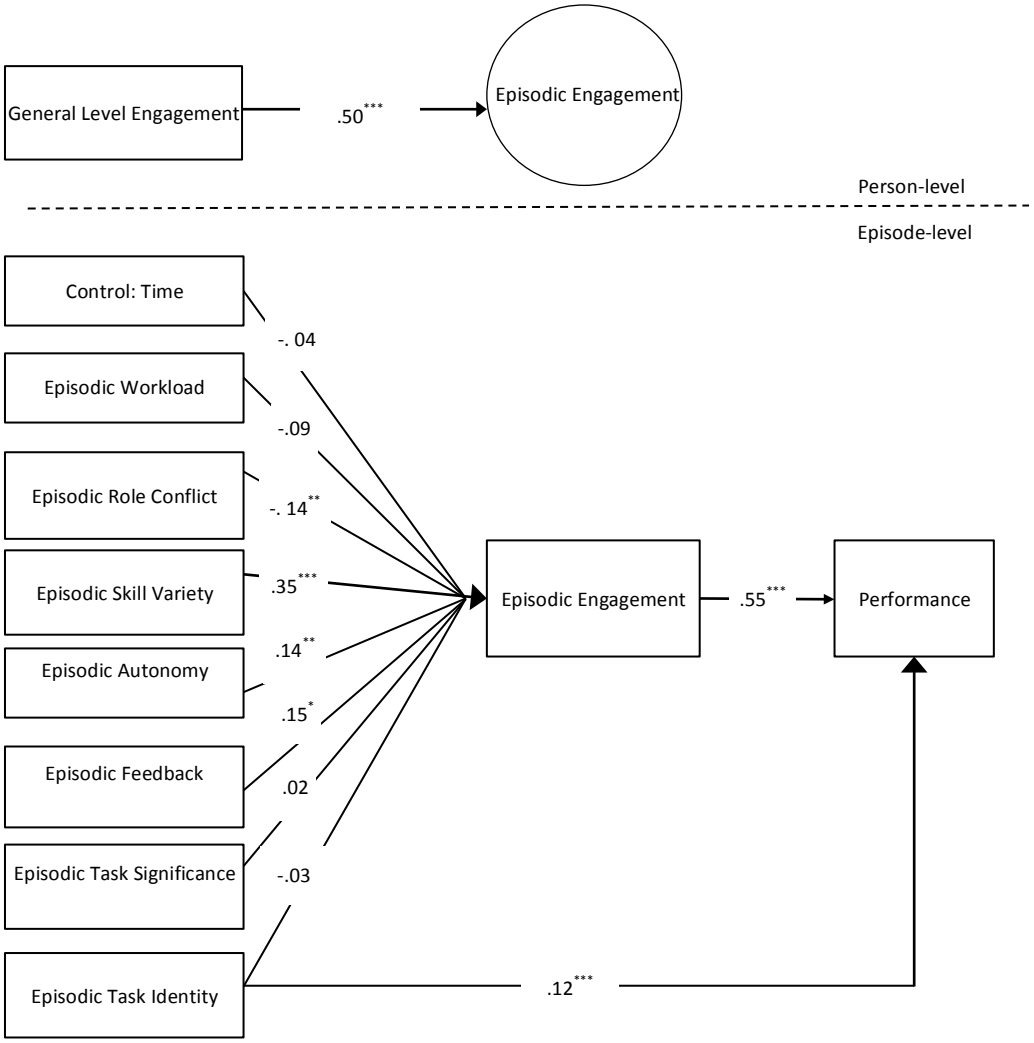

Figure 2. Episodic engagement model showing standardized estimates, *N* = 61, *N* = 413 activities.
Note. $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$. Non-significant direct effects to performance are not shown for clarity purposes.

Theoretical Contributions

Episodic resources

In line with previous research showing that resources have a positive relation with engagement at the person level (Halbesleben, 2010), week level (Bakker & Bal, 2010), and day level (Xanthopoulou & Bakker, 2013), our study contributes to the literature on engagement by showing that the motivational process proposed in JD-R theory (Bakker & Demerouti, 2014) also takes place at the episode level. Thus, when employees experience more feedback, autonomy, and variety while performing an activity, the employees felt more engaged.

The present study findings give support to the reasoning that resources appear to have an intrinsic value at the episode level that can be due to the immediate fulfillment of psychological needs (i.e., competence, relatedness, autonomy) and the achievement of personal goals (Bakker & Demerouti, 2014). This observation concurs with the fact that the majority of the sample was highly educated (74%), suggesting that taking part in activities that allowed them to apply the different skills correlated with increased feelings of competence. In addition, experiencing autonomy and feedback during the activity could have led to higher levels of competence and relatedness that subsequently led to a higher engagement. Hence, future studies should examine the relation between episodic resources and psychological needs.

Surprisingly, not all resources were related to engagement. Task identity and task significance experienced during the activitywere not related to episodic engagement. A possible explanation may be that not all employees perceived these characteristics as motivating. Some employees may even perceive task identity and task significance as threatening. According to Hackman and Oldham (1980), if employees value personal growth, they would find the job characteristics motivating, however, if they do not, they would feel threatened by the job characteristics. It is possible that in our sample, there would be differences in enduring growth need strength that could potentially moderate the relations between task significance and task identity on the one hand, and episodic engagement on the other.

Finally, while examining the correlations among the characteristics of the activities, we observed that the correlation between the episodic resources was not so high that it could cause multicollinearity. The correlations among the episodic resources were in a similar range to previously reported correlations among job characteristics at the person level (Hackman&Oldham, 1980). The excep- tion in our study was task identity, which was not related to any other task characteristic at the episode level. We suspect this may be

because the conceptual space of task identity is independent of the other task characteristics at the episode level.

Episodic demands

We expected to find episodic hindrance demands to be negatively related to episodic engagement and challenge demands to be positively related to episodic engagement. As predicted, our study revealed that as employees experienced more conflicting demands during an activity, they indeed felt less engaged. This finding is in line with previous research that defines demands as characteristics of the job that evoke strain, thus, having a negative impact on employee's wellbeing (Hakanen, Bakker, & Demerouti, 2005). For example, Tadić et al.'s (2014) diary study found that demands, such as role conflict, thwart goal achievement and undermine basic needs because they are not aligned with employees' interests and values, thus lowering workers' intrinsic motivation.

Surprisingly, workload was not related to engagement, however, this effect could be dependent on episodic resources. Principally, in the current study, we expected that demands would boost the effect of resources on engagement based on JD-R theory (Bakker & Demerouti, 2014). However, we only found one significant interaction between the resources and demands measured in this study out of ten possible interactions. We suspect that the majority of interactions were not significant at the episode level because it is conceivable that in order for demands to amplify the effects of resources on engagement, employees need longer time to interpret the demands as challenging. According to Kühnel, Sonnentag, and Bledow (2012), the stress caused by a demand is potential energy that can be transformed into action energy considering that the person has the resources to deal with the demand. Because of this transformation time, employees may take longer to recognize that job resources can be used to deal with demands. Currently, studies have shown that within a day when employees experience high challenge demands and resources, their engagement is higher than when employees experience low demands and resources (Kühnel et al., 2012;Tadić et al., 2014). However, it is also possible that this process takes less than a full day, perhaps a couple of hours. Unfortunately, the time scope used in our study is rather short, and a limitation of our data is that we had several missing values. Future studies should investigate whether there is a lagged effect of demands on the relation- ship between resources and engagement. This would mean that demands boost the effect of resources on engagement later in time (e.g., 2 or 4 hr later).

In regard to the significant interaction between task significance and workload, this resulted in an unexpected pattern. Specifically, a plot of the interaction effect using Preacher, Curran, and Bauer's (2006) online interactive tool showed that workload undermined the positive relationship between task significance and episodic engagement. In addition, the effect size of this interaction was very small. Therefore, the theoretical implication of this interaction may be limited.

Validity of episodic engagement

The results of this study support the convergent validity of episodic engagement by showing that general-level engagement is conceptually similar to the average of episodic engagement because it captures the states of vigor, dedication, and absorption. However, episodic engagement is different from general engagement in that it is not capturing the general feeling, but the short-lived episodic experience. This was implemented by the design of the questionnaires. The general questionnaire referred to the general experience of engagement and the momentary questionnaire referred to the experience of engagement during a specific activity. This means that even when an employee is overall highly engaged, (s)he can still experience moments that are less engaging. This may, for example, happen when an employee is involved in an activity with conflicting instructions. In addition, the relation between person-level engagement and episodic engagement implies that it is likely that people with higher levels of general engagement also more often experience episodic engagement across activities in comparison to employees with lower levels of general engagement.

In line with our predictions, engagement was positively related with performance and mediated the relations between episodic resources and demands, and performance. This finding can be understood in light of the episodic performance model. According to Beal et al. (2005), themoreone invests one's energetic resources in a task, the better one's performance. This mechanism is termed self-regulation of attention and means that people channel different kinds of resources (e.g., cognitive abilities) toward the task in spite of the distractions that may be present. We think that engagement exhibits this self-regulation of attention toward an activity in employees putting more energy, enthusiasm, and concentration into an activity resulting in higher perfor- mance (see also, Hopstaken, van der Linden, Bakker, & Kompier, 2015). The current study'sfindingsgiveevidence to this process by showing that the more episodic resources an employee has while performing an activity, the higher their engagement, resulting in improved activity performance.

Limitations

The first limitation of the present study concerns the reliance on only self-report measures, which may lead to common-method variance (CMV). However, the use of the ESM reduces memory bias, which increases the accuracy of what is being reported (Hektner et al., 2007). In addition, the relationships between the model variables found were moderate, suggesting that CMV was not a major threat in the present study.

Secondly, the relationships that were tested in the model captured synchronous effects, thus causal effects were not estimated. This means that future research considering lagged effects of episodic engagement is needed in order to make causal inferences and control for spillover effects of episodic resources and demands from the previous activity to the next.

Third, the use of single-item measures to represent the job characteristics subscales affected the reliability of our job resources measure, consequently leading to an underestimation of the interaction effects. Future studies may benefit from using more items to represent each subdimension of the job characteristics scale or focus on the effect of one subdimension on engagement to prevent burdening the participants.

Finally, there are some concerns regarding the generalizability of our findings. First, our sample was a relatively small convenience sample. However, our sample of 61 participants (resulting in 430 observations) is a sample size larger than 50 at the highest level, which according toMaas andHox (2005) constitutes a sufficient sample size in order to obtain accurate estimates. Second, our sample had a response rate of 45%. However, we provided supplemental analysis to confirm that there were no significant differ- ences in general and episodic engagement as well as on the background variables between the participants who dropped out from the study and those who remained. In addition, maximum likelihood method was used to deal with the missing data to decrease the possibility of biased results (Peugh & Enders, 2004). Third, participants worked a relatively typical work schedule from 9:00 a.m. until 5:00 p.m. and were highly educated. That being said, we believe our findings exhibit some degree of generalizability in this area, as participants worked with regular work schedules in a variety of industries and fields that required higher education.

Implications for research and practice

This study focused on the main effects of resources and demands on engagement. Future research should look at other possible moderators of the relationship between

activity characteristics and engagement. For example, episodic resources may have a stronger effect on engagement in the morning than in the afternoon due to recovery states changing from morning to afternoon. In the after- noon, people are more likely to be tired and have fewer personal resources (e.g., self-efficacy, energy) available to dedicate to their tasks. Furthermore, the present study only examined relations at the activity level. Future studies may simultaneously examine cross-level interaction effects in order to test how enduring experiences moderate relations at the episode level.

Overall, our researchshouldbeconsideredasthe first step in understanding episodic changes in engagement, by integrating JD-R theory and the episodic performance model. In addition, the measure of episodic engagement was validated. Future research using the three-item scale to measure episodic engagement is justified. In conclusion, the present study shows that engagement levels fluctuate from activity to activity. For organizations, the findings of this study show that resources lead to an increase in engagement and performance. Thus, organizations should focus on providing employees with feedback, autonomy, and skill variety during their different work activities as these resources promote their engagement and performance immediately. More insight into other characteristics (e.g., social support) of work activities will help us to better understand when employees are engaged and show optimal performance.

Chapter 3

The Work Engagement – Performance Link: An Episodic Perspective

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Abstract

Purpose – The purpose of this paper is to integrate job demands–resources theory and the episodic process model to examine the relationships between episodic cognitive mechanisms (i.e. cognitive interference and attentional pull), work engagement and performance. It is hypothesized that an episode characterized by less cognitive interference and more attentional pull (i.e. attraction toward the work activity) is associated with the highest levels of work engagement and job performance. Additionally, it is hypothesized that episodic challenge/hindrance job demands boost/diminish the positive relationship between episodic job resources and work engagement.
Design/methodology/approach – Using experience sampling methodology, 48 employees used their smartphones to complete surveys three times a day for one week, resulting in 266 observations.
Findings – Results of multilevel analyses suggest that episodic hindrance job demands (but not challenge job demands) moderate the positive relation between job resources and work engagement.
Originality/value – This study is unique in that it captures fluctuating cognitive processes (i.e. attentional pull and cognitive interference) that take place during work activities.

Keywords: Attentional pull, Episodic process model, Episodic work engagement, Job demands–resources theory

Introduction

Few people will doubt that successful performance during a specific work activity requires that people focus all their attention on the execution of that activity. The episodic process model (EPM) (Beal et al., 2005; Weiss et al., 2004) provides a framework that explains how employees who generally perform well have instances of poor performance due to inadequate attention regulation. Accordingly, people's attention can drift away from a specific work activity by mental distractions (i.e. cognitive interference) (Sarason et al., 1986). However, people may also experience task attentional pull toward a work activity due to the appealing nature of the work (Beal et al., 2005).

Using a fine-grained experience sampling (ESM) approach, we examine whether experiencing attentional pull toward a work activity relates to higher work engagement – a positive, fulfilling state of mind characterized by vigor, dedication and absorption (Schaufeli et al., 2006). Additionally, we investigate the extent to which cognitive interference relates to lower episodic work engagement and episodic performance.

Job demands–resources (JD–R) theory proposes that job demands and resources interact in predicting work engagement (Bakker and Demerouti, 2014). Specifically, the theory outlines that job resources are particularly motivating and related to work engagement when challenges are high (vs low), and when hindrances are low (vs high). There is some empirical evidence supporting these premises (Bakker and Sanz-Vergel, 2013; Tadić et al., 2015), but very limited evidence using fine-grained diary approaches (Reina-Tamayo et al., 2017). The present study aims to test this proposition at the performance episode level (i.e. during each work activity).

Our study makes a number of contributions: first, we test a central proposition in the EPM and examine how episodic work engagement and job performance fluctuate synchronously from activity to activity as a function of concurrent appraisals of attentional pull and cognitive interference (Beal et al., 2005). Second, following the EPM proposition that job performance is episodic, we test the JD–R premises at the episode level in a day-care setting. Specifically, we study whether job resources present in a work activity relate to higher episodic work engagement, particularly, in combination with challenge job demands as opposed to hindrance job demands (Bakker and Demerouti, 2014). In terms of practical implications for individual career development, this study informs employees about the importance of learning how to utilize their resources in order to deal with the acute demands they experience during a work activity.

Third, the choice of an experience sampling study enabled us to observe how someone who is generally engaged at work, experiences "off-moments" characterized by

low episodic work engagement during a specific work activity. The benefit of this study's design is that it investigates episodic fluctuations as opposed to general experiences – enabling us to test whether variations in situational job characteristics and cognitive transient states result in immediate fluctuations in employee's engagement and performance (Ilies et al., 2007). In addition, this fine-grained approach gives us more insight into the specific drivers of engagement of a person at the activity level. Overall, to get a better understanding of the process that explains episodic job performance, we derived from the EPM (Beal et al., 2005) how performance may differ from one performance episode to the next contingent on attentional processes that influence attentional focus (e.g. cognitive interference and attentional pull). Additionally, we examine how task features (i.e. episodic job demands and job resources) adopted from JD–R theory (Bakker and Demerouti, 2014) can explain between-episode variability in performance through work engagement. In sum, based on an integration of JD–R theory and EPM, we test a mediation model in which episodic job resources, demands, attentional pull and cognitive interference relate to episodic performance through episodic work engagement (Beal et al., 2005; see Figure 1). Thus, the episodic perspective adds a more experiential understanding of how performance may change within one person depending on the task the employee is involved in at the very moment. Our approach complements the between-person perspective on how employee performance in general differs between individuals.

Theoretical background

According to JD–R theory (Bakker and Demerouti, 2014), job demands and job resources – which are physical, psychological, social or organizational characteristics of the job – have an independent and combined relation with work engagement (Bakker et al., 2007; Tadić et al., 2015). Whereas job demands require sustained psychological and physiological effort and result in energetic costs, job resources promote personal growth and development, and help employees achieve their work goals.

Moreover, JD–R theory states that every work environment has unique demands and resources. Based on this proposition, we contacted a few day-care teachers to inquire about the most relevant demands and resources they faced at work. Specifically, we approached three day-care teachers from three different day-care institutions in the Netherlands, and asked them how a typical workday was organized and how the different activities and tasks were normally performed. The teachers were also asked what aspects

of their work made them more vs less motivated at work. This resulted in a better understanding about which demands and resources are particularly relevant for day-care teachers. These dialogs revealed colleague support and autonomy are the most salient resources while social conflict and disruptive child behavior (DCB) are their most relevant demands. Specifically, teachers experience social conflict as a hindering demand. Social conflict refers to expressions of negative affect and disconfirmation (Abbey et al., 1985). Furthermore, teachers identify DCB as a challenge demand. DCB refers to demanding behaviors children may show such as crying, being restless or hitting other children (Behar, 1977). Teachers felt challenged to make the children happy and calm after they exhibit DCB.

JD–R theory and EPM

In the present study, we propose that the motivational process proposed by JD–R theory may also become apparent at the episodic level. Theoretically, we refer to the EPM (Weiss et al., 2004) to explain the episodic fluctuations in job demands and job resources. This model proposes that people's experience of a working day is organized around performance episodes that have a coherent thematic organization around work-related goals. We propose that as these goals change, the work activities employees perform change along with the number of job resources and demands around the activity (Sonnentag, 2017). The following examples illustrate how job demands and resources educators face may differ from episode to episode. When children exhibit high DCB, such as screaming and crying, the employee's attention is constrained to this event. In addition, employees' interactions with co-workers might be supportive and pleasant on one instance and less supportive or even demanding on another instance.

Job resources, such as a colleague's support and job autonomy, should trigger an intrinsic motivational process during a performance episode by satisfying basic human needs of relatedness, autonomy and competence (Gagné and Deci, 2005; Sonnentag, 2017). Moreover, in a specific activity, an extrinsic motivational process should be triggered when employees have a supportive colleague to whom they can ask for help when needed (Xanthopoulou et al., 2008). The extrinsic and intrinsic motivational process should foster the employee's willingness to invest effort and enthusiasm during a work activity (i.e. episodic work engagement).

Daniels et al.'s (2013) experience sampling study provides empirical support for the dynamic nature of job characteristics. The study revealed that employees who used colleague support and job control to solve problems during specific work hours showed

less cognitive failure, fatigue and negative affect. Furthermore, in support of JD–R theory, Xanthopoulou et al.'s (2008) diary study with flight attendants showed that fluctuations in colleague support across intercontinental flights were positively related to daily self-efficacy and work engagement. Therefore, based on previous research (Reina-Tamayo et al., 2017), we argue that in work activities where there are more episodic job resources available, employees will experience more work engagement:

Hypotheses H1a. Episodic job resources relate positively to episodic work engagement.

Furthermore, JD–R theory claims that job demands interact with job resources to predict employee well-being. The nature of this interaction may depend on the type of demands the employees are encountering. According to the challenge-hindrance stressor framework (Cavanaugh et al., 2000), demands can be categorized as challenge or hindrance demands. Challenge demands are defined as aspects of the job that cost effort and energy, but also provide fulfillment and opportunities for growth. Examples of challenge demands are workload, time urgency and job complexity. Hindrance demands are defined as aspects of the job that cost energy and evoke stress, but additionally constrain the individual interfering with person's ability to achieve goals. Examples of such demands in organizations are red tape, hassles or role conflict. Previous empirical studies have shown that when workers confront hindrance job demands, they experience negative work outcomes (Crawford et al., 2010), such as lower work engagement (Tadić et al., 2015), and impaired job satisfaction (Cavanaugh et al., 2000).

In our study, we investigate whether episodic hindrance job demands that employees confront during a work activity undermine the association between job resources and work engagement. In addition, JD–R theory claims that job resources have a positive influence on work engagement, especially when challenge job demands are high. Applied to our study, employees may use job resources to transform stress (potential energy) triggered by challenge job demands into motivational energy, which should result in episodic work engagement (Bakker and Sanz-Vergel, 2013; Kühnel et al., 2012; Tadić et al., 2015). Breevaart and Bakker (2018) showed that on days employees faced high challenge demands, daily transformational leadership maintained employees' engagement, while on days that employees faced high hindrance, daily transformational leadership protected employee engagement levels. We extend this research to the episodic level, and make the following predictions:

Hypotheses H1b. The positive relationship between episodic job resources and episodic work engagement is stronger when episodic challenge job demands are high (vs low).

Hypotheses H1c. The positive relationship between episodic job resources and episodic work engagement is weaker when episodic hindrance job demands are high (vs low).

Task attentional pull

The EPM outlines how cognitive processes during work activities are theoretically related to job performance. Specifically, Beal et al. (2005) postulate that in order for employees to perform well, their attention needs to be fully focused on the task. Task attentional pull refers to characteristics of the focal task (e.g. the intrinsic interest in the task, or the difficulty of the task goal) that draw a person's attention toward it, facilitating the self-regulation of attention toward it (Weiss et al., 2004). In our study, we focus on the phenomenological experience of task attentional pull, that is, of experiencing one's attention being drawn to the core activity of the performance episode.

In order to exemplify the conceptualization of attentional pull, we refer to the literature on visual spatial attention that examines the phenomenon of attentional capture (Ruz and Lupiáñez, 2002). Bottom-up attentional capture is an unintentional, rapid and automatic process that directs a person's attention toward a stimulus (Varela et al., 2014). The intensity of this form of attentional capture depends on the characteristics of the stimulus (e.g. color or size). In a similar way, Beal et al. (2005) state that task attentional pull is a bottom-up process that is unintentional and draws a person's attention to the task.

Furthermore, we argue that task attentional pull is conceptually different from episodic work engagement. Attentional pull refers to the experience of having one's attention drawn toward the work activity (Beal et al., 2005). In contrast, work engagement refers to the actual focusing of attention on the work activity (Schaufeli et al., 2006). Varela et al.'s (2014) study exemplifies this distinction. They examined the attentional capture of cereal package features when consumers were evaluating similarities and differences among packages. They found that product name, image and brand were the features with highest attentional capture; hence inferring that attentional capture is a cognitive process that explains why consumers give full attention to the package features. Accordingly, we argue that task attentional pull, like attentional capture, is a cognitive process that facilitates episodic work engagement:

Hypotheses H2a. Attentional pull during a performance episode is positively related to episodic work engagement.

Cognitive interference

Beal et al. (2005) proposed that off-task attentional demands may also influence performance by diverting an employee's attention off-task. A representation of such diversion of attention is cognitive interference, which is defined as thinking about past activities or personal worries that disrupt an employee's concentration (Sarason et al., 1986). When employees experience cognitive interference, they are unable to allocate all the necessary cognitive resources to the activity at hand, preventing the employee from achieving optimal performance (Dolcos, 2006; Hopstaken et al., 2016; Kurosawa and Harackiewicz, 1995). McCarthy et al. (2013) conducted survey studies to examine the relation between affect, cognitive interference, concentration and performance in young athletes after a competition. They found that cognitive interference was negatively related with concentration and performance in the competition.

In a similar way, we expect that having interfering thoughts while performing a work activity can be negatively associated with the concentration of day-care teachers. If, during a performance episode, an employee is teaching a crafting lesson, but worrying about an earlier event, this worrying thought will divert the person's attention from the primary activity (i.e. teaching the lesson). Therefore, we hypothesize:

Hypotheses H2b. Cognitive interference during a performance episode is negatively related to episodic work engagement.

The mediating role of episodic work engagement

Several studies using the JD–R framework have shown that work engagement at the general, day and week level is associated with performance at the respective levels (Xanthopoulou and Bakker, 2013). Following the EPM proposition that performance is better the more attentional and energetic resources are dedicated to the activity at hand, we can expect that there will be a positive relation between performance and engagement at the episodic level. Hence, it is important to examine the extent to which episodic engagement relates to episodic performance throughout different work activities.

A recent eye tracking lab study showed that intermediate pupil diameter, which reflects task engagement, is positively associated with performance in a visual letter n-

back task (Hopstaken et al., 2016). Additionally, a research study on student task engagement showed that students who were actively engaged while solving matching problems had better performance on that task than students who were passively engaged (Ota and DuPaul, 2002). In sum, few studies have shown that engagement and performance are related at the activity level; nevertheless, empirical evidence is still lacking for the relation between work engagement and performance at the activity level in a real organizational setting. Thus, in order to test the ecological validity of the episodic work engagement–performance link, we will examine this relation in a day-care setting. We propose that engaged employees will achieve higher performance during a work activity by using all the energy, dedication and absorption experienced during that episode to channel their effort toward high-quality episodic performance:

Hypotheses H3. Episodic work engagement mediates the relationship between (a) episodic resources, demands, attentional pull and cognitive interference and (b) episodic performance.

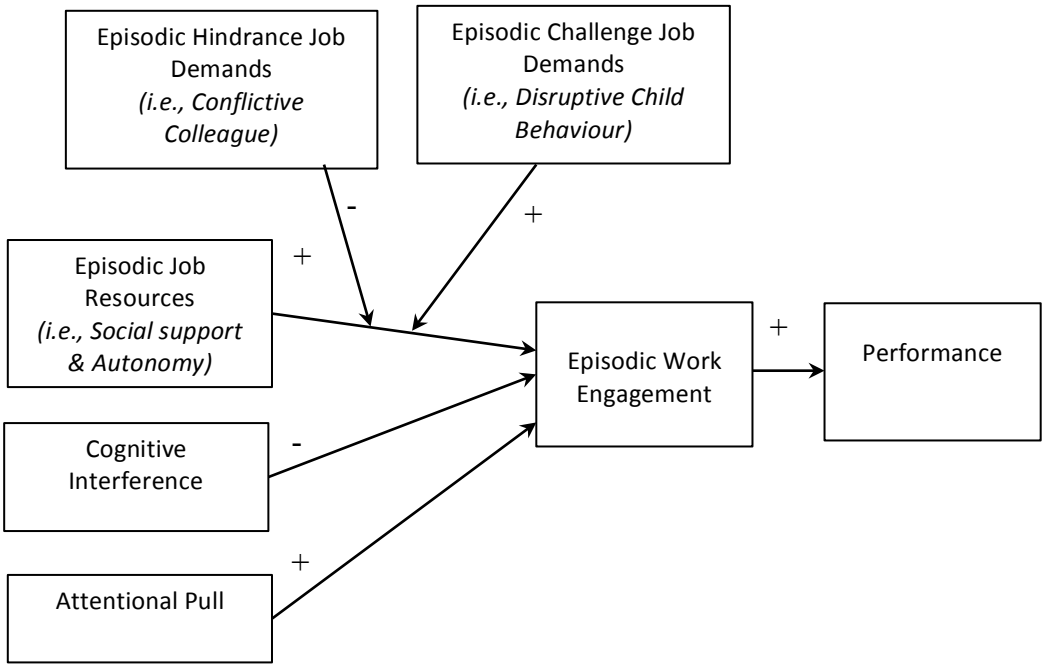

Figure 1. Hypothesized Model of Episodic Work Engagement

Method

Procedure

Researchers residing in the Netherlands and Iceland recruited participants by creating a database with facility managers' contact information from childcare websites from these two countries. Then, we contacted managers by e-mail advertising, telephone, and in person during May and June of 2015. These managers then encouraged the day-care teachers in their facility to sign up for the study by filling out a registration form. The study was advertised as a smartphone app research project about momentary work engagement. Hence, a pre-condition to joining the study was that participants had a smartphone device and access to the internet in their place of employment. For the Icelandic/Dutch sample, we translated the scales that were not originally in Icelandic/Dutch from English to Icelandic/Dutch and had them back translated to English by native Icelandic/Dutch speakers. Respondents participated voluntarily and received no compensation.

We used an Android/iPhone smartphone app (MetricWire) to implement the ESM. ESM requires participants to answer brief questionnaires at different times of the day in order to capture information about their daily activities, context and subjective experiences without retrospective bias (Hektner et al., 2007). Participants installed the MetricWire app on their smartphones to have mobile access to the research brief questionnaires.

After participants completed the registration form that asked for an e-mail address, they received an e-mail with detailed instructions on how to create a personalized account using their e-mail address. The personalized account provided a unique ID to each participant, which allowed multiple responses to be linked. Data collection proceeded for two weeks. Participants started the research after reading and approving an online consent form indicating their voluntary and confidential participation. Participants had one week to complete a general survey and to download and install the MetricWire app on their smartphone device.

In the second week, participants received, via the smartphone app, three alerts during the day at pre-designated times – at 10:30 a.m., 1:00 p.m. and 3:00 p.m. – for five consecutive working days. The times were decided after consultation with the employees, so the alerts were not received in hectic hours, such as when the children arrive at the day-care facility. After the participants received an alert on their smartphone, they were able to tap the alert and were re-directed to the app that enabled them to answer a brief survey. Participants could respond to the questionnaire anytime within 1 h after receiving

the alert. Once the hour had passed, the brief questionnaire was not accessible anymore. The survey asked participants to answer questions about the activity they were doing just before receiving the alert. We asked the participants who did not work Monday through Friday to continue the study until five workdays were completed.

Participants

A total of 87 individuals signed up to participate and received e-mailed instructions. Of these, 58 completed the general survey (66 percent), and 48 completed the experience sampling surveys three times a day for five working days, yielding a response rate of 55 percent. We obtained 558 usable episodic responses of a possible 765 responses (73 percent response rate). However, some participants were not able to answer the question about DCB because they were not with the children at all the times. At times, they were doing administrative work or cleaning around. This reduced the sample size to 438 observations. In addition, we controlled for the previous moment episodic engagement ($t-1$) and previous moment episodic performance ($t-1$). After this adjustment in our analysis, our sample size was reduced to 266 observations. In this subsample, participants completed an average of 5.54 (SD =1.87) episodic surveys.

Our convenience sample consisted of 48 early childhood educators who worked in childcare facilities in the Netherlands (31 percent) and Iceland (69 percent). The employees worked an average of 36.2 h per week (SD =8.81) with 39 percent of the participants working part-time. Participants had a mean age of 33.79 years (SD =9.09). Participants were mainly women (92 percent). In total, 16 percent of the participants were living with a partner and 50 percent of the participants had children. In total, 33 percent of the participants had attended community college and 58 percent had obtained a bachelors' degree. The employees worked primarily with children aged 0–2 years (23 percent), 2–4 years (42 percent) and 5–6 years (29 percent). In total, 73 percent of the employees had a permanent contract and 27 percent had a temporary contract.

Measures

General measure

In order to assess the convergent validity of our episodic work engagement measure, we added a path between person-level work engagement and the aggregated episodic work engagement measure in the hypothesized model.

Work engagement. We used the Utrecht Work Engagement Scale (UWES) (Schaufeli et al., 2006) to measure employee's engagement levels. The nine-item UWES had three items for each of the three dimensions of work engagement. Sample items were, "I feel strong and vigorous in my work" (vigor), "I am enthusiastic about my job" (dedication), and "I get carried away by my work" (absorption). Participants answered the items on a seven-point frequency rating scale (0= never, 6= always). The reliability of the scale was good, Cronbach's α=0.81.

Experience sampling assessments

Ohly et al. (2010) recommend using abbreviated scales when conducting diary studies to reduce the burden on the participants. This is a common procedure, where scholars reduce the number of items per scale by selecting items with the highest item-total correlations from a multi-item scale (Ohly et al., 2010). We implemented this procedure to operationalize each episodic level construct. In order to apply this practice, we selected three items that showed a high factor loading or item-total correlation from each multi-item scale that were presented in validation studies of the respective questionnaire. In addition to considering the highest item-total correlations, we ensured that the items were applicable to a dynamic context and were relevant to a day-care work settings. We adapted the period of the scales, so the questions could be answered in reference to the activity they were doing just before they were signaled by the app. All items were scored on a seven-point scale (1= not at all, 7= very much), except for performance (see below).

Episodic activities. First, we asked the participants an open-ended question about the activity they were doing (i.e. "What activity were you doing?"). In addition, we had one question about the accompanying person for this activity (i.e. "Select with whom were you doing the activity").

Episodic work engagement. We measured episodic work engagement with three items from the UWES (Schaufeli et al., 2006) to represent each of its three dimensions, that was, vigor ("During this activity, I felt that I was bursting with energy"), dedication ("During this activity, I was enthusiastic about what I was doing") and absorption ("During this activity, I was immersed in my work"). The average Cronbach's α across the measurement occasions for this scale was $\bar{\alpha}$=0.84.

Episodic resources. Social support was measured with three items from the Questionnaire on the Experience and Evaluation of Work (Van Veldhoven and Meijman,

1994): "Could you ask your colleagues for help when necessary during this activity?", "Could you count on your colleagues for support when the work activity was difficult?", and "Did you feel appreciated by your colleagues during this activity?" The average Cronbach's α for this scale was $\bar{\alpha}$=0.78. Job autonomy was measured with three items from the validated Dutch version of the Job Diagnostic Survey (Valkeneers et al., 2011): "During this activity, I had the opportunity to decide independently how I performed my job", "During this activity, I had a lot of room to make my own decisions", and "How much autonomy did you have during this activity?" ($\bar{\alpha}$=0.91). The average Cronbach's α for the episodic job resources scale was $\bar{\alpha}$=0.85.

Episodic challenge job demands. DCB was measured with three items from the Preschool Behavior Questionnaire (Behar, 1977). One item was used to represent each of its three dimensions, that was, distractibility ("During this activity, the children I am working with are restless, run about or jump up and down, do not keep still"), aggression ("During this activity, the children I am working with are kicking, biting and hitting each other") and fear ("During this activity, the children I am working with are miserable, unhappy, tearful, or distressed") ($\bar{\alpha}$=0.71).

Episodic hindrance job demands. Social conflict was measured with three items from the social conflict questionnaire (Abbey et al., 1985): "During this activity, my colleagues got on my nerves", "During this activity, my colleagues have done things that conflicted with my own sense of what should be done" and "During this activity my colleagues acted in an unpleasant or angry manner toward me." The overall average Cronbach's α for this scale is $\bar{\alpha}$=0.57. Nunnally (1978) recommends a value of 0.70 as an acceptable Cronbach's α. However, because fewer items lower the Cronbach's α value, Briggs and Cheek (1986) recommend reporting the mean inter-item correlation. An optimal value for inter-item correlation among items is in the range of 0.20–0.40. For this scale, the mean inter-item correlation is 0.51.

Task attentional pull. Based on the EPM literature, we developed three items to measure attentional pull. These items were: "During this activity, my attention was pulled towards my work", "This activity continuously attracted my attention", and "This activity demanded all my attention." We pilot-tested the items in an independent study by asking 26 employees to fill out the brief scale. Cronbach's α was 0.79 for the pilot test. The average Cronbach's α in the present study was also 0.82.

Episodic cognitive interference. We measured cognitive interference with three items from the Cognitive Interference Questionnaire (Sarason et al., 1986): "During this activity, I have been thinking about other activities", "During this activity, I have been thinking

about something that happened earlier" and "During this activity, I have been thinking about personal worries." The average Cronbach's for this scale is $\tilde{\alpha}$=0.81.

Episodic performance. We measured self-rated performance by combining three items from two different measures. One item was taken from Fisher and Noble's (2004) performance scale ("How would you rate your performance on the activity you were doing?"). The rating scale ranged from 1 to 5 and the anchors were bad, poor, average, good and excellent. In addition, two items were taken from Casimir et al. (2006) self-rated performance scale ("During this activity, I made good use of my working time" and "During this activity, I am working hard") ($\tilde{\alpha}$=0.81). The rating scale ranged from 1 (strongly disagree) to 5 (strongly agree).

Control variables. We controlled for time of the day because previous studies have shown that time of the day can influence affective experiences (e.g. Csikszentmihalyi and Hunter, 2003). In addition, and importantly, in order to control for any spillover effects, we corrected for the episodic work engagement and performance of the previous activity ($t-1$).

Strategy of analysis

The substantive focus of interest in our hypotheses is on the episodic level. To accurately address such episodic relations, we tested the hypothesized model at the episodic level (within-person). Accordingly, we used a multilevel path analysis with Mplus 7.4 (Muthén and Muthén, 2015) to distinguish between three levels of analysis: The between person level (level 3), the day level (level 2) and the episodic level (level 1). The reason for the three levels of analysis is that the ESM data are naturally hierarchically organized (see Ohly et al., 2010 for an overview) where the activities are nested within days, and days are nested within persons. Next, we determined whether there was sufficient variance at the episodic level by assessing the intraclass correlations coefficient (ICC (1)) (Hox, 2010). We person-mean centered the episodic level variables and grand mean centered the enduring work engagement measure. We estimated path coefficients using the maximum likelihood method in Mplus.

Results

Descriptive statistics Table 1 summarizes the descriptive statistics among the study variables. In our data the ICC (1) values were significant at the between person-level with

a substantial episodic within-person portion of the total variance for each scale (40–84 percent; see Table 1), supporting the use of a three-level multilevel modeling analyses.

Table 1. *Means, Standard Deviations, and Correlations Among the Study Variables*

Scale	1	2	3	4	5	6	7	8
1. Work engagement	(.84)	.33***	-.22***	-.12*	.54***	-.43***	.41***	-
2. Episodic Job Resources	.54***	(.85)	-.12	-.13*	.30***	-.16*	.05	-
3. Episodic Challenge Job Demands	-.13	-.14	(.71)	.13*	-.11	.09	-.18**	-
4. Episodic Hindrance Job Demands	-.12	-.20	-.00	(.57)	-.05	.15*	-.06	-
5. Attentional pull	.70***	.49***	.04	-.23	(.82)	-.37***	.47***	-
6. Cognitive Interference	-.43***	-.18	.36*	.20	-.35*	(.81)	-.33***	-
7. Performance	.52***	.44**	-.04	-.19	.58***	-.33*	(.81)	-
8. Trait work engagement	.63***	.40**	-.07	-.18	.53***	-.29*	.27	(.81)
Grand mean	5.29	5.93	1.64	1.19	5.22	2.42	4.31	4.21
Between-person *SD*	0.79	0.65	0.53	0.23	0.93	0.97	0.37	0.65
Within-person *SD*	1.07	0.79	0.90	0.51	1.03	1.08	0.52	-
Proportion within variance	64%	57%	84%	40%	76%	52%	75%	-

Note. N = 266 episodic surveys (average 9 surveys per person) from 48 participants. Between person-level correlations for the observed variables are given below the diagonal; episodic level correlations for the observed variables are given above the diagonal. Scale reliabilities averaged across the five days are shown in parentheses on the diagonal.

$^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

Measurement model

We first conducted a multilevel confirmatory factor analysis (MCFA) to examine a series of measurement models to support the operationalization of our variables at the episodic level (level 1).

Specifically, the first measurement model consisted of four latent factors, indicated by three items each: cognitive interference, attentional pull, work engagement and job performance. This model showed satisfactory fit to the data at the within person-level, χ^2 (48)=208.95, p<0.001, CFI=0.95, TLI=0.93, RMSEA=0.08, SRMR=0.04 (episodic level). The findings clearly indicate that all the model variables could be empirically distinguished at the episodic level. The output of these MCFAs is available from the first author upon request. Next, we compared this measurement model to a three-factor model in which the work engagement and attentional pull items were allowed to load on one factor (see Table 2) and found that the proposed measurement model fit best to the data.

The third measurement model consisted of two latent factors (i.e. challenge and hindrance job demands) indicated by three items each, and one second-order factor for the episodic job resources indicated by two latent factors (colleague support and autonomy). Three items each indicated the colleague support and autonomy factors. The model showed an acceptable fit to the data χ^2 (49)=122.83, p<0.001, CFI=0.97, TLI=0.96, RMSEA=0.05, SRMR=0.05 (episodic level). Next, we compared these measurement models to a one-factor model (see Table 2) and found that the proposed measurement models fit best to the data.

Table 2. *Fit of the measurement models*

	Fit Indices		
Models	CFI	RMSE	SRMR
1. Four-Factor Model	.95	.08	.04
2. Three-Factor Model	.84	.14	.07
3. Two-Factor Model	.97	.05	.05
4. One-Factor Model	.38	.12	.13

Testing the hypothesized model

Next, we tested our hypothesized model (see Figure 1) using multilevel path analysis. By using a multilevel analysis, we can allow our intercept to be random while the slope is fixed. That is, for every person, we permit the intercept to be different, but we assume that the slope of the line is the same for each relation we test in every person (Hox, 2010).

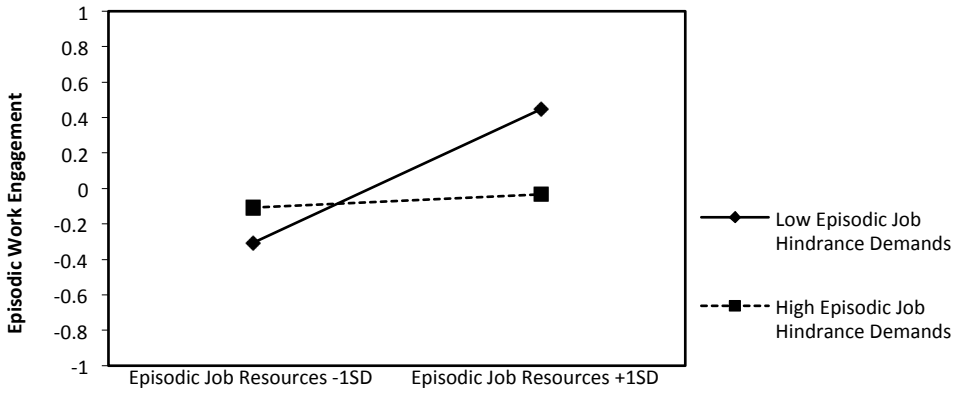

Figure 2. Episodic job resources interaction with episodic hindrance job demands for work engagement.

In our research, we do not test a cross-level interaction where we would need a random slope to allow a regression coefficient to be different due to a higher-level variable, such as age or gender. *H1a* states that episodic job resources are positively related to episodic work engagement. Results showed that episodic job resources were positively related to episodic work engagement (γ=0.24, SE=0.07, p<0.01). Thus, H1a is supported. In addition, H1b states that episodic challenge job demands boost the positive relation between episodic job resources and episodic work engagement. However, episodic challenge job demands do not boost the relation between episodic job resources and episodic work engagement (γ=0.06, SE=0.06, p=0.31). Hence, *H1b* is not supported. Moreover, *H1c* states that episodic hindrance job demands weaken the positive relation between episodic job resources and episodic work engagement. Consistent with the latter hypothesis, we find that the relation between episodic job resources and episodic work engagement is weaker on episodes that employees face high (vs low) social conflict (γ=−0.40, SE=0.12, p<0.01, see Figure 2). The line representing low hindrance job demands had a significantly steeper slope (γ=0.40, SE=0.09, z=4.63, p<0.001) than the line representing high hindrance job demands (γ=0.04, SE=0.09, z=1.42, p=0.637) lending support to *H1c.*

H2a states that attentional pull relates positively to episodic work engagement. The results of the multilevel analysis indicate that this hypothesis is supported (γ=0.43, SE=0.06, p<0.001). The teachers are more engaged during the episodes in which their attention is pulled toward the work activities even after controlling for the episodic work engagement of the previous activity. Additionally, *H2b* states that cognitive interference relates negatively to episodic work engagement. In support of H2b, cognitive interference is negatively related with episodic work engagement (γ=−0.21, SE=0.05, p<0.001).

Finally, according to *H3*, episodic work engagement relates positively to episodic performance and mediates the relation between episodic job demands, job resources, cognitive interference and attentional pull and episodic job performance. We tested this hypothesis using Selig and Preacher's (2008) online interactive tool. This tool uses the parametric bootstrapped method to create confidence intervals to examine the significance of the indirect effects. The results of the model showed that episodic work engagement is positively related to performance (γ=0.20, SE=0.03, p<0.001). The mediation effects were significant for episodic job resources (0.05, p<0.01, 95% CI [0.02, 0.08]), episodic challenge job demands (−0.03, p<0.05, 95% CI [−0.05, −0.01]), attentional pull (0.09, p<0.001, 95% CI [0.04, 0.11]) and cognitive interference (−0.04, p<0.01, 95% CI [−0.06, −0.02]). However, the mediation effect was not significant for episodic hindrance

demands. This means that *H3* is partially supported. However, it should be noted that the hypothesized model did not fit well to the data. χ2 (11)=42.57, p<0.001, CFI=0.86, TLI=0.68, RMSEA=0.10, SRMR=0.03 (episodic level), SRMR=0.01 (person-level). After examining our correlation table, we inferred that one possible reason for the poor model fit of our hypothesized model is that the independent variables, such as attentional pull and cognitive interference also have direct relationships with the dependent variable – episodic job performance. The correlation between attentional pull and cognitive interference to performance ranges between (r=−0.33) and (r=0.47).

Additional analyses

To test an alternative model, we compared the fit of our hypothesized model (M1) to the fit of the partially mediated model (M2) including direct effects from episodic work engagement, cognitive interference and attentional pull to episodic performance. Results showed a significant decrease in χ^2 ($\Delta\chi^2$=26.24 (2), p<0.001), indicating that the alternative model including the direct effects fits better to the data. Table 3 shows results of the two separate nested multilevel models predicting episodic work engagement and performance.

The final model (see Figure 3) fits well to the data χ^2 (9)=16.33, p=0.06, CFI=0.97, TLI=0.91, RMSEA=0.05, SRMR=0.02 (episodic level), SRMR=0.00 (person-level). However, the indirect effects for job resources (0.02, p=0.07), challenge demands (−0.01, p=0.10), attentional pull (0.03, p=0.05) and cognitive interference (−0.02, p=0.06) were no longer significant after including the direct effects. In this model, episodic job resources, challenge (hindrance) job demands, attentional pull and cognitive interference explained 43 percent of the variance in episodic work engagement and 25 percent in episodic performance. Note that enduring work engagement was positively related to the aggregated measurements of episodic work engagement (γ=0.72, SE=0.16, p<0.001).

Table 3. *Results of Moderated Path Analysis: Interactions of Resources and Hindrance Job Demands On Episodic Engagement and Performance*

Model	Predictor	Episodic Work Engagement		Performance		Fit				
		UPC (*SE*)	SPC	UPC (*SE*)	SPC	χ^2 (df)	RMSEA	CFI	TLI	SRMR
1	Episodic Work Engagement	-	-	.20 (.03)	.40***	42.57*** (11)	.10	.86	.68	.03
	Attentional Pull	.43 (.06)	.42***							
	Cognitive Interference	-.21 (.05)	-.22***							
	Job Resources	.24 (.07)	.18***							
	CD	-.17 (.06)	-.14**							
	HD	-.14 (.11)	-.07							
	Job Resources × CD	.06 (.06)	.05							
	Job Resources × HD	-.40 (.12)	-.18**							
	R^2	44%***		17%**						
2	Episodic Work Engagement	-	-	.08 (.04)	.16*	16.33 (9)	.05	.97	.91	.02
	Attentional Pull	.43 (.06)	.41***	.16 (.04)	.32***					
	Cognitive Interference	-.21 (.05)	-.22***	-.06 (.03)	-.11					
	Job Resources	.25 (.07)	.18***	-	-					
	CD	-.17 (.06)	-.14**	-	-					
	HD	-.14 (.11)	-.06	-	-					
	Job Resources × CD	.06 (.06)	.06	-	-					
	Job Resources × HD	-.40 (.12)	-.18**	-	-					
	R^2	43%***		25%***						
	ΔR^2	0%		8%						
	$\Delta\chi^2$	26.24***								

Note. *p < .05; **p < .01; ***p <.001. CD = challenge job demands; HD = hindrance job demands.

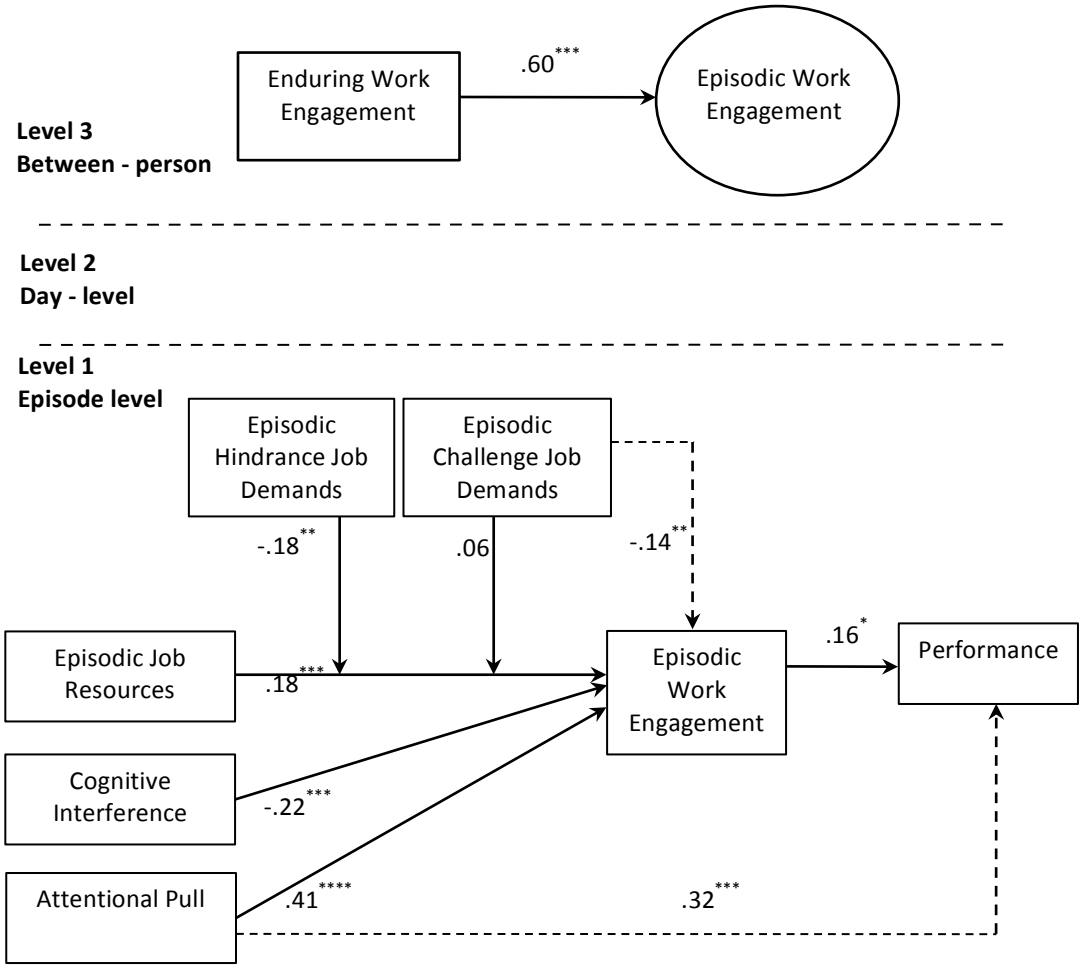

Figure 3. Model of Episodic Work Engagement showing standardized estimates.
Note. Episodic Engagement at the person-level is in an ellipse because it indicates that is a latent continuous variable that varies across individuals. Non-significant direct effects to performance are not shown for clarity purposes. $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

Discussion

Integrating JD–R theory (Bakker and Demerouti, 2014) and the EPM (Weiss et al., 2004), the present study aimed to test whether cognitive mechanisms, such as attentional

pull and cognitive interference, are related to job performance through the experience of episodic work engagement. We examined these associations at the episodic level while accounting for the effects of job demands and job resources on performance through work engagement (Bakker et al., 2007). The results suggest that episodic work engagement is positively related to episodic performance.

Employees perform better and make better use of their time when they feel more enthusiastic, vigorous and immersed in a work activity. Additionally, as employees experience support from a colleague or freedom in executing their work, and their attention is captured by the task, employees invest more energy and effort in a work activity. Conversely, employees are less likely to immerse and persist in a work activity, when they are having thoughts that are unrelated to the work activity itself or when they are facing DCB from children. Moreover, we found support for our prediction that when employees experience social conflict, they are unable to use their job resources of support and autonomy to foster their work engagement toward the primary work activity.

Theoretical implications

Our findings have several important theoretical implications. First, we are one of the first to provide empirical support for the EPM's (Beal et al., 2005) basic propositions that attentional pull facilitates the dedication of all cognitive resources to the task, while cognitive interference prevents it. We relied on Beal et al.'s (2005) EPM to explore a cognitive mechanism (i.e. attentional pull and cognitive interference) that is related to episodic fluctuations in work engagement and performance in addition to the motivational process proposed by JD–R theory. For the cognitive mechanism of attentional pull, we found that the more a work activity captures an employee's attention, the more the person experiences enthusiasm and concentration in this activity. Additionally, performance is also rated better during that work activity. This finding is in line with Beal et al.'s (2005) proposition that attentional pull facilitates attending to a work activity. Moreover, this finding aligns with experimental lab research on attentional capture, which shows certain packaging features capture the consumer's attention and facilitates conscious processing of the package nutrition labeling (Ares et al., 2012; Wyble et al., 2013). Furthermore, for the mechanism of cognitive interference, the results of our study indicate that when employees experience non-work-related interfering thoughts, they are less vigorous, enthusiastic and immersed during that work activity. This is in line with Oldham's et al. (1991) findings showing that concentration deteriorates when people face interruptions.

Second, our results extend existing work, by theoretically integrating JD–R theory with the EPM. Following the EPM proposition that performance is episodic due to the changes in work activities throughout the day, we show that resources and demands have an episodic nature (68–82 percent episodic variance). In line with the JD–R theory, we find that at the episodic level job resources can be initiators of a motivational process that is reflected in employees experiencing higher work engagement across different work activities during a day. Additionally, our findings indicate that hindrance job demands undermine this positive relation. Recent studies that integrate JD–R theory with the challenge and hindrance stressor framework (Bakker and Sanz-Vergel, 2013; Breevaart and Bakker, 2018; Tadić et al., 2015) show that the joint effect of challenge job demands with job or personal resources leads to higher work engagement levels, while the combined effect of hindrance job demands with job or personal resources leads to lower work engagement levels. Our finding that hindrance job demands, in this case having a conflictive colleague, undermines the positive relation between job resources and work engagement extends previous research (e.g. Tadić et al., 2015). It demonstrates that this relationship also holds at the episodic level.

However, we did not find that challenges boosted the relation between episodic job resources and work engagement. Instead, we found that the more DCB the teachers experienced, the less engaged they were in their work. The negative relation may be due to measuring misbehavior that is highly difficult (e.g. children biting each other) relative to more prevalent children's behavior such as irritability. Additionally, it is possible that the outcome could have affected the motivation of the teacher. If teachers could successfully deal with the misbehavior, then the DCB could be associated with experiencing higher motivation in the activity. We did not measure the outcome, so we cannot attest this possibility in our study.

Finally, this study focused on episodic work engagement to examine how episodic job resources, demands, attentional pull and cognitive interference relate to episodic job performance. Our results suggest that focusing all attentional resources in an activity is important for performance as it is highlighted in EPM. Therefore, it is important that activities attract the attention of employees because this relates to enhance concentration in the task, which is associated to better performance across work activities. However, the mediation of episodic work engagement in the relationship between episodic job resources, challenge demands, attentional pull and cognitive interference was only marginally significant. This was due to the addition of the direct paths between the independent variables and episodic performance. Future studies may examine the indirect

relation between job demands, resources, attentional pull, cognitive interference and performance through work engagement using a larger sample size. Finding a marginally significant effect after controlling for direct effects is interesting as these results give a plausible indication that on the one hand cognitive interference and job demands can deter episodic work engagement. While on the other hand, job resources and attentional pull can stimulate episodic work engagement, which in turn leads to higher episodic performance.

Limitations and future research

The present study is not without limitations. First, the results are based on self-reports, which raises concerns about common method bias. However, our measurement model shows a good fit to the data and demonstrates that the constructs can be separated empirically. Furthermore, methodological research suggests that individuals participating in ESM studies have lower recall biases compare to survey studies due to the immediacy of the questions to the event (Hektner et al., 2007). This immediacy means that the individual has less time to adjust the answers so that they are socially desirable.

Second, we have repeated measures, but given the analyses, and the fact that we did not conduct an experiment, we do not have control over the causal ordering of the variables. Although we used JD–R theory and the EPM to have a firm basis for the direction of the effects, one may argue that highly engaged employees may also increase the levels of job resources in their day-care center (Schussler, 2009). Indeed, JD–R theory (Bakker and Demerouti, 2014) proposes that employees may use job crafting – i.e., proactive behavior – to optimize their work environment. Therefore, future studies should examine whether employees' high engagement levels could have catalyzed the autonomy and support they experience.

Third, in terms of generalizability, the sample is representative of female (92 percent) employees from the Netherlands and Iceland. However, the relationship between the study variables may differ for males and for employees from different cultural backgrounds, for example, because of higher levels of empathy that are typically found in females (Rueckert and Naybar, 2008). Future studies should try to replicate the current findings and test whether the results hold in other occupational groups and across genders and cultures.

Fourth, before the start of our research, we determined DCB to be a challenge demand. However, in our results we found DCB to be negatively related to episodic work engagement. In order to clarify whether a demand is a challenge or a hindrance, future

research may ask participants to rate for each demand how challenging or hindering it is to them (cf. Bakker and Sanz-Vergel, 2013). Researchers may then add this subjective rating as a moderator to their analytical model. In this way, the research can more accurately test the challenge and hindrance stressor framework, which states that challenge job demands as opposed to hindrance job demands not only consume effort and energy, but can also be motivating. We could not disentangle this proposition completely in our study because we do not have enough empirical evidence to conclude that DCB was a challenge demand. Thus, it is conceivable that DCB was a hindrance job demand and that is why it was negatively related to episodic work engagement.

Practical implications

Our findings indicate that when employees have a helping hand and choice in how to execute a work activity, the employees' levels of engagement and performance are higher as well.

In terms of job design, it is beneficial for an individual's career development to understand how to stay engaged throughout different daily work activities as this is related to higher task performance. Our study informs employees that in order to stay engaged, it is imperative to have sufficient resources, such as freedom in the timing and methods used during work activities. Having sufficient resources helps to cope with hindrance job demands so that employees can stay engaged during a work activity. In addition, team-building activities may improve relations between colleagues and prevent social conflict during work activities, while fostering the exchange of social support.

Additionally, our research and findings may apply to other settings beyond the day-care setting. It is important to highlight that there are several similarities between a day-care setting and profit organizations. Indeed, in a day-care setting, there is a high amount of social interaction. Nowadays, social interaction is required in business-like environments. Between 1980 and 2012, there has been a 12 percent growth in jobs requiring social interaction (Deming, 2017). Sales departments, human resource management and project-based employees working in teams from different kind of industries (e.g. telecommunications, high-tech, energy, construction) require a high amount of social interaction (Deming, 2017). In these kinds of environments, employees can experience autonomy, social support and social conflict due to the amount of social interaction that takes place between them, or between clients and customers (Bakker et al., 2008). Additionally, employees may experience a different degree of autonomy when

managing a project or different clients during a working day. In sum, the present research give us insight not only about how job resources and demands interact in a day-care setting, but also how these demands and resources relate to employee engagement in work settings that have a high degree of social interaction.

Furthermore, we demonstrated that when engagement in employees deteriorates, more cognitive interference is experienced. In terms of individual behavioral strategies, organizations may consider giving different kinds of training that can aid employees in dealing with these interfering thoughts. For example, a mindfulness training may help employees to self-regulate and experience less cognitive interference (Razza et al., 2015). In addition, through job crafting employees can use their strengths, build job resources and reduce the impact of hindrance job demands, which facilitates work engagement (Tims et al., 2013). For instance, employees can discuss with their supervisor how they can be better supported in a work activity that they feel insecure about.

Conclusion

We have shown that JD–R and the EPM theoretical frameworks can be integrated in order to have a more comprehensive understanding of the episodic fluctuations in work engagement and performance at work. This study has revealed that having interfering thoughts and facing DCB while undertaking a work activity, prevented employees from fully immersing in work activities. In addition, experiencing conflictive behavior from a colleague dampened the positive motivational process triggered by the episodic job resources on the employee's levels of enthusiasm and energy toward their various work tasks. Based on this knowledge, early childhood educators can optimize their internal and external work environment to be more engaged in their work activities and optimize their episodic performance.

Chapter 6

Summary and General discussion

The studies included in this dissertation were conducted to answer four main research questions, namely: (1) To what extent does the work engagement of one person fluctuate within a working day?; (2) What are the predictors of episodic work engagement?; (3) What are the moderators that influence the relationship between episodic work engagement and its antecedents?; and (4) How do work engagement and job performance relate at the episodic level?

The answers to these questions contribute to the literature in several ways. First, this dissertation contributes to the literature on work engagement by advancing our understanding of the conceptualization and definition of work engagement as a within-person episodic state, which offers a complimentary view to the more popular enduring perspective of work engagement. By capturing episodic fluctuations in work engagement, this dissertation helps us to understand why one person feels more vigorous, dedicated, and absorbed at work during a specific work episode and not during another episode. Despite the popularity of work engagement in research and practice, there is surprisingly little research on the ebbs and flows of a person's work engagement within a working day.

Secondly, we developed and tested a comprehensive theoretical framework for capturing the temporal character and dynamic nature of work engagement at the episodic level (see Figure 1). We based our theoretical framework on job demands resources (JD-R) theory (Bakker & Demerouti, 2017), and integrated propositions from the episodic process model (EPM) of performance (Beal, Weiss, Barros, & MacDermid, 2005) and the challenge stressor-hindrance stressor framework (Lepine, Podsakoff, & Lepine, 2005). In this way, we investigated both the antecedents of episodic work engagement and its relation with performance at the episodic level. Finally, by using an episodic perspective, this dissertation advances JD-R theory by zooming in on specific episodic attentional antecedents of work engagement, such as attentional pull, cognitive interference, and mindfulness – in addition to different types of job demands (challenge vs. hindrances) and job resources. As a result, this dissertation provides insights into the dynamic nature of JD-R theory.

In this last chapter, I will first provide an answer to the central questions of this dissertation with a summary of the main findings. Subsequently, I will discuss the theoretical and practical implication of the findings. Finally, limitations and ideas for future research will be discussed.

Summary of main findings

Research Question 1: To what extent does the work engagement of one person fluctuate within a working day?

Kahn (1990) was the first to propose the concept of work engagement as a temporal, episodic, dynamic construct. He defined work engagement as "the harnessing of organization members' selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances" (p. 694). Engagement was defined as a state of psychological presence that a person experiences during certain moments of task performance. Specifically, people bring themselves in and out of a performance role to varying degrees throughout the day depending on the dynamic nature of the work context. However, subsequent research has reconsidered work engagement as an enduring, pervasive, motivational construct characterized by vigor, dedication, and absorption (Schaufeli, Salanova, González-Romá, & Bakker, 2002). According to Sonnentag, Dormann, and Demerouti (2010) the dynamic and enduring perspective of work engagement are complimentary to each other. To this end, this dissertation aimed to advance the underdeveloped conceptualization of work engagement as an episodic, temporal dynamic construct focused on a work activity.

By conducting multiple experience sampling studies, **Chapters 2** to **5** showed that work engagement has an episodic nature. In total, between 47% and 88% of the overall variance in work engagement can be attributed to episodic-level variation. This means that work engagement is highly dynamic and fluctuates considerably from one work activity to the next. Thus, our results suggest that work engagement follows an episodic pattern where, for example, one's engagement may be high while preparing for a meeting, but may be low while working on an annual report. Additionally, in **Chapter 2**, all employees completed a general measure of work engagement. Results of a multilevel confirmatory factor analysis of general and episodic level work engagement provided evidence for the factor structure (i.e., vigor, dedication, and absorption) to be the same at both levels. This finding supports the convergent validity of episodic work engagement with general work engagement. That is, the dimensions of vigor, dedication, and absorption are captured by episodic work engagement as well, and vary from one work activity to another. In some work activities, such as in a brainstorming meeting, an employee may forget about time and can be very enthusiastic by contributing with ideas, as opposed to other tasks, such as feeling less enthusiastic about an administrative task. Furthermore, the aggregated scores of episodic engagement (aggregated across several working days) correlate positively and highly with general or trait work engagement. This

suggests that employees who are generally engaged have higher frequency of episodes that reflect higher work engagement. Additionally, in **Chapter 3** and **Chapter 4**, I provided evidence for the ecological validity of work engagement by showing that employees who are highly engaged during a work activity also perform well. Finally, **Chapter 5** provided further evidence for the convergent validity of episodic work engagement with fatigue by showing that episodic work engagement and fatigue were moderately strongly negatively correlated.

In sum, **Chapters 2** to **5** make an integrated effort to show that work engagement fluctuates across work activities within one working day and within one person. Conceptually, episodic work engagement is similar to trait work engagement in that it captures the states of vigor, dedication, and absorption. Nevertheless, episodic work engagement is different from trait engagement in that these states are directed at a specific work activity, not towards work in general. This means that an employee can be generally engaged, but may feel less engaged during a specific work activity. The fleeting nature of work engagement is reflected in the highly episodic variability of the variable across the four experience sampling studies. This means that an employee' work engagement levels are fleeting and highly dynamic during a working day. For one person, the levels of enthusiasm, energy, and concentration can be high during one activity, such as a telephone call with a client, but can drop in another activity, such as email checking.

Moreover, our findings showed that episodic work engagement relates to other temporal variables, such as performance and fatigue. Specifically, when studying the episodic level as opposed to the trait level, our studies suggest that during a work activity an employee who is highly enthusiastic and absorbed in a task is less likely to feel fatigued during that activity and is more likely to perform well. On the other hand, trait work engagement focuses on capturing a more pervasive and enduring state about work in general, thus, it relates to other more enduring variables, such as burnout and general work performance. Nevertheless, **Chapters 2** and **3** showed a positive correlation between episodic engagement and trait work engagement. This means that in addition to the importance of studying temporal variables in relation to episodic work engagement, the enduring tendency for people to experience a generalized feeling of engagement has an implication for the episodic experience of engagement as well. That is, employees who are generally highly engaged also experience on average higher episodic work engagement. For example, someone who in general experiences high levels of enthusiasm, energy, and is highly concentrated at work would tend to experience throughout different work activities in a working day higher levels of vigor, dedication, and absorption. Certainly, the

levels of episodic work engagement would vary across work activities for this person, but they would vary at a higher threshold compared to someone who is generally less engaged at work. This highlights the importance of studying the episodic experience of work engagement as it provides a complementary view of trait work engagement and a comprehensive understanding and conceptualization of the work engagement construct.

Research Question 2: What are the predictors of episodic work engagement?

Four studies have shown that on average, 62% of the variance in work engagement can be explained by episodic fluctuations in work engagement within the same person during the same day. We know that at the general and day level, JD-R theory (Bakker & Demerouti, 2014, see also the 2017 paper) proposes that job resources trigger a motivational process, and are the main predictors of work engagement. Yet, little is known about episodic fluctuations in job demands and resources and its influence on episodic work engagement. Therefore, our studies are the first to test these processes proposed by JD-R theory at the episodic level by integrating propositions of the EPM (Beal et al., 2005) and the challenge stressor-hindrance stressor framework (Lepine et al., 2005).

In **Chapter 2**, using a convenience sample consisting of 61 Dutch employees and 413 observations, we showed that during a performance episode, employees who had access to more feedback, autonomy, and skill variety during performance episodes were more engaged. Our results suggest that employees feel more engaged when, for example, they received information on how they were doing in a project during a conference call, or they were able to use their talents while creating an online interface, or had freedom in how they could write a report. These resources initiated a motivational process, whereby employees became more engaged in their work activity. Additionally, we found that employees who were confronted with more conflicting job demands during a work activity were less engaged. In line with the challenge stressor-hindrance stressor framework (Crawford, Lepine, & Rich, 2010), our study revealed that episodic hindrance job demands, such as role conflict, have a negative impact on employees' episodic well-being, reflected in lower levels of episodic work engagement.

In a convenience sample of 48 childcare educators and 266 observations, in **Chapter 3**, I showed that episodic social support and autonomy were positively related with episodic work engagement. For instance, a childcare educator felt more engaged as she could count on her colleague during a demanding and busy time in the day care. This finding provides further evidence at the episodic level for the JD-R theory proposition that

job resources fuel work engagement. Additionally, in **Chapter 4**, we showed that for employees working on a project that hindrance job demands related negatively to employees' work engagement during a work activity. That is, an employee's engagement level lowered during a task in which they faced unclear objectives when having to design an office space. Furthermore, in line with the EPM (Beal et al., 2005), a performance episode characterized by less cognitive interference and more attentional pull (i.e., attraction toward the work activity) was associated with higher levels of work engagement.

In sum, **Chapters 2** to **5** are the first studies to make an integrated effort to show the most proximal antecedents of episodic work engagement. Our predictions were based on a solid theoretical framework, namely JD-R theory. We expanded JD-R theory by integrating propositions from novel frameworks such as the EPM and the challenge stressor-hindrance stressor framework. From the chapters, it can be concluded that when employees have access to more job resources during a work activity and this activity is experienced as more attractive (high on attentional pull), they are also more engaged. Conversely, employees are less likely to immerse and persist in a work activity, when they are having thoughts that are unrelated to the work activity itself (i.e., cognitive interference), or when they are facing hindrance job demands, such as having a conflict with a colleague or being confronted with a task with an unclear objective.

Research Question 3: What are the moderators that influence the relationship between episodic work engagement and its antecedents?

Another proposition of the JD-R theory is that job resources interact with job demands in predicting work engagement. We tested this proposition at the episodic level. First, our findings from **Chapter 3**, showed that social conflict (a hindrance job demand) moderated the positive relation between job resources and work engagement. This means that during a work activity when an employee experienced being treated in an unpleasant manner by a colleague, they were unable to go to that colleague for help and maintain their engagement in the task. Additionally, **Chapter 4** supported the prediction that having autonomy and feedback when confronting hindrance job demands protected employees' episodic engagement. Specifically, in a work activity with many hassles, employees who asked for advice during that work episode, could remain engaged in the activity. Moreover, we additionally found in **Chapter 4** that being mindful during a work activity protected employees' work engagement while they faced episodic hindrance job

demands. Our findings show that when one is able to focus one's attention in the present moment as one is experiencing an unclear instruction or hassle, one can remain engaged in that activity. However, if a person lets one's attention go into hypothetical failing scenarios as one faces hassles and difficulties, work engagement decreases during that work activity. Thus, we found how mindfulness and job resources serve as protectors of employees' engagement levels while they face an episodic hindrance demand during a work activity.

In **Chapter 5**, we showed that episodic job resources are especially relevant for episodic work engagement when employees are confronted with episodic hindrance job demands. Specifically, episodic social support buffered the impact of episodic task ambiguity on employees' episodic work engagement. Additionally, we found that difficulties in the allocation of attention (i.e., cognitive interference) have implications for the relationship between job demands and employees' fatigue at the episodic level. Specifically, cognitive interference aggravated the negative relation between (a) episodic challenge and hindrance job demands, and (b) episodic fatigue. When employees experience high cognitive interfering thoughts while also being exposed to high levels of challenge and hindrance job demands, they become more acutely fatigued during a work activity.

In sum, we found that mindfulness and job resources are important for work engagement because they have an immediate alleviating effect when employees face hindrance job demands, thus protecting their episodic engagement levels during a work activity. In contrast, having cognitive interfering thoughts aggravates the relation between episodic demands and episodic fatigue. Lastly, when employees experience hindrance demands, they are unable to use their job resources to foster their work engagement toward the primary work activity.

Research Question 4: How do work engagement and job performance relate at the episodic level?

The idea that engaged employees perform well is in itself not new. For example, a meta-analysis by Halbesleben (2010) showed that trait work engagement was positively related to job performance (ρ = .36). Recent studies have also shown that the more engaged employees are, the higher their in-role and extra-role performance (Halbesleben & Wheeler, 2008), the more satisfied their clients are (Salanova, Agut and Peiró, 2005), and the higher the performance of complete business units (Harter, Schmidt, & Hayes,

2002). While previous research has shown that between-person differences in job resources explain general differences in work engagement and performance, **Chapters 2** to **4** took this research in a new direction and showed that employees who had more resources available during a work activity, also had higher levels of engagement during that work activity and performed better on their tasks. Thus, performance during work activities is a direct function of the energy, enthusiasm, and absorption employees experience during that work activity.

Theoretical Implications

Our research contributes with a conceptualization and model of episodic engagement (see Figure 1). This model offers an overview of the antecedents and outcomes of episodic work engagement, which in principle, are novel contributions in the broader field of work engagement research. First of all, we adopted Beal et al.'s (2005) process model of performance to move towards a more dynamic perspective of work engagement by studying the micro psychological processes at work. Recently, research in positive organizational psychology is recognizing the importance of examining and understanding how dynamic psychological processes take place at work (Sonnentag, 2003; Sonnentag & Ilies, 2011; Sonnentag et al., 2010). Specifically, in the field of work engagement, Sonnentag (2017) argues that the between-person perspective does not capture all features of the full conceptualization of work engagement. Work engagement does not only vary between people; rather, changes within a person can take place even during different work tasks. As a result, we actually revisited the initial conceptualization of work engagement proposed by Kahn (1990), who proposed that work engagement is a momentary transient dynamic experience that changes depending on the changing events that take place in working day. We tested Kahn's proposition by examining whether the most popular conceptualization of work engagement proposed by Schaufeli et al. (2002) varies on a momentary basis along with the job resources and job demands people encounter during work activities. By doing so in our research, we asked participants to report on their levels of vigor, dedication, and absorption towards a work task during various moments of a working day along with the resources and demands they had in the task.

Our research used an experience sampling methodology (ESM) to test the transient experience of episodic work engagement, which provides a more precise and fine-grained view of state work engagement. In our studies, we found that trait work engagement and

episodic work engagement were positively related which suggests that employees who are generally engaged are more likely to be engaged during different work activities than employees who are less generally engaged. In this way, this task-specific view to work engagement shows a more experiential approach to the work engagement literature that is complimentary to the trait perspective of work engagement.

Second, this research proposed a theoretical model of episodic work engagement, providing a basis for future research. We provided new theory in terms of the antecedents and consequences of episodic work engagement. We examined whether within-day variability in work engagement is not random, but is closely tied to specific feature of work activities. We found that episodic job resources, such as a supportive colleague, autonomy during the work task, or feedback were positively related to episodic work engagement. Additionally, we integrated the challenge stressor-hindrance stressor framework (Lepine et al., 2005) in JD-R theory (Bakker & Demerouti, 2014, 2017), and showed that episodic job resources interact with episodic hindrance job demands in predicting episodic work engagement. Specifically, episodic job resources protect employees' episodic engagement levels when employees are confronted with episodic hindrance job demands.

Additionally, we integrated propositions from a relatively novel theoretical framework, the EPM (Beal et al., 2005), in our model of episodic work engagement to understand how attentional processes may influence work engagement and performance at the episodic level. According to the EPM, employees' performance varies on a moment to moment basis. That is, during one work activity someone's performance may be outstanding, while in another activity, it may be poor. Beal and his colleagues propose that an important variable determining these changes in performance is the self-regulation of attention. It is readily apparent that the more attention a person gives to a work task, the better their performance will be on the task (Kanfer, Ackerman, Murtha, Dugdale, & Nelson, 1994). However, as the attention is taken away from that task, the performance in the task will suffer. For the purpose of this research, the EPM offers a momentary perspective of the factors that influence a person to keep their attention focused towards a work activity. Hence, it provides insights into momentary variables that can influence someone's episodic work engagement.

In my dissertation, I examined how attentional processes, such as attentional pull and cognitive interference relate to episodic performance through episodic work engagement. Attentional pull as we conceptualized it in our research refers to the experience that one's attention is automatically and intrinsically attracted to a work activity. The EPM proposes that attentional pull positively relates to episodic performance

because it makes attending to the task easier. On the other hand, cognitive interference (Sarason, Sarason, Keefe, Hayes, & Shearin, 1986), which refers to experiencing intrusive thoughts unrelated to the task relates negatively to performance, because it prevents the person from using all their attentional resources towards the current work activity. In line with these propositions from the EPM, our research found that employees who experienced attentional pull during a work activity were more engaged and performed better during the task at hand. In contrast, employees who experienced cognitive interference during a work activity were less engaged and the performance decreased during that work task.

A third contribution of this thesis is that we provided a dynamic view of JD-R theory (Bakker & Demerouti, 2014). We showed that job characteristics, such as job demands and job resources influence work engagement at the activity level in a similar way as at the general level. We captured work activity characteristics as opposed to job characteristics and examined how they relate to episodic work engagement. This means that different work activities employees encounter during the day vary in the amount job resources and demands present in the activity. For example, a job resource, such as autonomy can be conceptualized at the task level because autonomy may vary from task to task. Specifically, some work activities have strict rules and do not leave room for a person to decide on how to perform the task, while other work activities give complete freedom on how a person can execute the activity. Throughout our studies, we found that there was substantial within-day variability in episodic job resources (average of 71% within-person variance) and job demands (average of 68% within-person variance). Therefore, our research provides a more precise and fine-grained picture of job demands and job resources in JD-R theory.

Limitations and Directions for Future Research

Research on work engagement at the episodic level is still scarce and more research is needed to explore other antecedents and outcomes of episodic work engagement, the specific mechanisms underlying the emergence of the work engagement experience during work activities, as well as conditional factors of these processes that can take place at the day or trait level. Our research focused on integrating propositions of the challenge stressor-hindrance stressor framework and the EPM in JD-R theory to identify how job resources, job demands, and attentional factors, such as attentional pull, mindfulness, and cognitive interference trigger fluctuations in episodic work engagement and performance.

Future research may adopt this model and further develop it to investigate other possible triggers of episodic work engagement and performance. For starters, in working life, there have been some specific personal characteristics identified as relevant for work engagement, such as personal resources (e.g., self-efficacy, optimism). According to Luthans and Youssef (2007), personal resources are by definition malleable and they have been found to fluctuate on a daily basis (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009b). Xanthopoulou et al. (2009) found that personal resources explain the transition from job resources into work engagement on a daily basis. Personal resources are depleted and replenished while employees are performing different tasks (Hobfoll, 2002), so this could mean that personal resources may potentially also fluctuate on an episodic basis. Future studies could test personal resources as the underlying mechanism that explains the positive relationship between episodic job resources and episodic work engagement.

Second, this dissertation only focused on episodic experiences of individual employees that play a role in the emergence of episodic work engagement and performance. According to Bakker and Demerouti (2018), work engagement and performance are not only a function of individual characteristics, but may also depend on team level and organizational conditions. Previous research (Alfes, Shantz, Truss & Soane, 2013; Dollard & Bakker, 2010) has indeed shown that HR practices can influence the organizational climate, and, in turn, have an impact on employees' perceptions of job demands and job resources, thus, indirectly affecting employee's levels of engagement at work. Dollard and Bakker (2010) found that when teachers perceive a psychological climate that management takes care of them (i.e., psychosocial safety), employees report more job resources available to them. These organizational and team level factors determine to what extent job resources and demands are immediately available to an individual during a work activity. It may be suggested that organizational or team level factors could play a moderating role in the relationship between episodic job resources, episodic job demands, and episodic work engagement. An organizational climate that is psychologically safe may offer a fertile ground for an abundance of job challenges and job resources at the episodic level, influencing the episodic work engagement and performance of the employees.

Third, this dissertation mainly focused on the synchronous relationships between antecedents and outcomes of work engagement based on multilevel path analysis, which cannot be used to establish causality. Further research is needed to replicate these findings using quasi-experimental and longitudinal study designs to get a better grasp of

causality. For example, future studies may examine how variables from one performance episode may influence engagement in a subsequent performance episode. Specifically, we know very little about the existence of a "spill over" effect of the experience during one task to experiences during a subsequent and distinct task. Future research may consider collecting data on consecutive work activities and investigate such possible spillover effects. For example, Quintela and Donovan (2008) conducted an experiment were participants were presented with a bogus task and were provided with different kinds of performance feedback on the task. Participants, who received negative feedback on the task experienced lower self-efficacy and set lower goals on a subsequent task. This effect was mediated by reduced positive and increased negative affect. This kind of spillover effects could also take place across consecutive work activities during a working day having an impact on subsequent feelings of episodic work engagement. For instance, employees who have successfully completed a complex task during a work episode may experience higher levels of self-efficacy during a subsequent work activity. The feeling of higher self-efficacy that spills over to the succeeding task may trigger the person to use the job resources they have available in that task more effectively leading to a higher feeling of episodic work engagement.

Practical Implications

Our findings have provided insights into the antecedents and outcomes of episodic work engagement. Research that takes into account within-person fluctuations has practical implications in terms of job design that directly targets this within-person variability as opposed to general levels of engagement (Dalal, Brummel, Wee, & Thomas, 2008). The knowledge about proximal situational correlates of the transient experience of work engagement can inform practitioners on how to best support a work environment that nurtures work engagement. Our findings showed that episodic job resources have a positive association with work engagement. Therefore, organizations may wish to promote the availability of job resources during specific work activities. For example, providing employees with feedback during a challenging task can help employees maintain their engagement levels during that work activity. Additionally, organizations can learn about certain work activities that require more social support than others and arrange for more staff members to be present during those work activities.

Furthermore, **Chapters 3** to **5** suggest that episodic job resources protected employees' episodic work engagement levels when they confronted episodic hindrance

job demands. According to Petrou, Demerouti, Peeters, Schaufeli, and Hetland (2012) employees may engage in daily proactive behavior, such as job crafting where they seek out job resources and challenges and actively reduce their demands. In their diary study, the authors found that daily job crafting was related to higher levels of daily work engagement. As such, organizations could implement job crafting training programs that may teach employees how to seek out job resources and challenges during work activities (e.g., Gordon et al., 2018), which in turn may help employees to protect their episodic work engagement.

In addition, according to Beal et al. (2005), attentional resources are limited and the allocation of attention towards a specific task is important for a successful performance of the activity. **Chapters 2** to **4** supported this proposition by showing that episodic performance was higher when employees had fewer cognitively interfering thoughts, were more attracted by the task, and were more attentive, enthusiastic, and energetic during a work activity. As such, maximizing the allocation of attentional resources towards a current work activity is important. In **Chapter 4**, we showed how mindfulness protected employees' engagement levels during a work activity high on episodic hindrance job demands. Mindfulness is an experiential state of awareness and attention where the person is focus on the present moment experience with an accepting and non-judgmental attitude (Kabat-Zinn, 1994). By focusing attention and awareness to only what is happening in the present moment, the person can choose to not give attention to thoughts and emotions that are outside of the present moment, such as hypothetical problems and consequences that are outside one's control as they have not even happened (Weick & Putnam, 2006). Because a mindful state promotes the allocation of attentional resources towards the task at hand, it prevents a person from diverting attentional resources to thoughts and emotions that are not connected to the current activity.

In addition to job crafting interventions, organizations could implement mindfulness training programs (Bartlett et al., 2019; Grossman, Niemann, Schmidt, & Walach, 2004; Speca, Carlson, Goodey, & Angen, 2000) that may help employees be better able to direct their attentional resources to the task at hand when confronting episodic hindrance job demands. In this way, the person has the potential to focus the attention on the immediate matter and cope with what is actually happening in the moment and not with hypothetical future scenarios that may make the matter worse (Roeser, Skinner, Beers, & Jennings, 2012).

Conclusion

Taken together, the studies in this dissertation set out to explore episodic fluctuations in work engagement and examined its most proximal antecedents and consequences. We provided a theoretical model of episodic work engagement (see Figure 1) by integrating propositions from the EPM (Beal et al., 2005) and the challenge stressor-hindrance stressor framework (Crawford et al., 2010) in JD-R theory (Bakker & Demerouti, 2014). This thesis tested this theoretical model with four experience sampling studies showing that work engagement is highly dynamic and fluctuates substantially across different work activities during a working day. Our findings show that employees are most engaged and perform best during a work activity when they have access to episodic job resources and experience attraction (i.e. attentional pull) towards the work activity. However, their engagement levels decrease when they experience episodic hindrance demands and cognitive interference during the task. Nevertheless, during a work activity, episodic job resources and mindfulness were found to be factors that can immediately alleviate the detrimental effects of episodic hindrance job demands on the episodic work engagement of an employee. The present research provides a better understanding of the conceptualization of work engagement at the episodic level. We hope that this research will stimulate future research that will increase our understanding of episodic work engagement so that we can improve the episodic wellbeing of employees at work.

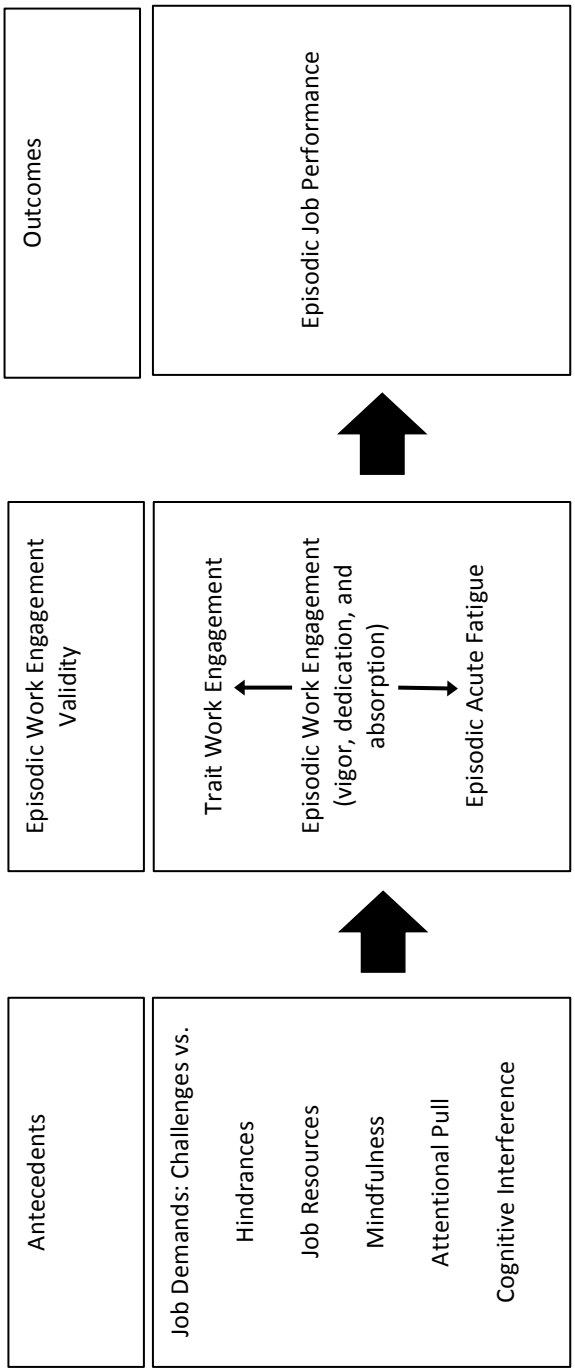

Figure 1. Overview of variables that are included in the studies presented in this dissertation.

References

Abbey, A., Abramis, D. J., & Caplan, R. D. (1985). Effects of different sources of social support and social conflict on emotional Well-Being. *Basic and Applied Social Psychology*, *6*, 111–129. doi: 10.1207/s15324834basp0602_2

Airila, A., Hakanen, J. J., Schaufeli, W. B., Luukkonen, R., Punakallio, A., & Lusa, S. (2014). Are job and personal resources associated with work ability 10 years later? The mediating role of work engagement. *Work & Stress, 28*, 87-105. doi: 10.1080/02678373.2013.872208

Alfes, K., Shantz, A. D., Truss, C., & Soane, E. C. (2013). The link between perceived human resource management practices, engagement and employee behaviour: a moderated mediation model. *The international journal of human resource management*, *24*, 330-351.

Amabile, T. M., Barsade, S. G., Mueller, J. S., & Staw, B. M. (2005). Affect and creativity at work. *Administrative science quarterly*, *50*, 367-403. doi:10.2189/asqu.2005.50.3.367

Ares, G., Giménez, A., Bruzzone, F., Antúnez, L., Sapolinski, A., Vidal, L., & Maiche, A. (2012). Attentional capture and understanding of nutrition labelling: A study based on response times. *International Journal of Food Sciences and Nutrition*, *63*, 679–688. doi: 10.3109/09637486.2011.652598

Baethge, A., Rigotti, T., & Roe, R. A. (2015). Just more of the same, or different? An integrative theoretical framework for the study of cumulative interruptions at work. *European Journal of Work and Organizational Psychology*, *24*, 308-323. doi:10.1080/1359432X.2014.897943

Bakker, A. B. (2014). Daily fluctuations in work engagement: An overview and current directions. *European Psychologist*, *19*, 227–236. doi: 10.1027/1016-9040/a000160

Bakker, A. B., & Bal, M. P. (2010). Weekly work engagement and performance: A study among starting teachers. *Journal of Occupational and Organizational Psychology*, *83*, 189–206. doi: 10.1348/096317909X402596

Bakker, A. B., & Demerouti, E. (2014). Job demands–resources theory. In C. Cooper & P. Chen (Eds.), *Wellbeing: A complete reference guide* (pp. 37–64). Chichester, UK: Wiley-Blackwell.

Bakker, A. B., & Demerouti, E. (2017). Job demands–resources theory: Taking stock and looking forward. *Journal of Occupational Health Psychology*, *22*, 273-285. doi: 10.1037/ocp0000056

Bakker, A. B., & Demerouti, E. (2018). Multiple levels in job demands-resources theory: Implications for employee well-being and performance. In E. Diener, S. Oishi, & L.

Tay (Eds.), *Handbook of wellbeing*. Salt Lake City, UT: DEF Publishers.

Bakker, A. B., Demerouti, E., & Euwema, M. C. (2005). Job resources buffer the impact of job demands on burnout. *Journal of Occupational Health Psychology*, *10*, 170–180. doi:10.1037/1076-8998.10.2.170

Bakker, A. B., Hakanen, J. J., Demerouti, E., & Xanthopoulou, D. (2007). Job resources boost work engagement, particularly when job demands are high. *Journal of Educational Psychology*, *99*, 274–284. doi:10.1037/0022-0663.99.2.274

Bakker, A. B., & Oerlemans, W. G. M. (2011). Subjective well-being in organizations. In K. S. Cameron & G. M. Spreitzer (Eds.), *Handbook of positive organizational scholarship* (pp. 178–189). New York, NY: Oxford University Press. doi:10.1093/oxfordhb/9780199734610.013.0014

Bakker, A. B., & Oerlemans, W. G. (2019). Daily job crafting and momentary work engagement: A self-determination and self-regulation perspective. *Journal of Vocational Behavior*, *112*, 417-430.

Bakker, A.B. & Sanz-Vergel, A.I. (2013). Weekly work engagement and flourishing: The role of hindrance and challenge job demands, *Journal of Vocational Behavior*, 83, 397-409. doi:10.1016/j.jvb.2013.06.008

Bakker, A. B., Van Emmerik, H., & Van Riet, P. (2008). How job demands, resources, and burnout predict objective performance: A constructive replication. *Anxiety, Stress, & Coping*, *21*(3), 309-324.

Barker, R. G. (1963). The stream of behaviour as an empirical problem. In R. G. Barker (Ed.), *The stream of behaviour* (pp. 1–22). New York, U.S.A.: Appleton-Century-Crofts.

Barnes, C. M., & Van Dyne, L. (2009). "I'm tired": Differential effects of physical and emotional fatigue on workload management strategies. *Human Relations*, *62*, 59–92. doi:10.1177/0018726708099518

Baron, R. A., Fortin, S. P., Frei, R. L., Hauver, L. A., & Shack, M. L. (1990) Reducing organizational conflict: The role of socially-induced positive affect. *International Journal of Conflict Management, 1*, 133-152. doi:10.1108/eb022677

Bartlett, L., Martin, A., Neil, A. L., Memish, K., Otahal, P., Kilpatrick, M., & Sanderson, K. (2019). A systematic review and meta-analysis of workplace mindfulness training randomized controlled trials. *Journal of occupational health psychology*, *24*, 108. doi:10.1037/ocp0000146

Beal, D. J., & Weiss, H. M. (2013). The episodic structure of life at work. In A. B. Bakker & K. Daniels (Eds.), *Current issues in work and organizational psychology. A day in the life*

of a happy worker (pp. 8-24). New York: Psychology Press.

Beal, D. J., Weiss, H. M., Barros, E., & MacDermid, S. M. (2005). An episodic process model of affective influences on performance. *The Journal of Applied Psychology*, *90*, 1054–1068. doi: 10.1037/0021-9010.90.6.1054

Behar, L. B. (1977). The preschool behavior questionnaire. *Journal of Abnormal Child Psychology*, *5*, 265–275. doi: 10.1007/BF00913697

Bentler, P. M. (1990). Comparative fit indices in structural models. *Psychological Bulletin*, *107*, 228-246. doi: 10.1037/0033-2909.107.2.238

Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., Segal, Z. V., Abbey, S., Speca, M., Velting, D. and Devins, G. (2004), Mindfulness: A proposed operational definition. *Clinical Psychology: Science and Practice*, *11,* 230–241. doi:10.1093/clipsy.bph077

Breevaart, K., & Bakker, A. B. (2017). Daily job demands and employee work engagement: The role of daily transformational leadership behavior. *Journal of Occupational Health Psychology*, *22*, 338-349. doi:10.1037/ocp0000082

Breevaart, K., Bakker, A. B., Demerouti, E., & Hetland, J. (2012). The measurement of state work engagement. *European Journal of Psychological Assessment*, *28*, 305-312.

Brief, A. P., & George, J. M. (1995). Psychological stress and the workplace: A brief comment on Lazarus outlook. *Occupational stress: a handbook. Philadelphia: Taylor and Francis*, 15-19.

Briggs, S. R., & Cheek, J. M. (1986). The role of factor analysis in the development and evaluation of personality scales. *Journal of Personality*, 54, 106-148. doi: 10.1111/j.1467-6494.1986.tb00391.x

Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of cross-cultural psychology*, *1*, 185-216. doi: 10.1177/135910457000100301

Brown-Iannuzzi, J. L., Adair, K. C., Payne, B. K., Richman, L. S., & Fredrickson, B. L. (2014). Discrimination hurts, but mindfulness may help: Trait mindfulness moderates the relationship between perceived discrimination and depressive symptoms. *Personality and individual differences*, *56*, 201-205. doi: 10.1016/j.paid.2013.09.015

Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of personality and social psychology*, *84*, 822. doi: 10.1037/0022-3514.84.4.822

Calvete, E., Orue, I., & Sampedro, A. (2017). Does the acting with awareness trait of mindfulness buffer the predictive association between stressors and psychological

symptoms in adolescents?. *Personality and individual differences*, *105*, 158-163. doi: 10.1080/15374416.2012.698724

Casimir, G., Waldman, D. A., Bartram, T., & Yang, S. (2006). Trust and the relationship between leadership and follower performance: Opening the black box in australia and china. *Journal of Leadership & Organizational Studies*, *12*, 68–84. doi: 10.1177/107179190601200305

Cavanaugh, M. A., Boswell, W. R., Roehling, M. V, & Boudreau, J. W. (2000). An empirical examination of self-reported work stress among U.S. managers. *The Journal of Applied Psychology*, *85*, 65–74. doi: 10.1037/0021-9010.85.1.65

Christian, M. S., Garza, A. S., & Slaughter, J. E. (2011). Work engagement: A quantitative review and test of its relations with task and contextual performance. *Personnel Psychology*, *64*, 89-136. https://doi.org/10.1111/j.1744-6570.2010.01203.x

Crawford, E. R., Lepine, J. A., & Rich, B. L. (2010). Linking job demands and resources to employee engagement and burnout: A theoretical extension and meta-analytic test. *The Journal of Applied Psychology*, *95*, 834–848. doi: 10.1037/a0019364

Csikszentmihalyi, M., & Hunter, J. (2003). Happiness in everyday life: The uses of experience sampling. *Journal of happiness studies*, *4*, 185-199. doi: 10.1023/A:1024409732742

Dalal, R. S., Brummel, B. J., Wee, S. E. R. E. N. A., & Thomas, L. L. (2008). Defining employee engagement for productive research and practice. *Industrial and organizational psychology*, *1*, 52-55.

Dane, E., & Brummel, B. J. (2014). Examining workplace mindfulness and its relations to job performance and turnover intention. *Human Relations*, *67*, 105-128. doi: 10.1177/0018726713487753

Daniels, K. (2000). Measures of five aspects of affective well-being at work. *Human Relations*, *53*, 275–294. doi:10.1177/a010564

Daniels, K., Beesley, N., Wimalasiri, V., & Cheyne, A. (2013). Problem solving and well-being: Exploring the instrumental role of job control and social support. *Journal of Management*, *39*, 1016–1043. doi: 10.1177/0149206311430262

Daniels, K., Harris, C., & Briner, R. B. (2004). Linking work conditions to unpleasant affect: Cognition, categorization and goals. *Journal of Occupational and Organizational Psychology*, *77*, 343–363. doi: 10.1348/0963179041752628

Demerouti, E., & Bakker, A. B. (2011). The job demands–resources model: Challenges for future research. *South African Journal of Industrial Psychology*, *37*, 1–9. doi:10.4102/sajip.v37i2.974

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, *86*, 499–512. doi:10.1108/02683940710733115

Demerouti, E., & Cropanzano, R. (2010). From thought to action: employee work engagement and job performance. In A. B. Bakker & M. P. Leiter (Eds.), *Work Engagement: A Handbook of Essential Theory and Research* (pp. 147–163). Psychology Press.

Deming, D. J. (2017). The growing importance of social skills in the labor market. *The Quarterly Journal of Economics*, *132*, 1593-1640. doi:10.1093/qje/qjx022.

Diener, E., & Diener, C. (1996). Most people are happy. *Psychological science*, *7*, 181-185. doi:10.1111/j.1467-9280.1996.tb00354.x

Dolcos, F. (2006). Brain systems mediating cognitive interference by emotional distraction. *Journal of Neuroscience*, *26*, 2072–2079. doi: 10.1523/JNEUROSCI.5042-05.2006

Dollard, M. F., & Bakker, A. B. (2010). Psychosocial safety climate as a precursor to conducive work environments, psychological health problems, and employee engagement. *Journal of Occupational and Organizational Psychology*, *83*, 579-599.

Edwards, J. R., & Lambert, L. S. (2007). Methods for integrating moderation and mediation: A general analytical framework using moderated path analysis. *Psychological Methods, 12*, 1-22. doi: 10.1037/1082-989X.12.1.1

Fisher, C. D., & Noble, C. S. (2004). A within-person examination of correlates of performance and emotions while working. *Human Performance*, *17*, 145–168. doi: 10.1207/s15327043hup1702_2

Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational Behavior*, *26*, 331–362. doi: 10.1002/job.322

Garrick, A., Mak, A. S., Cathcart, S., Winwood, P. C., Bakker, A. B., & Lushington, K. (2014). Psychosocial safety climate moderating the effects of daily job demands and recovery on fatigue and work engagement. *Journal of Occupational and Organizational Psychology*, *87*, 694–714. doi:10.1111/joop.12069

Goodman, M. J., & Schorling, J. B. (2012). A mindfulness course decreases burnout and improves well-being among healthcare providers. *The International Journal of Psychiatry in Medicine*, *43*, 119-128. doi: http://dx.doi.org/10.2190/PM.43.2.b

Gordon, H. J., Demerouti, E., Le Blanc, P. M., Bakker, A. B., Bipp, T., & Verhagen, M. A. (2018). Individual job redesign: Job crafting interventions in healthcare. *Journal of Vocational Behavior*, *104*, 98-114.

Grossman, P., Niemann, L., Schmidt, S., & Walach, H. (2004). Mindfulness-based stress

reduction and health benefits: A meta-analysis. *Journal of psychosomatic research*, *57*, 35-43.

Hackman, J. R., & Oldham, G. R. (1980). *Work redesign*. Reading, MA: Addison-Wesley.

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

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

Halbesleben, J. R. B. (2010). A meta-analysis of work engagement: Relationships with burnout, demands, resources, and consequences. In *Work Engagement: A Handbook of Essential Theory and Research* (pp. 102–117). New York, NY: Psychology Press.

Halbesleben, J. R., & Wheeler, A. R. (2008). The relative roles of engagement and embeddedness in predicting job performance and intention to leave. *Work & Stress*, *22*, 242-256.

Harter, J. K., Schmidt, F. L., & Hayes, T. L. (2002). Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: A meta-analysis. *Journal of Applied Psychology*, *87*, 268–279. doi: 10.1037/0021-9010.87.2.268

Hatzigeorgiadis, A., & Biddle, S. J. (2000). Assessing cognitive interference in sport: Development of the Thought Occurrence Questionnaire for Sport. *Anxiety, Stress and Coping*, *13*, 65-86. doi:10.1080/10615800008248334

Hektner, J. M., Csikszentmihalyi, M., & Schmidt, J. A. (2007). *Experience Sampling Method: Measuring the Quality of Everyday Life*. Thousand Oaks, CA: Sage Publications, Inc.

Hobfoll, S. E. (2002). Social and psychological resources and adaptation. *Review of general psychology*, *6*(4), 307-324.

Hopstaken, J. F., van der Linden, D., Bakker, A. B., & Kompier, M. A. (2015). The window of my eyes: Task disengagement and mental fatigue covary with pupil dynamics. *Biological psychology*, *110*, 100-106. doi: 10.1016/j.biopsycho.2015.06.013

Hopstaken, J. F., van der Linden, D., Bakker, A. B., Kompier, M. A. J., & Leung, Y. K. (2016). Shifts in attention during mental fatigue : Evidence from subjective, behavioral, physiological, and eye-tracking data. *Journal of Experimental Psychology: Human Perception and Performance*, *42*, 878–889. doi: 10.1037/xhp0000189

Hox, J. (2010). *Multilevel Analysis. Techniques and Applications* (2nd Editio). New York: Lawrence Erlbaurn Associates, Inc.

Hülsheger, U. R., Alberts, H. J. E. M., Feinholdt, A., & Lang, J. W. B. (2013). Benefits of mindfulness at work: The role of mindfulness in emotion regulation, emotional exhaustion, and job satisfaction. *Journal of Applied Psychology*, *98*, 310-325. doi: 10.1037/a0031313

Hülsheger, U. R., Lang, J. W., Depenbrock, F., Fehrmann, C., Zijlstra, F. R., & Alberts, H. J. (2014). The power of presence: The role of mindfulness at work for daily levels and change trajectories of psychological detachment and sleep quality. *Journal of Applied Psychology*, *99*, 1113. doi: 10.1037/a0037702

Ilies, R., Dimotakis, N., & De Pater, I. E. (2010). Psychological and physiological reactions to high workloads: Implications for well-being. *Personnel Psychology*, *63*, 407–436. doi: 10.1111/j.1744-6570.2010.01175.x

Ilies, R., Schwind, K. M., & Heller, D. (2007). Employee well-being: A multilevel model linking work and nonwork domains. *European journal of work and organizational psychology*, *16*, 326-341. doi 10.1080/13594320701363712

Jonge, J., & Schaufeli, W. B. (1998). Job characteristics and employee well-being: A test of Warr's Vitamin Model in health care workers using structural equation modelling. *Journal of Organizational Behavior*, *19*, 387–407. doi: 10.1002/(sici)1099-1379(199807)19:4<387::aid-job851>3.0.co;2-9

Kabat-Zinn, J. (1994). Wherever you go there you are. New York: Hyperion.

Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, *33*, 692–724. doi: 10.2307/256287

Kahn, R. L., Wolfe, D. M., Quinn, R. P., Snoek, J. D., & Rosenthal, R. A. (1964). *Organizational stress: Studies in role conflict and ambiguity.* New York: Wiley

Kanfer, R., Ackerman, P. L., Murtha, T. C., Dugdale, B., & Nelson, L. (1994). Goal setting, conditions of practice, and task performance: A resource allocation perspective. *Journal of Applied Psychology*, *79*, 826-835.

Kline, R. N. (2005). *Principles and practice of structural equation modeling* (2nd ed.). New York, NY: Guilford Press.

Kühnel, J., Sonnentag, S. and Bledow, R. (2012), Resources and time pressure as day-level antecedents of work engagement. *Journal of Occupational and Organizational Psychology*, *85*: 181–198. doi:10.1111/j.2044-8325.2011.02022.x

Kurosawa, K., & Harackiewicz, J. M. (1995). Test anxiety, self-awareness, and cognitive interference: A process analysis. *Journal of personality*, *63*, 931-951.

doi:10.1111/j.1467-6494.1995

Lee, R. T., & Ashforth, B. E. (1996). A meta-analytic examination of the correlates of the three dimensions of job burnout. *Journal of Applied Psychology*, *81*, 123–133. doi: 10.1037/0021-9010.81.2.123

LePine, J. A., LePine, M., & Jackson, C. L. (2004). Challenge and hindrance stress: Relationships with exhaustion, motivation to learn, and learning performance. *Journal ofApplied Psychology, 89,* 883-891. doi: 10.1037/0021-9010.89.5.883

LePine, J. A., Podsakoff, N. P., & LePine, M. A. (2005). A meta-analytic test of the challenge stressor–hindrance stressor framework: An explanation for inconsistent relationships among stressors and performance. *Academy of Management Journal*, *48*, 764-775. doi:10.5465/amj.2005.18803921

Leroy, H., Anseel, F., Dimitrova, N. G., & Sels, L. (2013). Mindfulness, authentic functioning, and work engagement: A growth modeling approach. *Journal of Vocational Behavior*, *82*, 238-247. doi: 10.1016/j.jvb.2013.01.012

Luthans, F., & Youssef, C. M. (2007). Emerging positive organizational behavior. *Journal of management*, *33*, 321-349.

Maas, C. J., & Hox, J. J. (2005). Sufficient sample sizes for multilevel modeling. *Methodology, 1*, 86-92. doi: 10.1027/1614-1881.1.3.86

Marco, C. A., & Suls, J. (1993). Daily stress and the trajectory of mood: Spillover, response assimilation, contrast, and chronic negative affectivity. *Journal of Personality and Social Psychology*, *64*, 1053–1063. doi: 10.1037/0022-3514.64.6.1053

Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual review of psychology*, *52*, 397-422.

McCarthy, P. J., Allen, M. S., & Jones, M. V. (2013). Emotions, cognitive interference, and concentration disruption in youth sport. *Journal of Sports Sciences*, *31*, 505–515. doi: 10.1080/02640414.2012.738303

Merlo, K. L., Shaughnessy, S. P., & Weiss, H. M. (2017). Affective influences on within-person changes in work performance as mediated by attentional focus. *European Journal of Work and Organizational Psychology*, 1-14. doi: 10.1080/1359432X.2017.1417258

Meyers, C. M., Woerkom, M. van, & Bakker, A. B. (2013). The added value of the positive: A literature review of positive psychology interventions in organizations. *European Journal of Work and Organizational Psychology*, *22*, 618–632. Doi:10.1080/1359432X.2012.694689

Miao, C. F., & Evans, K. R. (2007) The impact of salesperson motivation on role perceptions and job performance—A cognitive and affective perspective, *Journal of Personal Selling & Sales Management*, 27, 89-101, doi: 10.2753/ PSS0885-3134270106

Muthén, L. K., & Muthén, B. O. (2015). *Mplus user's guide (7th ed.)*. Muthén & Muthén, Los Angeles, CA.

Nunnally, J.C. (1978), Psychometric Theory, 2nd ed., McGraw-Hill, New York, NY.

Nyklíček, I., & Kuijpers, K. F. (2008). Effects of mindfulness-based stress reduction intervention on psychological well-being and quality of life: is increased mindfulness indeed the mechanism?. *Annals of Behavioral Medicine*, *35*, 331-340. doi: 10.1007/s12160-008-9030-2

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

Oldham, G. R., Kulik, C. T., & Stepina, L. P. (1991). Physical environments and employee reactions: Effects of stimulus-screening skills and job complexity. *Academy of Management Journal*, *34*, 929-938. doi:10.5465/256397

Oswald, A. J., Proto, E., & Sgroi, D. (2015). Happiness and productivity. *Journal of Labor Economics*, *33*, 789-822. doi:10.1086/681096

Ota, K. R., & DuPaul, G. J. (2002). Task engagement and mathematics performance in children with attention-deficit hyperactivity disorder: Effects of supplemental computer instruction. *School Psychology Quarterly*, *17*, 242. doi: 0.1521/scpq.17.3.242.20881

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

Peugh, J. L., & Enders, C. K. (2004). Missing data in educational research: A review of reporting practices and suggestions for improvement. *Review of Educational Research*, *74*, 525–556. doi: 10.3102/00346543074004525

Preacher, K. J., Curran, P. J., & Bauer, D. J. (2006). *Probing interactions in multiple linear regression, latent curve analysis, and hierarchical linear modeling: Interactive calculation tools for establishing simple intercepts, simple slopes, and regions of significance* [Computer software]. Available from http:// quantpsy.org/

Quintela, Y., & Donovan, J. J. (2008). A model of motivational spillover. In K. H. Kiefer (Ed.), *Applied psychology research trends* (pp. 141-159). Hauppauge, NY, US: Nova Science Publishers.

Razza, R. A., Bergen-Cico, D., & Raymond, K. (2015). Enhancing preschoolers' self-regulation via mindful yoga. *Journal of Child and Family Studies*, *24*, 372–385. doi: 10.1007/s10826-013-9847-6

Reina-Tamayo, A. M., Bakker, A. B., & Derks, D. (2017). Episodic demands, resources, and engagement: An experience-sampling study. *Journal of Personnel Psychology, 16*, 125-136. doi: 10.1027/1866-5888/a000177

Reina-Tamayo, A.M., Bakker, A.B., & Derks, D. (2018). The work engagement-performance link: An episodic perspective. *Career Development International*, *23*, 478-496. doi: 10.1108/CDI-10-2017-0179

Reis, D., Arndt, C., Lischetzke, T., & Hoppe, A. (2016). State work engagement and state affect: Similar yet distinct concepts. *Journal of Vocational Behavior*, *93*, 1–10. doi: 10.1016/j.jvb.2015.12.004

Rodell, J. B., & Judge, T. A. (2009). Can "good" stressors spark "bad" behaviors? The mediating role of emotions in links of challenge and hindrance stressors with citizenship and counterproductive behaviors. *Journal of Applied Psychology*, *94*, 1438–1451. doi: 10.1037/a0016752

Roeser, R. W., Skinner, E., Beers, J., & Jennings, P. A. (2012). Mindfulness training and teachers' professional development: An emerging area of research and practice. *Child Development Perspectives*, *6*, 167-173.

Rosenzweig, S., Greeson, J. M., Reibel, D. K., Green, J. S., Jasser, S. A., & Beasley, D. (2010). Mindfulness-based stress reduction for chronic pain conditions: variation in treatment outcomes and role of home meditation practice. *Journal of psychosomatic research*, *68*, 29-36. doi: 10.1016/j.jpsychores.2009.03.010

Rueckert, L., & Naybar, N. (2008). Gender differences in empathy: The role of the right hemisphere. *Brain and Cognition*, *67*, 162–167. doi: 10.1016/j.bandc.2008.01.002

Russell, J. (1980). A circumplex model of affect. *Journal of Personality and Social Psychology*, *39*, 1161-1178. doi:10.1037/h0077714

Ruz, M., & Lupiáñez, J. (2002). A review of attentional capture: On its automaticity and sensitivity to endogenous control. *Psicológica*, *23*, 283–309. Retrieved from http://psycnet.apa.org/psycinfo/2002-08551-005

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American psychologist*, *55*, 68-78. doi:10.1037110003-066X.55.1.68

Salanova, M., Agut, S., & Peiró, J. M. (2005). Linking organizational resources and work engagement to employee performance and customer loyalty: The mediation of

service climate. *Journal of applied Psychology*, *90*, 1217-1227.

Salanova, M., Schaufeli, W., Llorens, S., Peiró, J., & Grau, R. (2000). Desde el" burnout" al" Engagement". *Una nueva perspectiva*, *16*, 117-134.

Sarason, I. G., Sarason, B. R., Keefe, D. E., Hayes, B. E., & Shearin, E. N. (1986). Cognitive interference: Situational determinants and traitlike characteristics. *Journal of Personality and Social Psychology*, *51*, 215–226. doi: 10.1037/0022-3514.51.1.215

Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior*, *25*, 293–315. doi:10.1002/job.248

Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement*, *66*, 701–716. doi: 10.1177/0013164405282471

Schaufeli, W. B., Salanova, M., Gonzales-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two-sample confirmatory factor analytic approach. *Journal of Happiness Studies*, *3*, 71–92. doi:10.1023/A:1015630930326

Schussler, D. L. (2009). Beyond content: How teachers manage classrooms to facilitate intellectual engagement for disengaged students. *Theory Into Practice*, *48*, 114–121. doi: 10.1080/00405840902776376

Selig, J. P., & Preacher, K. J. (2008). Monte Carlo method for assessing mediation: An interactive tool for creating confidence intervals for indirect effects [Computer software]. Available from http://quantpsy.org/.

Shapiro, S. L., Schwartz, G. E., & Bonner, G. (1998). Effects of mindfulness-based stress reduction on medical and premedical students. *Journal of behavioral medicine*, *21*, 581-599. doi: 10.1023/A:1018700829825

Simbula, S. (2010). Daily fluctuations in teachers' well-being: a diary study using the Job Demands-Resources model. *Anxiety, Stress, and Coping*, *23*, 563–584. doi: 10.1080/10615801003728273

Sonnentag, S. (2003). Recovery, work engagement, and proactive behavior: a new look at the interface between nonwork and work. *Journal of applied psychology*, *88*, 518-528.

Sonnentag, S. (2017). A task-level perspective on work engagement: A new approach that helps to differentiate the concepts of engagement and burnout. *Burnout Research*, *5*, 12-20. doi:10.1016/j.burn.2017.04.001

Sonnentag, S., Dormann, C., & Demerouti, E. (2010). Not all days are created equal : the

concept of state work engagement. In A. B. Bakker, & M. P. Leiter (Eds.), *Work engagement : a handbook of essential theory and research* (pp. 25-38). Hove: Psychology Press.

Sonnentag, S., & Ilies, R. (2011). Intra-individual processes linking work and employee well-being: Introduction into the special issue. *Journal of Organizational Behavior*, *32*, 521-525. doi:10.1002/job.757

Sonnentag, S., & Zijlstra, F. R. H. (2006). Job characteristics and off-job activities as predictors of need for recovery, well-being, and fatigue. *Journal of Applied Psychology*, *91*, 330–350. doi: 10.1037/0021-9010.91.2.330

Speca, M., Carlson, L. E., Goodey, E., & Angen, M. (2000). A randomized, wait-list controlled clinical trial: the effect of a mindfulness meditation-based stress reduction program on mood and symptoms of stress in cancer outpatients. *Psychosomatic medicine*, *62*, 613-622.

Speier, C., Valacich, J. S., & Vessey, I. (1999). The influence of task interruption on individual decision making: An information overload perspective. *Decision Sciences*, *30*, 337–360. doi: 10.1111/j.1540-5915.1999.tb01613.x

Steiger, J. H. (1990). Structural model evaluation and modification: An interval estimation approach. *Multivariate Behavioral Research*, *25*, 173-180. doi: 10,1207/s1532790mbr2502_4

Streiner, D. L. (2005). Finding our way: An introduction to path analysis. *Canadian Journal of Psychiatry*, *50*, 115–122. doi: 10.1177/070674370505000207

Tadić, M., Bakker, A. B. and Oerlemans, W. G. M. (2015), Challenge versus hindrance job demands and well-being: A diary study on the moderating role of job resources. *Journal of Occupational and Organizational Psychology*, *88*, 702–725. doi:10.1111/joop.12094

Tadić M., Oerlemans, W. G. M., & Bakker, A. B. (2017) How challenging was your work today? The role of autonomous work motivation, *European Journal of Work and Organizational Psychology*, *26*, 81-93.

Taylor, N. Z., & Millear, P. M. R. (2016). The contribution of mindfulness to predicting burnout in the workplace. *Personality and Individual Differences*, *89*, 123-128. doi: 10.1016/j.paid.2015.10.005

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

Tucker, L. R., & Lewis, C. (1973). A reliability coefficient for maximum likelihood factor analysis. *Psychometrica*, *38*, 1-10. doi:10.1007/BF02291170

Valkeneers, G., Bossaert, C., & Buys, I. (2011). Het taakkenmerken model. Een update en empirische toets van het hernieuwde model. [The job characteristics model. An update and empirical test of the renewed model]. *Over.Werk. Tijdschrift van Het Steunpunt WSE*, *21*, 69–74.

Van Dam, N. T., Earleywine, M., & Borders, A. (2010). Measuring mindfulness? An item response theory analysis of the Mindful Attention Awareness Scale. *Personality and Individual Differences*, *49*, 805-810. doi: 10.1016/j.paid.2010.07.020

Van den Heuvel, M., Demerouti, E., & Peeters, M. C. W. (2015). The job crafting intervention: Effects on job resources, self-efficacy, and affective well-being. *Journal of Occupational and Organizational Psychology*, *88*, 511–532. doi:10.1111/joop.12128

Van Veldhoven, M., & Meijman, T. F. (1994). *Het meten van psychosociale arbeidsbelasting met een vragenlijst: De Vragenlijst Beleving en Beoordeling van de Arbeid* [The measurement of psychosocial strain at work: the questionnaire experience and evaluation of work]. Amsterdam: NIA.

Van Wingerden, J., Bakker, A. B., & Derks, D. (2017a). Fostering employee well-being via a job crafting intervention. *Journal of Vocational Behavior*, *100*, 164–174. doi:10.1016/j.jvb.2017.03.008

Van Wingerden, J., Bakker, A. B., & Derks, D. (2017b). The longitudinal impact of a job crafting intervention. *European Journal of Work and Organizational Psychology*, *26*, 107–119. doi:10.1080/1359432X.2016.1224233

Van Wingerden, J., Derks, D. and Bakker, A. B. (2017), The impact of personal resources and job crafting interventions on work engagement and performance. *Human Resource Management*, 56, 51–67. doi:10.1002/hrm.21758

Varela, P., Antúnez, L., Silva Cadena, R., Giménez, A., & Ares, G. (2014). Attentional capture and importance of package attributes for consumers' perceived similarities and differences among products: A case study with breakfast cereal packages. *Food Research International*, *64*, 701–710. doi: 10.1016/j.foodres.2014.08.015

Weick, K. E., & Putnam, T. (2006). Organizing for mindfulness: Eastern wisdom and Western knowledge. *Journal of management inquiry*, *15*, 275-287. doi: 10.1177/1056492606291202

Weiss, H. M., Ashkanasy, N. M., & Beal, D. J. (2004). Attentional and regulatory mechanisms of momentary work motivation and performance. In J. P. Forgas, K. D. Williams, & S. M. Laham (Eds.), *Social motivation: Conscious and unconscious processes* (pp. 314–331). Cambridge: Cambridge University Press.

doi:10.1017/CBO9780511735066.019

Wilkinson-Tough, M., Bocci, L., Thorne, K., & Herlihy, J. (2010). Is mindfulness-based therapy an effective intervention for obsessive-intrusive thoughts: A case series. *Clinical Psychology and Psychotherapy*, *17*, 250–268. doi:10.1002/cpp.665

Winwood, P. C., Winefield, A. H., Dawson, D., & Lushington, K. (2005). Development and validation of a scale to measure work-related fatigue and recovery: The Occupational Fatigue Exhaustion/Recovery scale (OFER). *Journal of Occupational and Environmental Medicine*, *47*, 594–606. doi:10.1097/01.jom.0000161740.71049.c4

Woerkom, M. Van, Bakker, A. B., Nishii, L. H., & Bakker, A. B. (2015). Accumulative job demands and support for strength use: Fine-tuning the job demands-resources model using conservation of resources theory. *Journal of Applied Psychology*, *101*, 1–10. doi:10.1037/apl0000033

Wyble, B., Folk, C., & Potter, M. C. (2013). Contingent attentional capture by conceptually relevant images. *Journal of Experimental Psychology: Human Perception and Performance*, *39*, 861–871. doi: 10.1037/a0030517

Xanthopoulou, D., & Bakker, A. B. (2013). State work engagement: The significance of within-person fluctuations. In A. B. Bakker & K. Daniels (Eds.), *A Day in the Life of a Happy Worker* (pp. 25–40). East Sussex: Psychology Press. doi: 10.4324/9780203078990

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

Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2009b). Reciprocal relationships between job resources, personal resources, and work engagement. *Journal of Vocational Behavior*, *74*, 235–244. doi: 10.1016/j.jvb.2008.11.003

Xanthopoulou, D., Bakker, A. B., Dollard, M. F., Demerouti, E., Schaufeli, W. B., Taris, T. W., & Schreurs, P. J. G. (2007). When do job demands particularly predict burnout? The moderating role of job resources. *Journal of Managerial Psychology*, *22*, 766–786. doi:10.1108/02683940710837714

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

Nederlandse samenvatting

Summary in Dutch

Positieve emoties zoals blijdschap en interesse zijn fundamentele menselijke ervaringen die voor de meeste mensen belangrijk zijn (Diener & Diener, 1996). Aangezien mensen veel tijd per week op hun werk doorbrengen, is het belangrijk om rekening te houden met de manier waarop er wordt omgegaan met positieve emoties op de werkvloer. Een belangrijk concept waarin positieve emoties een belangrijke rol spelen is bevlogenheid – een werk-gerelateerde positieve affectieve staat die gekenmerkt wordt door vitaliteit, toewijding en absorptie (Schaufeli, Salanova, González-Romá, & Bakker, 2002). De vitaliteitdimensie van bevlogenheid verwijst naar een hoge mate van energie en doorzettingsvermogen tijdens het werk wat resulteert in het leveren van veel inspanning (Salanova et al., 2000; Schaufeli et al., 2002). De tweede dimensie, toewijding, vertegenwoordigt een hoge mate van enthousiasme, trots, inspiratie, uitdaging, en betekenis ten aanzien van het werk. Tenslotte wordt absorptie gekenmerkt door volledige concentratie op de taak, waarbij het gevoel overheerst dat de tijd voorbij vliegt en men volledig opgaat in het werk.

Bevlogenheid is tot op heden voornamelijk onderzocht als een construct dat relatief stabiel is over de tijd (voor meta-analyses, zie Christian, Garza, & Slaughter, 2011; Crawford, LePine, & Rich, 2010; Halbesleben, 2010). Echter, naast verschillen *tussen* mensen in hoe bevlogen ze zijn, is er in het laatste decennium aangetoond dat er ook verschillen in bevlogenheid zijn *binnen* mensen, zogenaamde intra-individuele variaties in bevlogenheid (Bakker, 2014). Dit betekent dat mensen die over het algemeen bevlogen zijn, ook wel eens dagen hebben ze minder enthousiast zijn over hun werk. Of omgekeerd, mensen die niet zo bevlogen zijn kunnen onderdelen of taken op hun werk hebben waar ze wel enthousiast over zijn. Kahn (1990) was de eerste onderzoeker die de ervaring van bevlogenheid benoemde als een kortstondige staat die kan fluctueren gedurende de werkdag. Door middel van interviews stelde hij vast dat de mate waarin mensen opgingen in een taak varieerde gedurende de werkdag. Later, verklaarden Sonnentag, Demerouti en Dormann (2010) dat het bestuderen van de fluctuaties in bevlogenheid binnen één persoon over de dagen heen een aanvulling zou kunnen zijn op het traditionele perspectief van bevlogenheid als een stabiel construct. Hieruit kunnen we afleiden dat bevlogenheid tevens kan worden onderzocht als een toestand die varieert over kortere tijdsperioden gedurende de werkdag. We verwijzen naar deze korte-termijn bevlogenheid als episodische bevlogenheid.

De studies die zijn opgenomen in dit proefschrift zijn uitgevoerd om vier onderzoeksvragen te beantwoorden, namelijk: (1) In welke mate fluctueert de bevlogenheid van een individu gedurende de werkdag?; (2) Wat zijn de voorspellers van

episodische bevlogenheid?; (3) Wat zijn mogelijke moderatoren die de relatie tussen episodische bevlogenheid en haar antecedenten beïnvloeden?; en (4) Hoe verhouden bevlogenheid en werkprestatie zich tot elkaar op het episodische niveau? Als resultaat biedt dit proefschrift inzicht in de dynamische aard van episodische bevlogenheid. Nu volgt er per onderzoeksvraag een korte samenvatting van de hoofdbevindingen.

Onderzoeksvraag 1: In welke mate fluctueert de bevlogenheid van een individu gedurende de werkdag?

Kahn (1990) was de eerste die het concept bevlogenheid voorstelde als een temporeel, episodisch, en dynamisch construct. Hij definieerde werk-gerelateerde bevlogenheid als "the harnessing of organization members' selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances" (p. 694). Bevlogenheid heeft hier betrekking op het volledig benutten van de capaciteiten—fysiek, cognitief en emotioneel—van werknemers binnen de werkrollen die ze vervullen. Centraal in dit proefschrift staat de nauwelijks gebruikte conceptualisatie van bevlogenheid als een episodisch, temporeel dynamisch construct, waarbij de focus ligt op bevlogenheid tijdens werkactiviteiten.

In de **Hoofdstukken 2** tot en met **5** is consistent te zien dat bevlogenheid een concept is dat zowel tussen personen als binnen personen fluctueert. Conceptueel gezien is episodische bevlogenheid vergelijkbaar met langdurige werkbevlogenheid, aangezien beide een zekere mate van vitaliteit, toewijding en absorptie reflecteren. Toch zijn er ook verschillen; zo is episodische bevlogenheid gericht op een specifieke werkactiviteit en niet op werk in algemene zin. Dit betekent dat een werknemer over het *geheel genomen* bevlogen kan zijn op het werk, en tegelijkertijd niet bevlogen hoeft te zijn tijdens een bepaalde *specifieke taak*. Dit tijdelijk karakter van bevlogenheid wordt weerspiegeld in de grote variantie in episodische bevlogenheid in de vier gepresenteerde *experience sampling* studies. De resultaten laten zien dat de bevlogenheid van een werknemer kortdurend is en er variaties plaatsvinden in de mate van bevlogenheid gedurende een werkdag. Tijdens de ene activiteit kan een werknemer heel enthousiast, energiek en geconcentreerd zijn, terwijl dit tijdens een andere activiteit mogelijk veel minder het geval is.

Onze bevindingen laten daarnaast zien dat episodische bevlogenheid samenhangt met andere temporele variabelen, zoals prestatie en vermoeidheid. Wanneer werknemers in hoge mate enthousiast zijn en helemaal opgaan in de taak die ze uitvoeren (dus episodische bevlogenheid ervaren), voelen werknemers zich minder vermoeid tijdens deze

werkactiviteit, en presteren ze beter. Langdurige bevlogenheid is anders dan deze episodische staat van bevlogenheid omdat langdurige bevlogenheid een meer stabiele (en ook gemiddelde) staat weerspiegelt, en samenhangt met meer langdurige variabelen, zoals burn-out en algemene werkprestatie zoals beoordeeld gedurende het jaarlijkse functioneringsgesprek. In lijn hiermee laten we in **Hoofdstukken 2** en **3** zien dat er een positieve samenhang is tussen deze twee concepten. Hiermee bedoelen we dat werknemers die in het algemeen meer bevlogen zijn, gemiddeld vaker een staat van episodische bevlogenheid ervaren. Iemand die bijvoorbeeld in het algemeen een hoge mate van enthousiasme en energie ervaart en meestal zeer geconcentreerd aan het werk is, zal gedurende verschillende werkactiviteiten een hogere mate van vitaliteit, toewijding en absorptie ervaren. Uiteraard zullen de niveaus van episodische bevlogenheid van deze persoon fluctueren tussen verschillende werkactiviteiten, maar ze zullen op een hoger algemeen niveau fluctueren in vergelijking tot een persoon die in het algemeen minder bevlogen is op het werk. Dit onderstreept het belang van onderzoek naar bevlogenheid tijdens korte werkepisodes, daar het een aanvullende blik op langdurige werkbevlogenheid biedt en bijdraagt aan een beter begrip en meer verfijnde conceptualisatie van bevlogenheid.

Onderzoeksvraag 2: Wat zijn de voorspellers van episodische bevlogenheid?

Aan de hand van vier studies hebben we laten zien dat gemiddeld gezien 62% van de variantie in bevlogenheid kan worden verklaard door episodische fluctuaties in bevlogenheid binnen dezelfde persoon op dezelfde dag. We weten dat op algemeen en dagelijks niveau de Job Demands-Resources (JD-R) theorie (Bakker & Demerouti, 2014) beschrijft dat hulpbronnen een motivatieproces initiëren, en dat deze bronnen de belangrijkste voorspellers zijn van bevlogenheid. Er is echter weinig bekend over de episodische fluctuaties van hulpbronnen en taakeisen en hun invloed op episodische bevlogenheid. Onze studies zijn daarom de eerste waarin de processen, die voorgesteld worden door JD-R theorie, op het episodische niveau getoetst worden. De hypotheses betreffen een integratie van de proposities van het episodic process model (EPM) of performance (Beal et al., 2005) en het challenge stressor-hindrance stressor raamwerk (Lepine et al., 2005).

Kortom, **Hoofstukken 2** tot en met **5** bevatten de eerste studies die een geïntegreerde inspanning leveren om de meest proximale voorspellers van episodische bevlogenheid in kaart te brengen. Onze voorspellers zijn gebaseerd op een stevig

theoretisch kader, namelijk JD-R theorie. We hebben JD-R theorie uitgebreid door proposities te integreren van nieuwe theoretische kaders, zoals het EPM en het challenge stressor-hindrance stressor raamwerk. Op basis van deze hoofdstukken kan er geconcludeerd worden dat wanneer werknemers gedurende een werkactiviteit meer toegang hebben tot hulpbronnen in hun werkomgeving, en wanneer deze werkactiviteit sterker de aandacht trekt van werknemers, ze meer bevlogen zijn. Werknemers zijn daarentegen minder geneigd op te gaan in de taak en door te zetten tijdens een werkactiviteit wanneer zij gedachten hebben die niet gerelateerd zijn aan de activiteit zelf (d.w.z., cognitieve interferentie) of wanneer ze belemmerende taakeisen het hoofd moeten bieden, zoals een conflict met een collega of het uitvoeren van een taak waarvan het doel niet duidelijk is.

Onderzoeksvraag 3: Wat zijn de moderatoren die de relatie tussen episodische bevlogenheid en haar antecedenten beïnvloeden?

Een andere propositie van JD-R theorie is dat hulpbronnen interacteren met taakeisen in het voorspellen van bevlogenheid. We hebben deze propositie getoetst op het episodische niveau. Samengevat, in **hoofdstukken 3** tot en met **5**, hebben wij gevonden dat mindfulness en werk-gerelateerde hulpbronnen belangrijk zijn voor bevlogenheid, omdat zij direct een verlichtend effect hebben wanneer werknemers belemmerende taakeisen het hoofd moeten bieden gedurende een werkactiviteit. Onze resultaten laten zien dat wanneer iemand in staat is zijn of haar aandacht op het hier en nu te richten (een van de basisgedachten van mindfulness) tijdens het krijgen van een onduidelijke instructie of wanneer men te maken heeft met gedoe, deze persoon zijn of haar gevoel van bevlogenheid kan vasthouden. Als de gedachten van die persoon daarentegen afdwalen naar hypothetische scenario's van mislukking tijdens het ervaren van belemmeringen en moeilijkheden, dan zal de bevlogenheid van deze persoon juist afnemen. Op deze manier hebben we ontdekt dat zowel mindfulness als hulpbronnen bescherming kunnen bieden in situaties waarin personen te maken krijgen met episodische belemmerende taakeisen. Het hebben van cognitieve interfererende gedachten versterkt daarentegen de relatie tussen episodische taakeisen en episodische vermoeidheid. Daarnaast blijkt dat wanneer werknemers belemmerende taakeisen ervaren, zij niet in staat zijn hun hulpbronnen te gebruiken om bevlogen te zijn tijdens hun primaire werkactiviteiten.

Onderzoeksvraag 4: Hoe verhouden werkbevlogenheid en werkprestatie zich tot elkaar op het episodische niveau?

Het idee dat bevlogen werknemers goed presteren is niet nieuw. Een meta-analyse van Halbesleben (2010) laat bijvoorbeeld zien dat langdurige bevlogenheid consistent positief gerelateerd is aan werkprestatie (ρ = .36). Recente studies laten tevens zien dat hoe hoger de bevlogenheid van werknemers is, des te beter zij scoren op hun in-rol en extra-rol prestatie (Halbesleben & Wheeler, 2008), des te tevredener de klanten zijn (Salanova, Agut, & Peiro, 2005), en des te hoger de prestatie van gehele bedrijfsunit is (Harter, Schmidt, & Hayes, 2002). In lijn met eerder onderzoek laat ik in **Hoofdstukken 2** tot en met **4** zien dat werknemers die meer hulpbronnen ter beschikking hebben gedurende een werkactiviteit hogere niveaus van bevlogenheid bereiken gedurende die werkactiviteit en beter presteren op hun taak. Prestatie gedurende een werkactiviteit is daarmee gerelateerd aan het enthousiasme, de energie en de absorptie van de werknemer gedurende die werkactiviteit.

Conclusie

In de studies gebundeld in dit proefschrift hebben onderzocht of bevlogenheid ook over verschillende episodes binnen een werkdag fluctueert. Ook hebben we de meest proximale voorspellers en uitkomsten hiervan in kaart gebracht. We hebben een theoretisch model van episodische bevlogenheid gepresenteerd, waarbij we de proposities van het EPM (Beal et al., 2005) en het *challenge stressor-hindrance stressor* raamwerk (Crawford, Lepine, & Rich, 2010) hebben geïntegreerd in de JD-R theorie (Bakker & Demerouti, 2014). In dit proefschrift hebben we dit theoretisch model getoetst met vier *experience sampling* studies waarin we laten zien dat bevlogenheid zeer dynamisch van karakter is en substantieel fluctueert tussen verschillende werkactiviteiten gedurende een werkdag. Onze bevindingen laten zien dat werknemers het meest bevlogen zijn en het beste presteren tijdens een werkactiviteit wanneer zij toegang hebben tot episodische hulpbronnen in de werkomgeving en als ze zich aangetrokken voelen tot deze werkactiviteit (d.w.z., *attentional pull*). De mate van bevlogenheid neemt juist af wanneer ze episodische belemmerende taakeisen ervaren en wanneer zij gedachten hebben die hun aandacht afleid van de werkactiviteit zelf (cognitieve interferentie). Desalniettemin bleken episodische hulpbronnen en mindfulness tijdens een werkactiviteit factoren te zijn die onmiddellijk de nadelige effecten van belemmerende episodische taakeisen op de episodische bevlogenheid van een werknemer kunnen

verlichten. Het huidige onderzoek biedt een beter begrip van de conceptualisatie van bevlogenheid op het episodische niveau. Wij hopen dat dit onderzoek als stimulans zal dienen voor toekomstig onderzoek naar episodische bevlogenheid, zodat onze kennis over dit fenomeen zal toenemen en we hiermee het welbevinden van werknemers kunnen verbeteren.

CV and Publications

Curriculum Vitae

Andrea M. Reina-Tamayo was born on June 12, 1987 in Bogotá, Colombia. From 2006 to 2011, she studied Psychology and obtained a Bachelor degree (First Class Honours) at Brock University (St. Catharines, Canada). From 2011 to 2012, she studied Work and Organizational Psychology and obtained her Master degree cum laude at Maastricht University. Then in 2012, she worked as an international recruitment coordinator for one year at Yacht (Eindhoven, the Netherlands). In June 2013, Andrea started her PhD research in the department of Work and Organizational Psychology at Erasmus University Rotterdam (the Netherlands), which resulted in the studies presented in this dissertation. Currently, she is working as a Talent Development Manager at Bright Society (Eindhoven, the Netherlands).

Publications

Peer-reviewed Papers in Thesis

Reina-Tamayo, A.M., Bakker, A.B., & Derks, D. (2018). The work engagement-performance link: An episodic perspective. *Career Development International*, *23*, 478-496. DOI 10.1108/CDI-10-2017-0179.

Reina-Tamayo, A.M., Bakker, A.B., & Derks, D. (2017). Episodic demands, resources, and engagement: An experience sampling study. *Journal of Personnel Psychology*, *16*, 125-136. DOI: 10.1027/1866-5888/a000177.

Other peer-reviewed publications

Visser, B. A., Pozzebon, J. A., & Reina-Tamayo, A. M. (2014). Status-driven risk taking: Another "dark" personality? *Canadian Journal of Behavioural Science / Revue canadienne des sciences du comportement, 46*, 485-496. DOI: 10.1037/a0034163

Manuscripts Submitted for Publication

Reina-Tamayo, A.M., Bakker, A.B., & Derks, D. (2019). Challenge and Hindrance Stressors in JD-R theory: An Experience Sampling Study

Reina-Tamayo, A.M., Bakker, A.B., & Derks, D. (2019). Episodic Work Engagement: The Role of Job Demands, Resources, and Mindfulness.

Conference Presentations

Reina-Tamayo, A.M., Bakker, A.B., & Derks, D. (2017). *Attentional pull and cognitive interference during work activities: Implications for work engagement and performance.* Presentation at the European Association for Work & Organizational Psychology (EAWOP) Congress, Dublin.

Reina-Tamayo, A.M., Bakker, A.B., & Derks, D. (2016). *Attentional pull of work activities: Implications for episodic demands, engagement, and performance*. Presentation at Conference of the Dutch Association for Work and Organizational Psychology (WAOP), Rotterdam.

Reina-Tamayo, A.M., Bakker, A.B., Derks, D., & Oerlemans W. G. M. (2015). *Construct validity of momentary work engagement: An experience sampling study*. Symposium presentation at European Association for Work & Organizational Psychology (EAWOP) Congress, Oslo.

Reina-Tamayo, A.M., Bakker, A.B., Derks, D., & Oerlemans W. G. M. (2014). *How engaged do you feel right now? A smartphone study on momentary work engagement*. Pitch at Graduate Research Day (GRD) at Erasmus University Rotterdam, Rotterdam.

Reina-Tamayo, A.M., Bakker, A.B., Derks, D., & Oerlemans W. G. M. (2014). *How engaged do you feel right now? A smartphone study on momentary work engagement*. Presentation at Conference of the Dutch Association for Work and Organizational Psychology (WAOP), Utrecht.

Reina-Tamayo, A.M., Bakker, A.B., Derks, D., & Oerlemans W. G. M. (2014). *How engaged do you feel right now? A smartphone study on momentary work engagement*. Presentation at the European Conference of Positive Psychology (ECPP), Amsterdam.

Reina-Tamayo, A.M., Gómez-Molinero R. M., Balius D., Zijlstra F. R.H., & Uitdewilligen S. (2013). *Off-job recovery experiences matter! Rumination, problem-solving, and detachment as predictors of creative thinking at work.* Presentation at the European Association for Work & Organizational Psychology (EAWOP) small group meeting on innovation in organizations, initiative, and creativity: A dialectic perspective, Valencia.

Reina-Tamayo, A.M., Gómez-Molinero R. M., Balius D., Zijlstra F. R.H., & Uitdewilligen S. (2013). *Off-job recovery experiences matter! Rumination, problem-solving, and detachment as predictors of creative thinking at work.* Presentation at the European Association for Work & Organizational Psychology (EAWOP) Congress, Münster.

Reina, A. M., Schmidt, J., Nicol, J. E., & Willness, C. R. (2011). *An examination of the interactive effects of primed subconscious goals and assigned conscious goals on task performance.* Poster presentation at the European Association of Work and Organizational Psychology (EAWOP) Congress, Maastricht.

Reina, A. M., & Ashton, M. (2011). *Developing passion for academic activities: The Impact of personality and of an autonomy supportive environment.* Poster presentation at the Ontario Psychology Undergraduate Thesis Conference, University of Guelph, Canada.