

How Family Life Influences Work Life:
Insights from the Work-Home Resources Model

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Cover design by Xi Xu
Layout by Danyang Du
Printed by Ridderprint BV

ISBN: 978-94-6375-065-3

The research presented in this dissertation was financially supported by the China Scholarship Council (CSC).

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**How Family Life Influences Work Life:
Insights from the Work-Home Resources Model**

Hoe het gezinsleven van invloed is op het werkleven:
Inzichten uit het Work-Home Resources model

Proefschrift

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

Prof.dr. R.C.M.E. Engels

en volgens besluit van het College voor Promoties.
De openbare verdediging zal plaatsvinden op

donderdag 15 November 2018 om 11:30 uur

door

Danyang Du
geboren te Shanxi, China

Promotiecommissie:

Promotor: Prof. dr. A.B. Bakker

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CHAPTER 1

General Introduction

Over the past decades, employers, societies, and individuals have come to recognize that the work and family lives of individuals are intertwined and consistently influence one another (Allen, Cho, & Meier, 2014). Transforming societal trends, such as the increase in women's participation in the labor force, the increase in dual-earner families, changing beliefs about gender roles, and growing acceptance of new ways of working, resulted in more flexible and permeable boundaries between work and family life domains (Kossek, 2006). In the United States, over 85% of employees report having some day-to-day family responsibilities (Eby, Casper, Lockwood, Bordeaux, & Brinley, 2005), whereas China has the highest percentage (more than 90%) of dual-earner couples in the world (Lu, Lu, Du, & Brough, 2016). Additionally, technological tools such as e-mail, pagers, laptops, smartphones, and global 24-7 workplaces have made work constantly accessible to employees. The same technologies also increase possibilities to have contact with family members, enabling workers to integrate their family and work roles.

Following the societal trend of increasing overlap between the home and work domains, research on the work-family interface began in the 1960s and has seen an explosive growth ever since (Williams, Berdahl, & Vandello, 2016). There is a large body of literature concerning the interference between work and family lives. Studies across various job types and industries show that confrontation with multiple role demands often results in increased distress, or a struggle with incompatible norms for behaviors across the two roles (Kossek, Ruderman, Braddy, & Hannum, 2012). However, the vast majority of studies has focused on how the work domain has important consequences for employees and influences the family domain. Less attention has been paid to the influence of the family or home domain on the work domain (Amstad, Meier, Fasel, Elfering, & Semmer, 2011). In addition, organizational practices have long reflected assumptions of employees' full devotion to work and constant accessibility for work, as if employees do not have family lives that compete for their attention during working time (Dumas & Sanchez-Burks, 2015). Accordingly, organizations usually do not see family or personal life as a source of support contributing to what employees invest in their work, but regard employees' experiences outside of work as distractions from the work domain (Allen, Cho, & Meier, 2014). However, combining work and family roles may provide benefits and opportunities for enrichment (Greenhaus & Powell, 2006). Indeed, there is an increasing number of studies that has investigated the positive side of the work-home interface, suggesting that individuals' work may provide them with energy and new skills that make it easier for them to fulfill family roles (Hakanen, Peeters, & Perhoniemi, 2011). However, few studies have looked at the home-to-work direction of enrichment, even though support and other resources gained in the family role may theoretically also improve the quality of work life (Lapierre et al., 2017; Zhang, Xu, Jin, & Ford, 2018). Therefore, this dissertation focuses particularly on the home-to-work direction of the work-home interface, and investigates both interference and enrichment processes.

An important research question this dissertation aims to answer is: When, how, for whom, and to what extent will the home domain influence the work domain? First of all, we investigate how events that take place in the home domain trigger the interference or enrichment processes. On a daily basis, individuals are confronted with negative and positive events in their personal

life. Therefore, we take a dynamic perspective on the work-home interface and use a micro-lens to capture the fluctuations in the things that happen in the home domain, as well as fluctuations in feelings and behaviors in the workplace. This approach reduces retrospective bias and provides a better understanding of *when* individuals experience interference or enrichment when enacting roles in the home and work domains. Secondly, instead of using explicit self-report measurements of interference and enrichment between domains, we adopt a process view to examine *how* the home domain interferes with or enrich the work domain across days. By investigating the underlying mechanisms that explain how things that happen in the home domain are related to work domain outcomes, we provide insight to help employees and organizations prevent negative influences and facilitate positive influences from home to work. Finally, we examine what individual characteristics play an important role in explaining why some people are better than others in coping with interference and facilitating work-home enrichment. In other words, we aim to find out *who* is more prone to experience either interference or enrichment between domains. To address these issues, this dissertation presents a series of studies in which we investigate the triggers, mechanisms, and conditions of home-to-work interference and enrichment on a daily or weekly basis. In the following sections, we will first introduce the concepts of work-home interference and enrichment and identify research gaps in the literature. Next, we introduce our theoretical framework—the work-home resources model. Finally, we describe our research aims and the design of our six empirical studies.

Theoretical background

Work-home interference and enrichment

Everyone has multiple life roles, and each role has a set of expectations associated with it. The work-home interface represents the challenge of managing multiple roles. The simultaneous occurrence of two or more incompatible sets of demands is generally referred to as role conflict. Hence, work-family conflict represents “a form of inter-role conflict in which the role pressures from the work and family domains are mutually incompatible in some respect” (Greenhaus & Beutell, 1985, p. 77). The latter authors distinguished between time-based, strain-based, and behavior-based work-family conflict. Time-based conflict is characterized by a lack of time to accomplish the demands of multiple roles and occurs when time and attention devoted to one domain makes it difficult to spend these resources in the other domain. Strain-based conflict occurs when the pressure experienced in one domain makes people too stressed to participate and function optimally in the other domain. Finally, behavior-based conflict is the consequence of incompatibility regarding behavioral expectations. It happens when specific behaviors required in one domain interfere with behavioral expectations in the other domain. For example, managers are expected to have the authority to make subordinates follow their orders, while as a partner at home, they are expected to be more considerate and cannot use the same way to ask their partners to do things. By the early 2000s a wide range of studies and several meta-analyses have evidenced that work-to-home and home-to-work conflicts are associated with negative consequences at work and at home, such as decreases in job-, marital- and life satisfaction, and increases in job burnout, psychological and physical strains (Amstad

et al., 2011). After the year 2000, a new perspective for the possibility of role enhancement became influential proposing that work and family may also enrich one another.

The role enhancement perspective focuses more on the positive effects that energy, skills and resources in one role may have on roles in another domain. Positive experiences derived from engaging in multiple roles within the work and home domains have been named work-family enrichment (Greenhaus & Powell, 2006, p. 73). Drawing on Greenhaus and Powell's (2006) conceptualization, Carlson, Kacmar, Wayne and Grzywacz (2006) differentiated four dimensions of enrichment: development, affect, capital, and efficiency. Development enrichment occurs when one domain stimulates the acquisition of skills, knowledge, behaviors, or ways of viewing things functional for the other domain. Affect enrichment occurs when involvement in one domain results in a positive emotional state or attitude in the receiving domain. Capital enrichment refers to gains of psychosocial resources such as sense of security or self-fulfillment. Finally, efficiency enrichment occurs when involvement in one domain results in greater focus and time management skills in another domain. Research on self-reports of work-to-family and family-to-work enrichment provides empirical support for its positive relationships with job satisfaction, affective commitment, turnover intention, family and life satisfaction, and physical and mental health (for a review, see McNall, Nicklin, & Masuda, 2010).

Issues in the conceptualization of interference and enrichment

Most of the current measures of the interference and enrichment have been validated using employees as the only source of information (i.e., self-reports) to analyze the psychometric structure of constructs and their statistical relationships with other variables (e.g., Carlson, Kacmar & Williams, 2000; Carlson, Kacmar, Wayne, & Grzywacz, 2006; Netemeyer, Boles, & McMurrian, 1996; van Steenbergen, Ellemers, & Mooijaart, 2007). One issue about these survey measures is that they intend to capture causal relationships between domains in the item formulation. The item usually includes a cause in one domain and the result taking place in the other domain. In other words, the item presents the causal attribution to the respondent. Examples are, "I am often so emotionally drained when I get home from work that it prevents me from contributing to my family" (Carlson et al., 2000), and "My involvement in my work provides me with a sense of accomplishment and this helps me be a better family member" (Carlson et al., 2006). These items include the causal attributions for experiencing interference or enrichment, such as "emotionally drained" and "sense of accomplishment", as well as the results of these causes, such as "prevents me from contributing to family", and "be a better family member". Because of the particular wording of the items, it seems that explanations about interference and enrichment are already provided in the measurement of the work-home interface (Pichler, 2009).

It is risky to assume that participants are able to have a clear idea of the causal attributions of interference and enrichment experiences. For example, it is possible that participants attribute the interference to the domain that is least central to them, or simply attribute the interference to the domain where the trigger event occurs. As hypothetical causes are included in the items, it is not surprising that participants recognize working hours or work pressure as the most

significant predictors of work-family conflict (Eby, Casper, Lockwood, Bordeaux, & Brinley, 2005). Causes, such as the use of time and strain, are already integrated in the measurement of work-family conflict as the dependent variable. A potential consequence of such conceptualization is that participants can only easily recognize causes named in the items, while other potential causes not included in the items may be difficult to identify. As Maertz and Boyar (2011) suggest, rather than assuming that individuals can make clear attributions, it must be studied how a given event triggers the interference or enrichment experience. Investigating the underlying mechanisms is necessary to better understand the interference and enrichment experiences. In addition, respondents are asked to recall their experiences over an extended time period in the past (e.g., last three months). It is important to notice that even when people are asked to recall longer periods of time they are more likely to answer in accordance with their current mood, because this is the most accessible information for them (Schwarz & Oyserman, 2001).

So far, there is still no agreement about the way in which different domains influence each other, and neither do existing consistent measurements sufficiently capture the full experiences of interference and enrichment. To improve our understanding of the causal process in the relationship between work and home domains, the present dissertation tries to (1) identify clearly which factors cause what outcomes, instead of integrating causes and outcomes in the measurement of work-home interface concepts; (2) adopt a process view to investigate the full experience of work-home interface, including the mechanisms and conditional factors of interference and enrichment; (3) examine the dynamic nature of the work-home interface and capture fluctuations in work-home experiences within individuals over days or weeks. First of all, by investigating triggers and outcomes in the work and home domains, we try to answer questions related to new potential antecedents and consequences of specific types of interference and enrichment. Second, investigating underlying mechanisms and conditional factors may answer questions related to how interference and enrichment develop across domains, when interference and enrichment are most likely to occur, as well as why some people experience more interference and enrichment than others. Third, we focus on the transient interference or enrichment experience that fluctuates over short periods of time. It is conceivable that effects are different at the day level compared to the general level. Measuring the immediate experience has added value above and beyond global assessments because self-reports over a long time period rely on retrospective recollection and therefore tend to ignore specific aspects and sometimes include even contradictory dimensions of immediate experience (Maertz & Boyar, 2011). In this dissertation, we integrate all these three aspects to enhance our understanding of the experience of work-home interface by using the work-home resources model (ten Brummelhuis & Bakker, 2012a) as our main theoretical framework. The advantage of this model is that it recognizes the uniqueness of causes that trigger interference and enrichment between domains, conditional factors, mechanisms underlying the processes of interference and enrichment, as well as the development of these processes over time.

The work-home resources (W-HR) model

The W-HR model (ten Brummelhuis & Bakker, 2012a) uses conservation of resources theory (COR; Hobfoll, 1989; 2002) as a starting point for building a theoretical framework regarding the interface between work and home. COR theory describes two main processes of how people react to the stressors in the environment (Hobfoll, 2002). The first is a loss spiral, in which people expend resources to address the presence of a stressor. If this effort is unsuccessful, stress will develop and resources will deplete further. The other is a gain spiral, in which resources accumulate and the creation of new resources from existing resources constitutes an ongoing cycle. The W-HR model applies the general loss and gain processes to view work-home interference and enrichment as processes comprising antecedents, mechanisms, and outcomes.

As the name of the theory already implies, resources play a central role in W-HR theory. To get a deep understanding of the processes underlying the interaction between work and home domains, it is important to first distinguish between the different types of resources. Resources refer to objects, personal characteristics, conditions, or energies that are valued by individuals or serve as ways to attain these objects, personal characteristics, conditions, or energies (Hobfoll, 1989, p. 516). Based on the source or origin of the resource, Hobfoll (2002) distinguishes contextual, personal, key resources, and macro resources. Contextual resources are located outside the self and can be found in the social context, for example, objects like a house, and conditions like social support offered by others. Personal resources are proximate to the self, such as self-efficacy, time, and energy. Key resources are stable management resources that facilitate the selection, alteration, and implementation of other resources (Thoits, 1994). Conceptually, key resources are more stable and more inherent to a person than other, transferrable, personal resources. For example, skills and knowledge (personal resources) can be transferred more easily than optimism (a key resource). Macro resources refer to characteristics of the larger economic, social and cultural system in which a person is embedded. Macro resources are more stable than other contextual resources and normally not under the direct control of individuals.

As shown in Figure 1, the W-HR model describes the antecedents, outcomes, mechanisms, and conditions of work-home interference and enrichment processes. The W-HR model defines stressors related to a specific domain as contextual demands, which refer to physical, emotional, social, or organizational aspects of the social context that require sustained physical and/or mental effort (Peeters, Montgomery, Bakker, & Schaufeli, 2005). Work-home or home-work interference occurs when contextual demands in one domain deplete personal resources, so that these resources are not available for people to function optimally in the other domain. For example, employees may make personal phone calls or deal with family issues in the workplace, so that there is less time and energy available for work tasks, which may undermine performance. Contextual resources, on the other hand, are the starting point of work-home or home-work enrichment. Work-home enrichment occurs when contextual resources from one domain lead to the development of personal resources, which subsequently facilitate outcomes in the other domain. For example, support from family members may lead to a good mood and

enhanced self-esteem, and these personal resources may help employees become more positive and confident to deal with work issues.

Key resources reveal the role of personality in the process of work-home interference and enrichment. Exploring the function of key resources helps to understand which individuals are less likely to experience work-home interference and more likely to experience work-home enrichment. For example, people high in conscientiousness are generally well-organized, goal oriented, and hardworking (McCrae & Costa, 1986). They may use job autonomy to plan activities more efficiently, thereby saving time to use for other home domain purposes. In addition, macro resources represent macro-level facilitators surrounding the work-home interface, such as cultural values, public policies, and social equality. For example, in collectivistic countries like China and Japan, employees perceive long work hours less as a stressor because it is considered as a means to maintain the family (Spector et al., 2004).

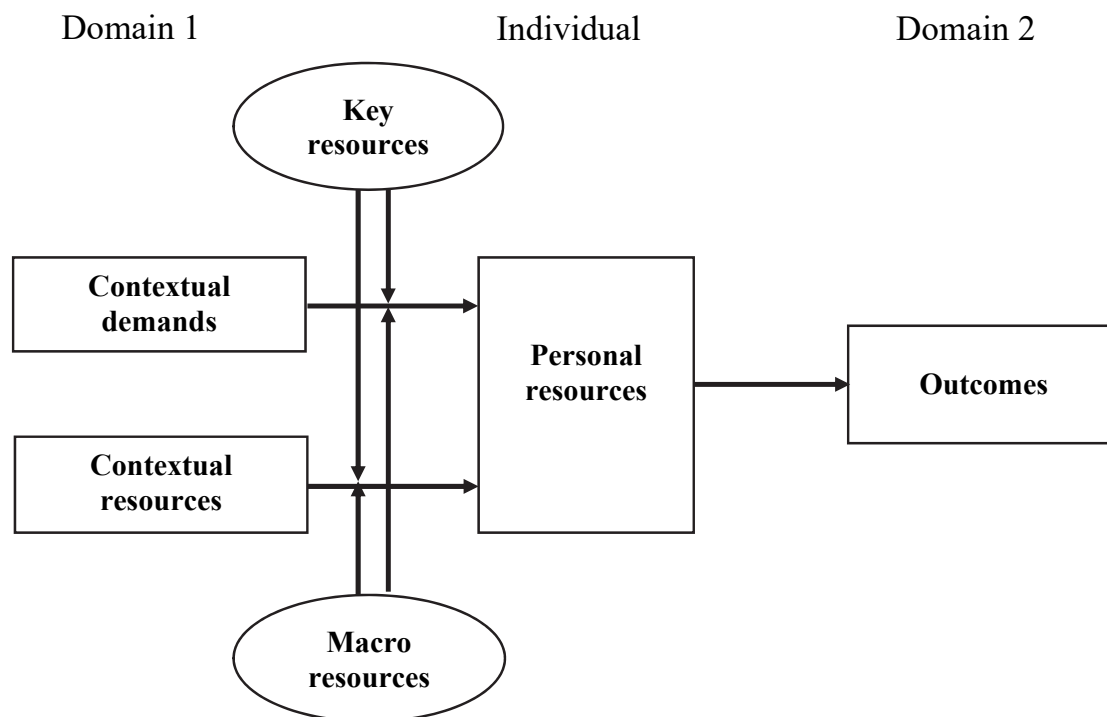


Figure 1. The work-home resources model. Adapted from “A resource perspective on the work-home interface: The work-home resources model,” by A. B. Bakker and L. L. ten Brummelhuis, 2012, *American Psychologist*, 67, p. 552. Copyright 2012 by the American Psychological Association.

The W-HR model also explores the temporal character of the work-home interface and distinguishes between long-term and short-term processes of work-home interference and enrichment. Long-term work-home interference occurs when chronic or structural demands in one domain constantly require investment of personal resources, thus diminishing long-term outcomes in the other domain. For example, chronic family demands increases physical stress

and may gradually cause health problems, which results in more absence and hinders long-term work outcomes (ten Brummelhuis, ter Hoeven, De Jong, & Peper, 2012). Similarly, long-term work-home enrichment occurs when structural contextual resources in one domain facilitate individuals' personal resources constructively, thus help them reach long-term goals in the other domain. On the contrary, short-term interference and enrichment between work and home domains are explained by the changes in more transient personal resources, such as time, mood, and energy. These insights help to understand the day-to-day work-home processes. For example, an enjoyable dinner party with family members may increase positive mood, which may spill over to the work domain, resulting in employees showing more positive behaviors at work. Overall, the W-HR model explains how work-home processes develop over time.

As indicated above, the W-HR model allows identifying which home and work factors are beneficial or harmful to the other domain, and the exact consequences related to those factors. In addition, the model reveals the underlying mechanisms that link the work and home domains, the conditional factors surrounding the work-home processes, and the development of interference and enrichment processes over short or long time. Several recent empirical studies have tested the short-term and long-term work-home processes using the W-HR model. For example, Xanthopoulou, Bakker, Oerlemans, and Koszucka (2018) used a daily diary design to test a short-term work-to-home interference process. They found that daily surface acting (i.e., contextual demand in the work domain) related positively to daily need for recovery (i.e., outcome in the home domain) mainly via increased levels of exhaustion during work (i.e., the depletion of personal resources). Bai, Lin, and Wang (2016) used three-wave lagged data to examine a long-term home-to-work interference process in which family incivility (i.e., contextual demand in the home domain) was related to counterproductive work behaviors (i.e., work outcome), and this relationship was mediated by state self-esteem (i.e., personal resource). In addition, the ability to regulate emotion (i.e., key resource) mitigated the family incivility-state self-esteem relationship.

However, having in mind that the W-HR model has been recently developed, it is still under-researched and the model may be expanded. First, more research is needed to further identify the specific antecedents and outcomes in both work and home domains, the specific mechanisms underlying the interference and enrichment processes, as well as conditional factors of work-home processes. Second, to address the question of the development of interference and enrichment over time, it is important to take lagged effects into account. Instead of focusing on the influences between domains within one day, more attention is needed to examine the overnight effects across days. Third, the W-HR model describes interference and enrichment between domains as relationships between contextual demands and resources in one domain and outcomes in the other domain (see Figure 1). It is conceivable that trigger events in one domain do not only influence outcomes in the other domain, but also influence how processes unfold in the other domain. We content that trigger events in one domain may have a moderating effect on loss and gain processes in the other domain – and that such statistical interaction effects may also represent interference or enrichment between domains. For example, problems in the home domain may use up so many energetic resources that employees are unable to fully use the resources available at work. This means that private

problems may attenuate the effective use of job resources for job performance. This dissertation intends to refine and expand the W-HR model by considering and studying the above points.

Zooming in: Specific features of the W-HR model

Through the lens of the W-HR model, we particularly investigate how the home domain may interfere with or enrich the work domain. The W-HR model provides a process view of interference and enrichment experiences between the home and work domains. It emphasizes the importance of identifying specific demands and resources as triggers of home-work experiences, and specific personal resources as linking mechanisms from home to work. In addition, as the W-HR model proposes, favorable personality traits can be seen as key resources that prevent interference and facilitate enrichment between the home and work domains. We zoom in on these features of the W-HR model and investigate how home-to-work experiences develop and fluctuate over short periods of time.

Event-related approach

Instead of using explicit work-family variables and including causal attributions in item formulations, we follow the process view of the W-HR model and use separate measures for trigger events in the home domain and work outcomes. Contextual demands and resources in the W-HR model represent events and conditions that trigger work-home experiences. Not only major life events like career change, divorce, or accidents, but also day-to-day activities like commuting, social gathering, or interactions with children may trigger processes of interference and enrichment. These daily events and conditions may fluctuate every day and change rapidly over time. For example, Gassman-Pines (2011) found that supervisor criticism triggered work-to-home interference and was positively correlated with harsh and withdrawn mother-child interactions on the same day, while supervisor recognition for good work triggered work-to-home enrichment and was positively associated with warm mother-child interactions. Sanz-Vergel, Rodríguez-Muñoz, Bakker, and Demerouti (2012) found that individuals' surface acting at work spilled over to the home domain, and that surface acting at home, in turn, reduced individuals' levels of well-being. Rodríguez-Muñoz and Sanz-Vergel (2017) found that daily workplace bullying triggered work-to-home interference and was positively related to self- and spouse-reports of conflicts at home.

Unfortunately, most previous studies investigating specific events and daily activities focused on processes only in regard to one direction, namely from work to home. In addition, studies that have tried to investigate the impact of major life events on work life are quite rare (Luhmann, Hofmann, Eid, & Lucas, 2012), not even to mention the possible micro processes at the within-person level. This dissertation focuses on home-to-work processes and investigates specific events in the home domain, including both major life events and daily hassles and uplifts, which may influence the work domain on a daily basis. Refining the study of home-to-work processes by focusing on the nature of specific events and the specific impact of the events is a more fine-grained approach which potentially enhances our understanding of how the experiences of home-to-work interference and enrichment develop over time.

Mechanisms linking work and home

In explaining interference and enrichment between life domains, the W-HR model uses personal resources (e.g., affect, energy, focus, attention; ten Brummelhuis, Haar & Roche, 2014) to link the trigger events and outcomes between work and home. Events usually do not have a “direct” impact on the respective other domain. Events trigger reactions, such as feelings or behaviors, which in turn, impact the other domain (Amstad & Semmer, 2013). Previous studies relating events directly to a later outcome in the other domain neglect the fact that there are intermediate elements that may lead to specific outcomes. Repetti, Wang, and Saxbe (2009) proposed that mechanisms of spillover between work and home include mood or affect, cognition, and physiology. This dissertation adds the behavioral mechanism to that list, and investigates the affective, cognitive, and behavioral mechanisms linking the home and work domains.

Affective mechanisms linking work and home are fairly well examined. For example, Heller and Watson (2005) found that positive affect mediated the relationship between job and marital satisfaction. Story and Repetti (2006) found that negative mood mediated the relationship between workload and marital anger. Chi, Yang, and Lin (2018) found that negative emotions mediated the relationship between customer mistreatment and work-family conflict and withdrawal behavior. In the W-HR framework, positive affect can be seen as an indicator of possessing personal emotional resources, whereas negative affect indicates the lack of personal emotional resources.

Cognition is a common psychological pathway for spillover between work and family. As individuals are engaged in work or family roles, thoughts about alternative role demands or experiences may easily intrude. For example, Cropley and Purvis (2003) found that high job strain (high demand, low control at work) was associated with an inability to “unwind” psychologically after work and rumination about work-related issues. Sonnentag and Grant (2012) conducted a study in a sample of firefighters and rescue workers and found that the relationship between perceived prosocial impact at work and positive affect at bedtime was mediated by perceived competence at the end of the working day, as well as positive work reflection during after-work hours. Through the lens of the W-HR model, ruminative thoughts about work deplete personal cognitive resources representing work-to-home interference, whereas positive work reflection creates personal resources representing work-to-home enrichment.

Another potential research focus for linking mechanisms between work and home is behavior. Role behaviors in one life domain (family or work) may manifest in the other life domain (work or family). Greenhaus and Beutell (1985) classified behavior-based as one of three sources of conflict between work and family. Moreover, recent empirical evidence shows that behaviors transferring across domains can be beneficial as well. Ilies, Liu, Liu, and Zheng (2017) found that work engagement positively related to work-family interpersonal capitalization (i.e., discussing positive work events and experiences with one’s spouse or partner at home), which, in turn, related to family satisfaction and work-family balance. This dissertation focuses on the home-to-work enrichment process and explores this behavioral

mechanism across domains and days. We investigate whether positive events in the home domain facilitate the work domain through the mechanism of social behavioral actions.

Dynamic approach

The W-HR model takes time into account and describes the development processes of work-home interference and enrichment over time. In this dissertation, we capture individuals' experiences on a daily or weekly basis (i.e., within-person approach), which offers a compelling way to examine the more proximal predictors, specific mechanisms, and the development of work-home interference and enrichment over time. The extent to which individuals experience work-home enrichment or interference changes over time; on one day, an employee may need to deal with many hassles in the home domain and have difficulties to satisfy the needs in the work domain, whereas on other days this seems effortless. In line with this, family life may intrude work without notice, or a difficult situation at home can have a delayed impact on work life. The within-person variability in work-home experiences poses problems for cross-sectional studies because it is not clear what work-home constructs are measured at a single point in time or what measures of "general" experiences represent. Although longitudinal data from panel designs can capture some within-person variability, these studies often involve long time lags. Individuals are asked to recall past experiences that would be stored as episodic long-term memories. Experimental research indicates that memories of this type are loosely organized, subject to rapid forgetting, and biased by several recall processes (Robinson & Clore, 2002). Therefore, capturing frequent observations by experience sampling designs provides a more representative and ecologically valid view of individuals' work-home experiences.

Moreover, in this dissertation, we ask individuals to report their experiences three times a day—in the morning, afternoon, and evening—instead of using an end-of-day recall method. As a result, there is an increased likelihood that the work-home interface we study is more closely based on actual experiences instead of potentially biased distal memories. In addition, we separate predictors and outcomes by using time intervals. Individuals reporting several times a day may better capture real work-, family- or other life-related events and behavioral outcomes. This approach enables us to examine which specific situational features have to be present during a specific day in order to experience interference or enrichment. Investigating state experiences of interference and enrichment with time intervals may provide stronger evidence for causal relations between domains than directly measuring work-family variables and investigating a summary of subjectively reported work-home experiences.

Combining stable traits with fluctuating states

The W-HR model illustrates a way to integrate within-person processes and between-person key resources. It shows how trait level individual differences may interact with the state level of work and home events, mechanisms, and outcomes (see Figure 1). Work-home experiences fluctuate from day to day, while key resources—such as personalities—are higher-order variables that influences what contextual demands and resources in the life domains employees may select or mobilize from day to day. Employees with a favorable personality use their stable traits to deal with all types of events and circumstances. For example, Sanz-Vergel, Rodríguez-Muñoz, and Nielsen (2015) examined the moderating role of a personality trait (i.e.,

emotional stability) on the relationship between interpersonal conflicts at work and at home. They found that emotional stability weakened the relationship between interpersonal conflicts at work and at home. Chi and colleagues (2018) found that employees with high core self-evaluations were less likely to experience negative emotions when faced with customer mistreatment, and thus were less likely to create role conflicts between work and home domains. Following the W-HR model, this dissertation explicitly models the moderation effects of between-person key resources on within-person home-to-work processes using multilevel modeling.

Research Aims

This thesis presents six empirical studies that examine the W-HR model in various contexts using different methodologies. The overall research framework is presented in Figure 2. Below I will outline in more detail what is investigated in each of the chapters.

The first three chapters focus on the home-to-work *interference* process. **Chapter 2** investigates how small negative events in the home domain, such as conflicts with the spouse or repairing the car, interfere with the work domain in a sample of Chinese working parents. Instead of simply using work outcomes to represent the work domain and testing the direct effect of family hassles on these outcomes, we investigate how family hassles of the previous day may influence the morning job resources-afternoon flourishing relationship at work. In addition, we investigate both affective and cognitive mechanisms of home-to-work interference. We hypothesize that previous day family hassles will attenuate the effective use of job resources in the workplace by increasing employees' ruminative thoughts over family issues and negative affect at work. The W-HR model proposes that the home-to-work interference occurs when contextual demands in the home domain consume personal resources, and diminish outcomes in the work domain. The study reported in this chapter tests the W-HR model by investigating the moderating effect of family hassles (i.e., contextual demands in the home domain) on the job resources-flourishing relationship (i.e., the work domain) through rumination and negative affect (i.e., depletion of personal resources).

Chapter 3 investigates how homesickness interferes with the work domain when people work far away from their home locations. We use different research methods (i.e., a longitudinal study and a daily diary study) and collect multi-source data (i.e., self-reports and supervisor-reports) in samples of Chinese migrant manufacturing workers and military trainees. Leaving home and adapting to a new environment can be seen as triggers from the home domain. Homesickness, characterized by ruminative thoughts about home, including missing family and friends, accompanied by negative emotions and even somatic symptoms such as feeling lonely and uncomfortable in the new environment, can be seen as the depletion of personal resources. We investigate whether employees who are homesick would have difficulties in utilizing the available job resources in an optimal way, which may ultimately impair their job performance. In addition, we investigate the role of key resources in home-to work interference process. Specifically, we examine how personality traits (emotional stability and openness) may help employees to cope with homesickness and prevent it from interfering with the effective use of job resources for effective performance.

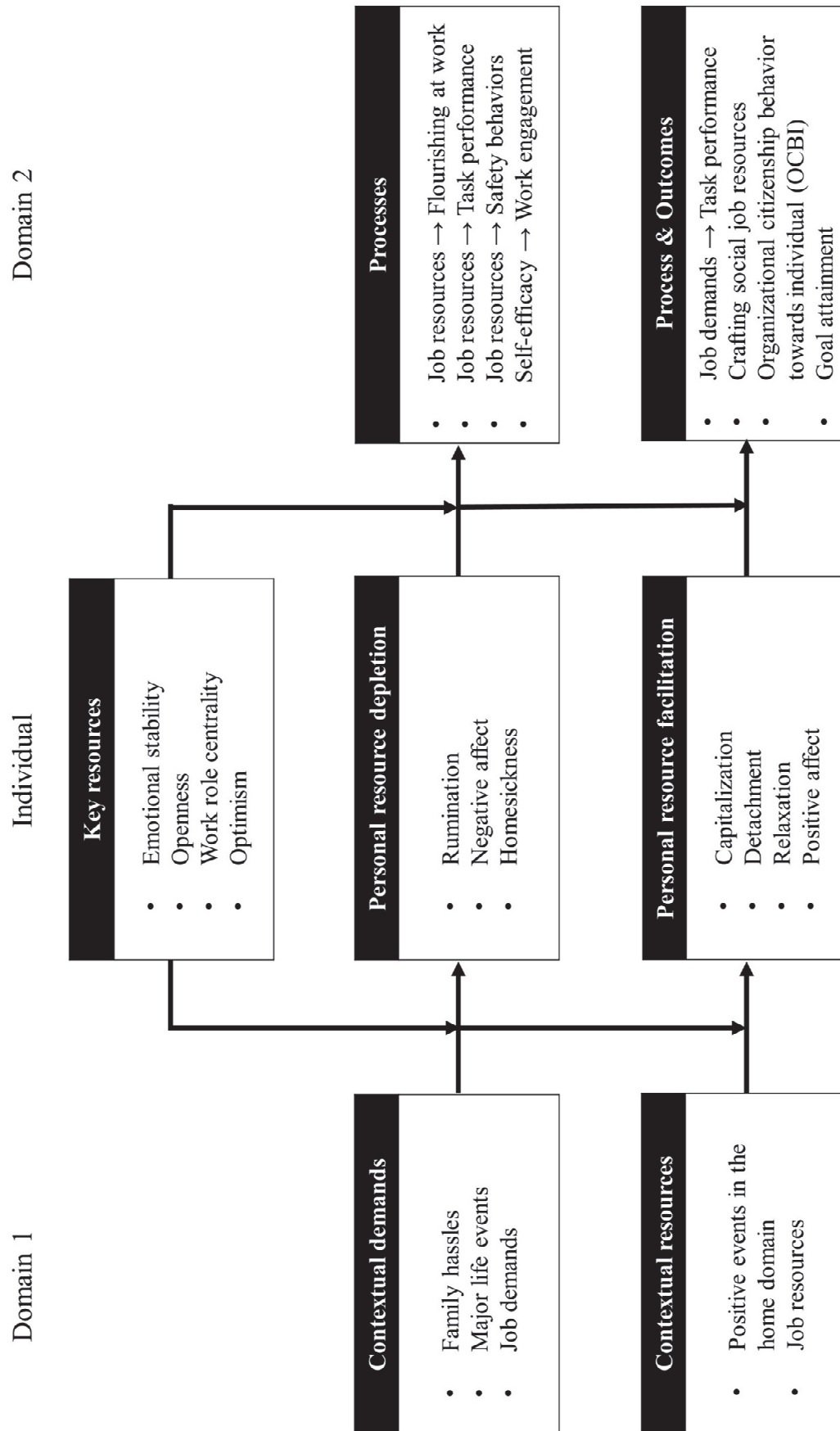


Figure 2. The overall framework of the dissertation

Chapter 4 investigates the influence of major life events on the work domain. The study was conducted in the Netherlands and focused on individuals who experienced negative major life events during the last year. We examine whether employees who have gone through a major life event (e.g., death of a family member) and are still mentally occupied with this event (i.e., rumination) are less able to make optimal use of personal resources (i.e., self-efficacy), which may ultimately reduce work engagement and job performance. In addition, we introduce the concept of psychological detachment from the major life event and hypothesized that employees who mentally detach from the major life event are more likely to use their psychological resources to be engaged and perform well. Moreover, we investigate the role of key resources when employees deal with the weekly interference of the major life event with work life. We examine whether employees who see work as central to their life (i.e., work role centrality) are less likely to experience negative interference of ruminative thoughts about the major life event with the self-efficacy – work engagement process in the work domain.

The next two chapters focus on the home-to-work *enrichment* process. **Chapter 5** investigates how small positive child-related events in the home domain, such as hearing that children have helped others or going to an exhibition with children, may enrich the work domain in a sample of Dutch working parents. We investigate how positive child-related events of the previous day may facilitate the job demands-task performance relationship at work. In addition, we examine the behavioral mechanism—capitalization—of home-to-work enrichment. We hypothesize that previous day positive child-related events will facilitate the job demands-task performance relationship through employees’ sharing these positive events with significant others (i.e., capitalization) during the previous evening.

Chapter 6 investigates how small positive personal events, such as having a party or social gathering, enrich the work domain in a sample of Chinese employees. We investigate the beneficial effect of positive personal events during the previous day on employee’s job crafting behavior in the form of increasing social resources at work and organizational citizenship behavior towards individuals (OCBI) through capitalization with significant others at home during previous evening. In addition, we investigate the facilitating role of key resources in the daily home-work enrichment process by examining whether optimistic employees are more likely to capitalize on positive events at home, initiate more social interactions at work, and show more positive behaviors in the workplace.

Although the experience of home-work enrichment brings about a series of positive outcomes, it is not equal to the absence of home-work interference. Previous studies that examined both interference and enrichment have demonstrated that these experiences are indeed independent, and the work-home experiences could simultaneously be enriching and depleting (e.g., Boz, Martínez-Corts & Munduate, 2009). Rather than considering the experience of interference or enrichment separately, **Chapter 7** examines the negative as well as positive experiences initiated from both work and family domains. The study is conducted among Dutch PhD candidates and investigates both how the work domain influences the home domain and how this may further influence work outcomes (work → home → work). We examine how morning job demands may induce evening rumination and next morning negative affect, which may impair PhDs’ goal attainment in the work domain; as well as how morning

job resources may facilitate evening relaxation and next morning positive affect, which may benefit PhDs' daily work-goal attainment.

Finally, **Chapter 8** summarizes the findings of the previous chapters and discusses important theoretical, methodological, and practical issues. Furthermore, this chapter identifies the strengths and weaknesses of the research presented in the thesis and offers suggestions for future studies.

CHAPTER 2

Daily Spillover from Family to Work:

A Test of the Work-Home Resources Model

This chapter has been published as Du, D., Derks, D., & Bakker, A. B. (2018). Daily spillover from family to work: A test of the work–home resources model. *Journal of Occupational Health Psychology*, 23, 237-247.

Abstract

The present study examines a mediated moderation model of the day-level effects of family hassles and family-work spillover (affect and cognition) on the relationship between job resources and employees' flourishing at work. Based on the work-home resources model, we hypothesized that demands from one domain (family) induce repetitive thoughts or negative feelings about those problems, so that individuals are not able to function optimally and to make full use of contextual resources in the other domain (work). Multilevel analyses of 108 Chinese employed parents' 366 daily surveys revealed that the relationship between morning job resources and afternoon flourishing was significantly positive when previous day family hassles were low; the relationship became non-significant when previous day family hassles were high. In addition, as predicted, daily rumination also attenuated the relationship between morning job resources and afternoon flourishing, whereas daily affect did not. Finally, the moderating effect of previous day family hassles was mediated by daily rumination. Our findings contribute to spillover theories by revealing the roles of affective and cognitive spillover from family to work.

Introduction

Changes in job expectations and family responsibilities during the recent decades have made balancing work and family roles more challenging for employees (Eby, Casper, Lockwood, Bordeaux, & Brinley, 2005). Research indicates that the proportion of dual-earner partnerships has sharply increased, which implies that both partners have to work and share family responsibilities (Greenhaus, Callanan, & Godshalk, 2000). In the United States, over 85% of employees report having some day-to-day family responsibilities (Eby et al., 2005), whereas China has the highest percentage (more than 90 percent) of dual-earner couples in the world (Lu, Lu, Du, & Brough, 2016). The family and work domains are so closely interconnected that interference between family and work roles seems inevitable (Sonnentag & Binnewies, 2013). This means that family issues not only influence the family life at home; they may also interfere with employees' feeling and functioning when they are back at work (Lambert, 1990). In day-to-day family life, the stressors such as accumulated housework and nonstop caring for young children may limit one's energy and time, and impair necessary recovery processes (Fritz & Sonnentag, 2005). However, the temporal character of work-family interactions has been largely ignored in previous research (Martinez-Corts, Demerouti, Bakker, & Boz, 2015). It is difficult to capture the daily impact of family issues on the work domain only through a one-time questionnaire. How the short-term process of family-to-work interference occurs across days still needs further investigation (Ilies et al., 2007).

Spillover theory suggests that a person's experiences that develop in one domain can carry over into the other domain (Zedeck, 1992). The work-home resources model (ten Brummelhuis & Bakker, 2012a) further proposes that volatile contextual demands from one domain impact daily outcomes in the other domain through a loss in volatile personal resources. Those personal resources are either fleeting that once they are used, they cannot be used for other purposes, or they are temporal, such as attention and mood. Individuals may be physically active in one role while simultaneously feeling distracted by thoughts or emotions that are tied to another role (Ashforth, Kreiner, & Fugate, 2000). According to Repetti, Wang, and Saxbe (2009), the mechanisms of spillover include mood or affect and cognition. The existing explanations of spillover effects mainly focus on the idea that family life influences work through its impact on employees' mood or affect (e.g., Williams & Alliger, 1994; Heller & Watson, 2005). Less attention has been paid to cognitive spillover between family and work (Offer, 2014). According to stress researchers, ruminative thoughts are a cognitive mechanism of spillover from stressful events (Cropley & Purvis, 2003). Based on the stress literature, we propose an explanation of the underlying process of family-work spillover effects, namely that repetitive thoughts about family issues/hassles may transmit family demands to the work domain and lead to interference (Offer, 2014).

Our study contributes to the work-family literature by addressing the question that how the process of family-to-work interference develops across days. Instead of using explicit self-report measurements of family-work interference, we test the process view of family-work interference proposed by the work-home resources model (ten Brummelhuis & Bakker, 2012a). More specifically, we examine how contextual demands in the family domain induce an underlying process of personal resources depletion, which impairs employees' full use of

available contextual resources in the work domain. In addition, previous studies examined spillover effects over relatively short time periods within one day (e.g., Ilies et al., 2007; Judge & Ilies, 2004). We extend the time frame by assessing family hassles in the evening and work processes during the next day, which provides insight into the dynamics of how hassles in the family domain may interfere with the work process across days. Moreover, our study expands previous research by investigating both affective and cognitive mechanisms of family-work spillover. Affect and cognition are closely intertwined (Damasio, 2001), however, the cognitive spillover effect is a relatively neglected issue in the family-work literature. We argue that it is also important to acknowledge the role of cognition in the process of family-work interference. As depicted in Figure 1, our study takes a closer look at the underlying process of family-work interference and investigates how negative affect and ruminative thoughts regarding family hassles of the previous day may attenuate the positive relationship between job resources and flourishing.

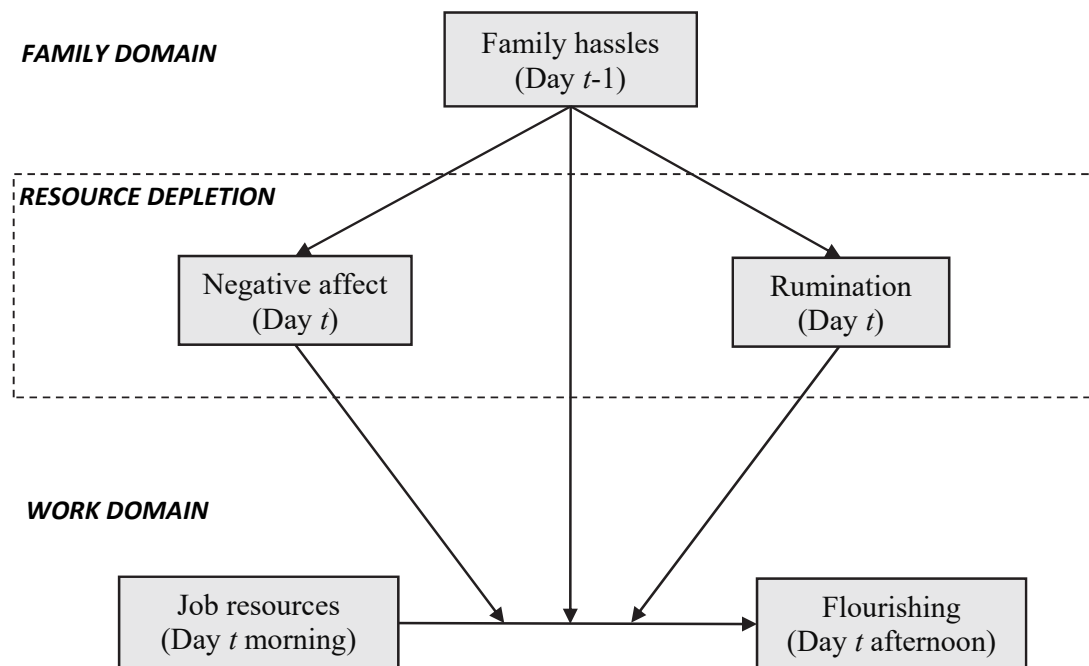


Figure 1. Hypothesized model

Theoretical background

Family-to-work interference

Work and family experiences are inevitably interconnected (Heller & Watson, 2005). There is recognition that individuals may be psychologically preoccupied with one role while physically present in the other role (Ashforth et al., 2000). Family hassles are irritating, frustrating demands that occur during everyday family life (Bolger, DeLongis, Kessler, & Schilling, 1989). Employees may perceive difficulties to concentrate on work when they generate preoccupying thoughts about family hassles (e.g., conflicts with the partner, or sudden problems with the car) while at work.

The work-home resources model (ten Brummelhuis & Bakker, 2012a) indicates that individuals have finite psychological and physiological resources. The use of finite resources in one domain reduces the availability of these resources for use in the other domain (Edwards & Rothbard, 2000). Involvement in multiple roles can induce a depleting process whereby demands in one role drain personal resources such as emotional and mental energy, thereby limiting the personal resources that are left for optimal functioning in the other role. For example, employees who think about family issues in the workplace consume cognitive resources, therefore may have difficulties to deal with the complexity of the work. Most previous research has used direct family-work interference measurements to suggest that family generally interferes with work (Amstad, Meier, Fasel, Elfering, & Semmer, 2011), but has not identified clearly the process at work and how family interacts with the work process. We apply the insights of the work-home resources model on the process view of family-work interference. As the work-home resources model indicates, family-work interference may occur when the family domain depletes personal resources, which impairs the use of available contextual resources and ultimately threatens one's feelings and functioning in the work domain.

Flourishing is a form of context-free psychological well-being that refers to optimal human functioning (Diener et al., 2010). It includes three components: psychological functioning, positive feelings, and social functioning (Keyes, 1998). The flourishing concept is increasingly used in the positive organizational psychology literature to describe well-being (Huppert & So, 2011; Seligman, 2011). Flourishing at work represents the combination of feeling good and functioning effectively in the workplace (Keyes, 2002). People who experience flourishing at work are energetic, dedicated, self-actualized, as well as pursuing social actualization and fulfillment at work (Rothmann, 2013). The focus of positive organizational psychology is to find out aspects of individuals and the work environments that foster, develop, and facilitate employee flourishing (e.g., Bono, Davies, & Rasch, 2012; Hart, Cotton, & Scollay, 2015; Hone, Jarden, Duncan & Schofield, 2015). As for the antecedents of flourishing in the work environment, ample research suggests that job resources are the main drivers of positive organizational outcomes (Bakker, Demerouti, & Sanz-Vergel, 2014). Job resources contain various job characteristics that provide employees the means to achieve their work goals and to obtain more enjoyment (Van den Broeck, Vansteenkiste, De Witte, & Lens, 2008). According to the Job Characteristics Model (Hackman & Oldham, 1980), every job has a specific motivational potential that depends on the presence of five core job characteristics: skill variety, task identity, task significance, autonomy, and feedback. This intrinsic motivational potential of job resources leads to higher levels of well-being and optimal functioning at work since they allow individuals to be engaged in different tasks with varying levels of complexity, to be involved in the job in its totality, to take responsibility for their work, and to be given regular feedback on accomplishment. As Hackman and Oldham (1980) indicated, skill variety, task identity and task significance make employees experience that their job is meaningful, valuable, and worthwhile; autonomy makes employees feel personally accountable, and feedback allows employees to know how effectively they are performing. Jobs with enriched characteristics therefore result in a stronger sense of meaningfulness, experiencing more competence, and

ownership (Deci & Ryan, 2008), which in turn leads to employee flourishing (Rothmann, 2014).

However, high demands in the family domain may distract individuals from using job resources efficiently. There are times when individuals actively participate in one domain while simultaneously feeling distracted by emotions, thoughts, or demands that are tied to another domain (Ashforth et al., 2000). Problems that people experience in the family domain are associated with negative emotions, which may spill over into the workplace and interfere with the work process (Rothbard, 2001). The negative affect induced by family issues narrows the thought-action sequences of individuals in the workplace (Fredrickson, 2001), and therefore attenuates the effective use of job resources. When employees experience negative affect, they are more likely to see the negative aspects of work and view multiple skill-using tasks and complex work as problematic rather than resourceful and meaningful (Waston & Pennebaker, 1989). This may impair employees' productivity and well-being at work and prevent them to benefit from these enriched job characteristics. In addition, persisting thoughts that arise from problems at home prolong and sustain the impact of family stressors (Brosschot, Gerin, & Thayer, 2006), which may consume cognitive resources and attenuate the use of job resources, such as dealing with supervisor feedback. When employees are preoccupied with thoughts about family hassles during work, they may have difficulties understanding and using the feedback that the supervisor provided, which in turn impairs optimal functioning at work. Moreover, thinking about family issues at work can disrupt achievement of the focal goal of ongoing work activities, which requires employees' efforts to adjust and monitor goal-directed behavior. As a result, the consumption of self-regulatory resources may reduce employees' feeling of control of their own work, impair the benefits of job autonomy, and ultimately reduce employees' flourishing at work (Nohe, Michel, & Sonntag, 2014).

Following the work-home resources model (ten Brummelhuis & Bakker, 2012a), we predict that hassles from the family domain induce a personal resources depletion process, so that there will not be sufficient personal resources available in the work domain. This will impair the efficiency of using job resources and attenuate the benefits of job resources on employees functioning and feelings at work (Nohe et al., 2014). Thus, we hypothesize:

Hypothesis 1: Family hassles of the previous day moderate the relationship between morning job resources and afternoon flourishing, such that this relationship is weaker when employees experience high (vs. low) levels of family hassles.

Spillover mechanisms

Spillover refers to one of the linking mechanisms between the work and family domain (Lambert, 1990). Spillover theory suggests that one's experiences associated with one life domain can carry over into another domain (Zedeck, 1992). Employees' family demands are linked to the work domain through a process of psychological spillover in which family experiences are carried over to work and influence employees' feeling and functioning at work (Voydanoff, 2004). Most of the research on the spillover process has examined the affective experience across the family and work domains, such that daily events cause mood or affect spillover influencing attitudes and behaviors across domains (Van Hooff, Geurtz, Kompier, &

Taris, 2006). However, since affect and cognition are largely intertwined (Damasio, 2001), Repetti and colleagues (2009) proposed that the mechanisms of spillover effects include both mood/affect and cognition. Stressors at home may lead to negative emotions that carry over across time and interfere with the work process (Judge, Ilies, & Scott, 2006). Simultaneously, thoughts about these family issues during the work time may interrupt the needed focus on the tasks at hand (Williams, Suls, Alliger, Learner, & Wan, 1991), thereby reducing the effectiveness of available job resources use.

Affective spillover. Affect as a potential mechanism that can explain spillover between family and work has been extensively discussed (Eby, Maher, & Butts, 2010). Studies on affective spillover show that emotional responses to one role cross family-work boundaries and influence attitudes and behaviors in the second role (Heller & Watson, 2005; Ilies et al., 2007; Williams & Alliger, 1994; Williams et al., 1991). Negative affective states originating from family hassles of the previous day may create a negative way of interpreting the work environment (Rusting & DeHart, 2000), which leads to negative affect at work. According to the stress literature, the occurrence of minor daily problems produces emotional threats and the negative influence of daily stressors on mood may take place both within a day and across days (Marco & Suls, 1993). On days when employees experience high levels of family hassles, they will develop negative affect more easily in the following workday. Thus, we hypothesize:

Hypothesis 2a: Family hassles of the previous day are positively related to daily negative affect at work.

Strain-based family-work interference refers to the idea that strain (i.e., negative affect) caused by the family domain intrudes into and interferes with participation in the work domain (Greenhaus & Beutell, 1985). Employees who experience negative affect need to expend more effort to regulate these negative emotions (Rothbard & Wilk, 2011). Their personal resources are consumed more quickly and are therefore unavailable for effectively dealing with work situations. Moreover, Fredrickson (2001) proposed that negative affect narrows people's thoughts and actions, and leads to reduced flexibility at work. Employees experiencing high (vs. low) negative affect are more likely to focus on the negative aspects and regard their work situations as problematic (Waston & Pennebaker, 1989). Therefore, they are less likely to fully use the available job resources, which in turn decreases their functioning at work. Employees who experience negative affect will not be able to fully capitalize on the motivational potential of job resources and be less likely to flourish and experience optimal functioning.

Hypothesis 3a: Daily negative affect moderates the relationship between morning job resources and afternoon flourishing, such that this relationship is weaker for employees with high (vs. low) level of negative affect.

In combination, family hassles consume emotional energies and lead to negative affect at work, leaving insufficient personal resources to fully use the job resources in the work domain, which result in diminished flourishing at work. As the work-home resources model (ten Brummelhuis & Bakker, 2012a) proposes, volatile contextual demands from one domain influence the other domain via changes in volatile personal resources. Thus, the original moderating effect of family hassles is mediated through negative affect. Ilies and colleagues'

(2007) study has also supported that negative mood carried across days mediates the relationships between stressors in one domain and role behaviors in the other domain.

Hypothesis 4a: Daily negative affect mediates the moderating effect of family hassles of the previous day on the relationship between morning job resources and afternoon flourishing.

Cognitive spillover. Besides affect, another spillover mechanism across domains is cognition (Repetti et al., 2009). Research on daily stress suggests that ruminative thoughts are a cognitive mechanism of spillover from stressful events that serve to prolong the negative impact of daily stressors (Cropley & Purvis, 2003). Daily stressors are experienced as inconvenient or harassing and threaten goal attainment in everyday life (McIntosh, Harlow, & Martin, 1995). Rumination is triggered when individuals fail to progress toward the goal (Martin & Tesser, 1989), and have a heightened accessibility of the goal failure experience in their memory (Rothermund, 2003). It contains repetitive and unintentional preservative thoughts in the absence of obvious external cues (Martin & Tesser, 1996). Even though the triggering event has passed, the event-related information is still active. This activation makes event-related thoughts difficult to get rid of, which makes it more likely that one develops ruminative thoughts (Martin, Tesser, & McIntosh, 1993). These perseverative cognitions explain why the impact of family hassles of the previous day endures to the following day (Brosschot, Gerin & Thayer, 2006). Thus, we hypothesize:

Hypothesis 2b: Family hassles of the previous day are positively related to daily rumination at work.

Ruminative thoughts about family issues make employees to be mentally preoccupied while physically present in the workplace (Cardenas, Major, & Bernas, 2004). Thinking about family issues while at work presumably consumes cognitive resources, thereby preventing these resources from being fully used during the execution of tasks (Beal, Weiss, Barros, & MacDermid, 2005). In the family work interface literature, Greenhaus and Beutell (1985) argued that time-based family-work interference is not only the result of the time spent in the family domain, but may also be caused by the preoccupation with family even while fulfilling the requirements of the work role. The cognitive resources invested in the family domain distract employees from work and as a result leads to reduced efficiency of using available job resources (Offer, 2014), such as dealing with supervisor's feedback or complicated work. This will make it difficult to function at one's best and to flourish while at work.

Hypothesis 3b: Daily rumination moderates the relationship between morning job resources and afternoon flourishing, such that this relationship is weaker for employees with high (vs. low) level of rumination.

The work-home resources model (ten Brummelhuis & Bakker, 2012a) suggests that the use of personal resources for issues in the family domain depletes these resources so that they are not available to function optimally in the work domain. Ruminative thoughts originating from family hassles consume cognitive resources, which may impair the full use of job resources such as autonomy and feedback resulting in decreased flourishing at work. Research has found that rumination mediates the relationship between stressors during the day and negative outcomes in the next morning (Wang et al., 2013). Cropley, Dijk, and Stanley's (2006)

study also showed that rumination mediates the relationship between triggering factors and strain across different life domains.

Hypothesis 4b: Daily rumination mediates the moderating effect of family hassles of the previous day on the relationship between morning job resources and afternoon flourishing.

Method

Participants and procedure

Convenience sampling was used to recruit our participants by sending recruitment messages and flyers to personal and professional networks of the researchers. Since working parents have to participate in multiple roles of work and family, our inclusion criteria included being married, having at least one dependent child living at home, and having both partners employed in a full-time job. Our study used the Wechat smartphone application to conduct the survey. Wechat is the most popular instant messaging tool in China. Potential participants were invited to add a Public Account, which is used to send both informed consent and the link to the background Qualtrics survey. In total, 108 individuals filled out the background questionnaire. In the following week, the daily diary study started. The participants were asked to participate in short diary questionnaires three times per day for 5 consecutive working days. On each workday, participants completed their morning survey in the mid-day of their work (assessment window from 11:00 a.m. to 1:00 p.m.), their afternoon survey in the end of the workday (from 4:00 p.m. to 7:00 p.m.), and their evening survey before going to bed (from 9:00 p.m. to 0:00 a.m.). Participants received 25 RMB (about 3.50 EUR) as a token of appreciation for completing all phases of data collection.

Because our model hypothesized the relationships between previous day's family hassles (measured in Day $t-1$'s evening survey), morning job resources (measured in Day t 's morning survey), daily rumination, daily negative affect, and afternoon flourishing (measured in Day t 's afternoon survey), the maximum number of useful daily observations provided by each participant was four (evening surveys from Days 1-4 were matched up with morning and afternoon surveys from Days 2-5). Participants completed 366 out of total possible 432 daily surveys (108 participants * 4 days), resulting in a 84.7% daily response rate.

The sample was predominantly female (78.5%), with 52.3% having college education. Age of the participants ranged from 25 to 40 years ($M = 32.5$, $SD = 3.3$), the mean age of the child living at home was 4.1 years old ($SD = 1.4$), and the average work hours per week was 41.9 hours ($SD = 8.5$).

Measures

All items were rephrased to day-level measurement and translated to Chinese. A back-to-back translation procedure (Brislin, 1980) was performed to translate the scales from English to Chinese. Participants provided their responses on 7-point Likert scales; the response format for all items was 1 = *I fully disagree*; 7 = *I fully agree*.

Daily evening survey

Daily family hassles. We measured family hassles in the bedtime survey with 10 items adapted from the measure developed by Bolger et al. (1989). The scale refers to stressors at

home, for example, “Today I had an argument with my spouse”. Cronbach’s alpha of the daily family hassle scale ranged between .83 and .89 ($M = .86$) across days.

Daily morning survey

Job resources in the morning. We measured job resources in the morning survey with the Job Diagnostic Survey (Hackman & Oldham, 1980). This instrument measures the five core job dimensions in the job characteristics model including autonomy, feedback, skill variety, task identity, and task significance. Three items assessed each characteristic, for example, “This morning, I could decide how to do the work on my own” (autonomy), “This morning, my job provided many chances for me to figure out how well I was doing” (feedback), “This morning, I was required to do many different things at work using a variety of skills” (skill variety), “This morning, I could do an entire piece of work from beginning to end” (task identity), “This morning, the results of my work were likely to affect the well-being of other people” (task significance). Cronbach’s alpha of the morning job resources scale ranged between .83 and .91 ($M = .87$) across days.

Control variable. We took into account morning job demands as the control variable, because job demands are another important category of work environment other than job resources (Bakker et al., 2014). By controlling morning job demands, we could isolate the unique effects of family hassles. *Job demands in the morning* was measured with Karasek’s (1985) Job Content Instrument. The scale includes five items that refer to quantitative demands of the job, for example, “This morning, my job required working very hard”. Cronbach’s alpha of the morning job demands scale ranged between .80 and .85 ($M = .82$) across days.

Daily afternoon survey

Daily rumination. We measured daily rumination in the afternoon survey with 8 items from the Rumination Inventory (McIntosh & Martin, 1992). We removed two items from the original scale, because these items assess future oriented thoughts, which is unrelated to our definition of rumination in this study (e.g., “I often think about what my life will be like in the future). We rephrased the relevant items to the day-level and assessed the repetitive thoughts over problems at home that happened the day before. An example item is “Today at work, I thought about family issues that happened yesterday”. Cronbach’s alpha of the daily rumination scale ranged between .88 and .96 ($M = .93$) across days.

Daily negative affect. We used the short version of the Positive and Negative Affect Schedule (Mackinnon et al., 1999) with 5 items for negative affect (upset, afraid, nervous, scared, and distressed) in the afternoon survey. An example item is “Today at work, I felt upset”. Cronbach’s alpha of the daily negative affect scale ranged between .79 and .89 ($M = .86$) across days.

Flourishing in the afternoon. We measured afternoon flourishing with the eight-item Flourishing Scale (Diener et al., 2010). The sample items are “This afternoon, I was competent and capable in the activities that were important to me”, and “This afternoon, I actively contributed to the happiness and well-being of others”. Cronbach’s alpha of the afternoon flourishing scale ranged between .88 and .94 ($M = .92$) across days.

Strategy of Analysis

Our repeated measures data can be viewed as multilevel data, with daily measurements nested within individuals. This leads to a two-level model with days at the first-level ($N = 366$ occasions) and the individual participants at the second level ($N = 108$ participants). Multilevel analysis with the HLM 6.08 software (Raudenbush, Bryk, Cheong, Congdon, & du Toit, 2004) was applied. Predictor variables at the within-person level (level 1, e.g., daily rumination) were centered to the individual mean.

The mediated moderation relationships in multilevel models can be conceptualized as a set of regression equations (Preacher, Rucker, & Hayes, 2007). We started with the moderating effect of previous day's family hassles on the association between morning job resources and afternoon flourishing, and then we sought to explain the moderating effect by using two mediators (daily negative affect and daily rumination) that carry the moderating effect.

First, we specified and tested a null model without independent variables. Then, we entered the control variable morning job demands. After that, we entered predictors (previous day's family hassles and morning job resources) and the interaction between previous day's family hassles and morning job resources. The interaction term was created by person-mean centering and subsequently multiplying the two predictor variables involved in the interaction (Aiken & West, 1991). Finally, we entered daily negative affect, daily rumination, and the interaction terms of morning job resources with daily negative affect and daily rumination at level 1. We examined whether daily negative affect and/or daily rumination accounted for the moderating effect of previous day's family hassles on the morning job resources-afternoon flourishing relationship.

We tested the indirect effects of the interaction of morning job resources and previous day's family hassles through daily negative affect and daily rumination at the within-person level by using the Monte Carlo Method (Bauer, Preacher, & Gil, 2006). For each mediated effect, we calculated the distribution of the specific mediation effect using (a) the estimate and the standard error of the effect of previous day's family hassles on each mediator, as well as (b) the estimate and the standard error of the interactions of each mediator with morning job resources in predicting afternoon flourishing. When the distribution of possible estimates for the products of *a* and *b* lies above or below zero, the mediators (daily negative affect and/or daily rumination) significantly mediate the interaction of morning job resources and previous day's family hassles on afternoon flourishing.

Results

Descriptive statistics

Table 1 shows the means, standard deviations, reliabilities, intra-class correlations (ICC1), and correlations among the study variables at the within-person and between-person levels of analysis. The low ICC1 value indicates the high within-person variance in the daily-measured variables. The results showed that 48% of the variance in afternoon flourishing, 60% in daily negative affect, 42% in daily rumination, 45% in morning job resources, and 32% of the variance in previous day's family hassles was explained by within-person differences, justifying our multilevel approach.

Table 1. Descriptive statistics, within-person and between-person correlations

	<i>M</i>	<i>SD</i>	ICC1	1	2	3	4	5	6
1 Family hassles (Day <i>t</i> -1)	1.79	.65	.68	(.86)	-.06	.04	.13*	-.02	-.12*
2 Job resources (Day <i>t</i> morning)	4.66	.71	.55	-.11*	(.87)	.45**	-.06	-.01	.07
3 Job demands (Day <i>t</i> morning)	4.07	.78	.39	.06	.47**	(.82)	.02	.12*	-.12*
4 Rumination (Day <i>t</i>)	2.56	.92	.58	.35**	-.26**	-.10*	(.93)	.44**	-.25**
5 Negative affect (Day <i>t</i>)	2.62	.79	.40	.28**	-.21**	.04	.54**	(.86)	-.33**
6 Flourishing (Day <i>t</i> afternoon)	4.80	.77	.52	-.11*	.39**	.10*	-.35**	-.39**	(.92)

Note. Correlations above the diagonal are based on non-averaged data ($N = 366$), while correlations below the diagonal are based on within-person averages ($N = 108$).

* $p < .05$; ** $p < .01$

Multilevel confirmatory factor analysis (MLCFA)

Multilevel confirmatory factor analysis was conducted using Mplus 7 (Muthén & Muthén, 2010) to examine the construct validity of all studied variables. The proposed model included the six within-person model variables (i.e., previous day's family hassles, morning job resources, morning job demands, afternoon flourishing, daily negative affect, and daily rumination). Results showed a better fit to the data for a model comprising six distinct factors, $\chi^2 (357) = 738.471$, CFI = .92, TFI = .91, RMSEA = .04, SRMR = .07, as compared to all possible five-factor models or models with even fewer factors, $\Delta\chi^2 (5) \geq 168.62$, $p < .001$.

Hypotheses testing

According to Hypothesis 1, previous day's family hassles would attenuate the positive relationship between morning job resources and afternoon flourishing. As shown in Table 2 (Step 2), the interaction term for Day *t*'s morning job resources and Day *t*-1's family hassles was significant ($\gamma = -.459$, $p < .05$). We plotted the interaction and conducted simple slope tests to interpret the interaction effect. Figure 2 illustrates that when previous day's family hassles were high (1 *SD* above the mean), the relationship between morning job resources and afternoon flourishing was not significant ($b = -.166$, *ns*); whereas when previous day's family hassles were low (1 *SD* below the mean), morning job resources were significantly positively related to afternoon flourishing ($b = .424$, $p < .01$). This pattern of results is consistent with Hypothesis 1.

Hypotheses 2a and 2b predicted that family hassles of the previous day would be positively associated with daily negative affect and daily rumination, respectively. As shown in Table 2, the relationship between Day *t*-1's family hassles and Day *t*'s rumination was significant ($\gamma = .265$, $p < .05$); the relationship between Day *t*-1's family hassles and Day *t*'s negative affect was not significant ($\gamma = -.030$, $p > .05$). These results offer support for Hypothesis 2b, but not for Hypothesis 2a.

Table 2. Interaction effects of previous day's family hassles, morning job resources, daily negative affect, daily rumination on afternoon flourishing

	Mediators			Flourishing (Day t afternoon)					
	Negative affect (Day t)		Rumination (Day t)	Step 1		Step 2		Step 3	
	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE	Estimate
Fixed effects									
Job demands (Day t morning)	.150*	.073	.021	.043	-.161*	.077	-.158*	.059	-.102
Family hassles (Day $t-1$)	-.030	.122	.265*	.108	-.180	.130	-.139	.112	-.104
Job resources (Day t morning)					.141	.111	.135	.088	.092
Job resources (Day t morning) * family hassles (Day $t-1$)							-.459*	.205	-.174
Negative affect (Day t)									-.240**
Rumination (Day t)									-.205**
Job resources (Day t morning) * negative affect (Day t)									-.140
Job resources (Day t morning) * rumination (Day t)									-.300*
Variance components									
Level 2 variance (individual)	.524	.104	.838	.139	.498	.094	.492	.093	.496
Level 1 variance (day)	.652	.057	.448	.042	.477	.043	.471	.043	.399
Random slope for family hassles	.023	.139	.015	.092	.102	.158	.186	.152	.259
Deviance	944.941		882.757		862.830		857.334		824.077

Note. * $p < .05$; ** $p < .01$

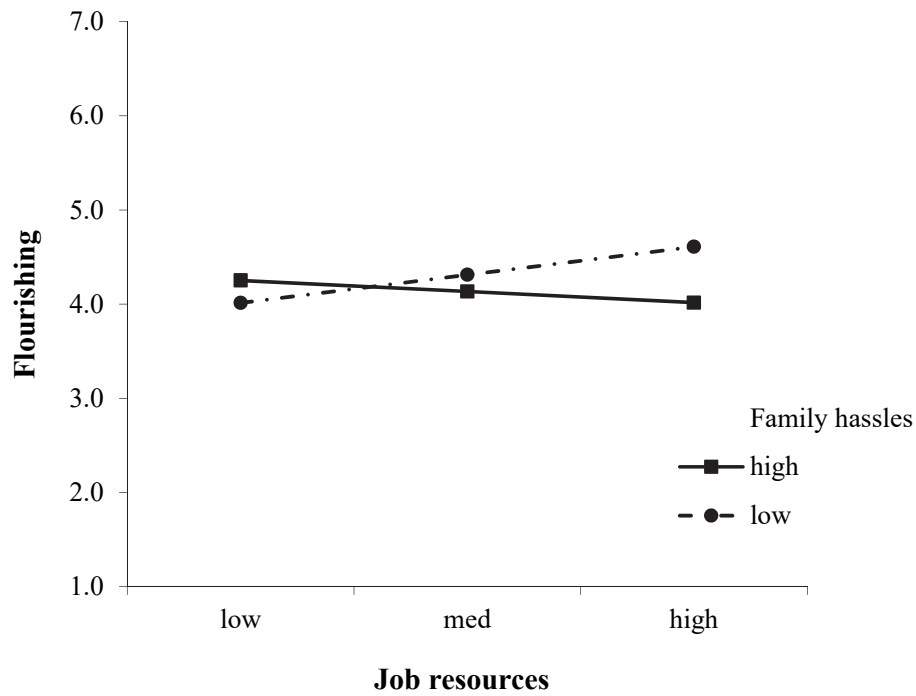


Figure 2. Moderating effect of previous day's family hassles on the morning job resources-afternoon flourishing relationship

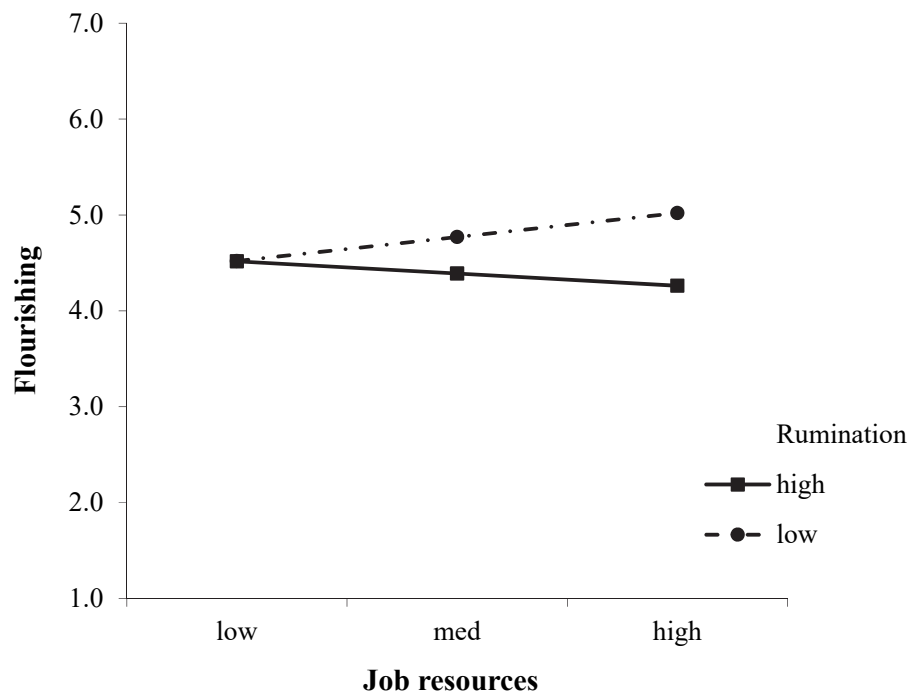


Figure 3. Moderating effect of daily rumination on the morning job resources-afternoon flourishing relationship

Hypothesis 3a and 3b predicted that daily negative affect and daily rumination would moderate the relationship between morning job resources and afternoon flourishing respectively. Step 3 in Table 2 shows that the interaction between Day t 's morning job resources and Day t 's negative affect was not significant ($\gamma = -.140, p > .05$). However, the interaction between Day t 's morning job resources and Day t 's rumination was significant ($\gamma = -.300, p < .05$). Simple slope analyses and the plot of the interaction (see Figure 3) show that the relationship between morning job resources and afternoon flourishing was non-significant when daily rumination was high ($b = -.183, ns$) and significant when daily rumination was low ($b = .351, p < .01$). These results are consistent with Hypothesis 3b, but not with Hypothesis 3a.

Hypothesis 4a and 4b proposed that daily negative affect and daily rumination would mediate the moderating effect of previous day's family hassles on morning job resources-afternoon flourishing relationship respectively. Since the relationship between Day $t-1$'s family hassles and Day t 's negative affect and the interaction between Day t 's morning job resources and Day t 's negative affect were not significant, Hypothesis 4a was not supported. By using Monte Carlo simulation procedure with 20,000 replications, we found that the indirect effect of the interaction of Day $t-1$'s family hassles and Day t 's morning job resources through Day t 's rumination was $-.079$, with a 95% bias-corrected bootstrap confidence interval of $[-.0042, -.1936]$. The results indicate that the mediating effect of daily rumination was significantly different from zero, providing support for Hypothesis 4b.

Discussion

In the current study, we used a within-person approach to examine affective and cognitive spillover mechanisms between the family and work domains. We found that previous day's family hassles attenuated the relationship between morning job resources and afternoon flourishing by fostering employees' ruminative thoughts over family issues at work. Ruminative thoughts triggered by previous day family hassles weakened the association between job resources and flourishing, and thus ruminative thoughts carried the moderating effect of family hassles. Our results suggest that when employees are confronted with family hassles, they will ruminate on these incidents the next day, which then impairs the motivational potential of available job resources at work.

However, we did not find evidence for the proposed mediated moderation effect of daily negative affect. Family hassles of the previous day did not significantly relate to daily negative affect, and daily negative affect did not significantly moderate the morning job resources-afternoon flourishing relation. A possible reason might be the differences in the emotional effects of different types of stressors. Previous research has revealed that having arguments with others is more likely to raise negative emotional reactions, while solving problems and demands is less emotionally intense (Bolger & Schilling, 1991). We conducted an exploratory analysis for different types of hassles and found that problem-solving hassles were significantly and positively related to rumination ($\gamma = .271, p < .05$), while interpersonal hassles were positively related to negative affect ($\gamma = .033$), but this relationship was not significant ($p = .743$; see Supplementary Table 2 & 3 online). In our study, family hassles reported by

participants were significantly higher for problem solving demands ($M = 2.20$, $SD = 1.34$, e.g., “Today I had a lot of demands made by the family”) than for arguments with others ($M = 1.44$, $SD = .83$, e.g., “Today I had an argument with my spouse”), $t(365) = 13.57$, $p < .01$. This may have precluded us from finding a significant relationship between previous day’s family hassles and negative affect. In addition, we used task-related resources at work and not social resources, such as social support from colleagues and supervisor support, when we tested the interaction effect of job resources and negative affect. Ashkanasy, Zerbe and Hartel (2002) have argued that the impact of emotions is less salient to task-related resources use than to dealing with social resources. This may have prevented us from finding the moderating effect of negative affect on the job resources-flourishing relationship.

Theoretical implications

Our study has several theoretical implications. First, our finding that family hassles of the previous day moderated the relationship between morning job resources and afternoon flourishing provides insight into the family-work process – it shows how the family and work domains interact. Most of the research on work-family and family-work interference has used an approach in which researchers ask participants to directly self-report the amount of interference (e.g., “the demands of my family interfere with work-related activities”) (Amstad et al., 2011). Such a procedure is suboptimal from a methodological perspective, because in this way researchers are asking their participants to report a complex process. For example, it is conceivable that people overestimate the negative impact of work on family when they are tired, and overestimate the positive impact of work on family when they have been successful (Chen & Powell, 2012). Instead of using such direct measurements that are susceptible to subjectivity bias, our study applied the process view of the Work-Home Resources model on family-to-work interference, and tested empirically whether previous day’s family hassles interfered with the use of available job resources and its consequences for flourishing at work.

Second, we examined the moderating role of *previous* day family hassles in work processes, which shows the nature of spillover *across* days. Most studies have tested spillover effects from work to family within the same day (e.g., Ilies et al., 2007), while less attention has been paid to the overnight spillover of family demands to the work domain. The results of our study indicate that problems at home may interfere with the use of available resources in the workplace even across days. Moreover, the work-home resources model (ten Brummelhuis & Bakker, 2012a) acknowledges the role of time in the work-family process and explains how the interference process develops over time. In accordance with the process view of this model, our study used a daily diary design to test the short-term process of family-to-work interference. We found that cross-day interference occurs when volatile contextual demands from the family domain induce a depletion process of volatile personal resources. This leaves insufficient personal resources for employees to fully use the contextual resources in the work domain, which ultimately attenuates employees’ functioning when they are back at work.

Third, our finding that daily rumination mediated the moderating effect of previous day family hassles reveals the cognitive mechanism of the spillover. Most of the research on the spillover process has examined affective experiences across domains, while less attention has

been dedicated to the cognitive spillover from family to work (Offer, 2014). Our results suggest that stressors at home cause persisting cognitive processes, which consume personal cognitive resources at work and reduce the efficiency of using available job resources. This is in line with the work-home resources model (ten Brummelhuis & Bakker, 2012a) that family life influences work through a loss in volatile personal resources, especially the depletion of cognitive resources when ruminating about family hassles. In addition, Carlson and Frone (2003) propose that internal family-work interference represents internally generated psychological preoccupation with home while being physically active in the work domain. Our study also provides insight to the internal element of the work-family interface by examining how ruminative thoughts triggered by family hassles intrude into job resources use in the workplace. To further verify the mechanisms between the family and work domains, we tested a plausible alternative model in which daily rumination and negative affect mediated the relationship between previous day family hassles and afternoon flourishing, with morning job resources moderating the first stage of that mediation. The results of the alternative model showed that daily rumination mediated the relationship between previous day hassles and afternoon flourishing (indirect effect = $-.053$, 95% CI [$-.0086$, $-.1127$]), and the mediation effect of daily negative affect was significant only when morning job resources was low (conditional indirect effect = $-.049$, 95% CI [$-.0010$, $-.1158$]). These findings provide additional support for the affective and cognitive mechanisms that play a role in the spillover between domains (see Supplementary Table 9, Figure 8 & 9 online).

In addition, our study contributes to the literature on job characteristics theory (Hackman & Oldham, 1980) by showing how fluctuations in perceived job characteristics relate to individual's feelings and functioning on a daily basis, which has only been partially addressed in previous studies (e.g., Breevaart, Bakker, & Demerouti, 2014a; Breevaart et al., 2014b; Kühnel, Sonnentag, & Bledow, 2012). Additionally, we conducted explorative analyses for each job characteristic separately. We found that family hassles significantly moderated the skill variety-flourishing relationship ($\gamma = -.468$, $p < .05$), rumination significantly moderated the relationship between autonomy and flourishing ($\gamma = -.227$, $p < .05$), and negative affect significantly moderated the relationship between feedback and flourishing ($\gamma = -.181$, $p < .05$) (see Supplementary Table 4, 5, & 6, Figure 5, 6, & 7 online). These results suggest that the effective use of specific job characteristic was sensitive to different aspects of the family-work interference. These results are in line with the work-home resources model (ten Brummelhuis & Bakker, 2012a), which states that contextual demands in the family domain induce an underlying process of personal resources depletion, which impairs employees' full use of available contextual resources in the work domain.

Limitations and future research

Our study is not without limitations. All the variables examined in our study were measured by self-report and the results may be contaminated by common method variance. However, following the suggestions by Podsakoff, MacKenzie, Lee, and Podsakoff (2003), we separated the measures of the predictor (i.e., job resources were measured in the daily morning survey), outcome (i.e., flourishing was measured in the daily afternoon survey), and moderator

(i.e., family hassles were measured in the daily evening survey) in time. Therefore, it is less likely that the relationships found in the current study were due to common method bias. Nevertheless, future studies may also use other-reports (e.g., partner-reports of family hassles) to replicate the current findings. In addition, we used self-report flourishing as an indicator of employees' optimal functioning at work. Future studies may include objective measures, such as performance records, as outcome variables.

There is also still room for improvement in the research design since we only tested the within-level process of family-work interference. The work-home resources model (ten Brummelhuis & Bakker, 2012a) proposes that conditional factors such as characteristics of the person (key resources) and the context in which individuals are living (macro resources) can prevent and attenuate the interference between the family and work domains. Future studies may investigate individual differences (e.g., optimism, self-efficacy) and general social conditions (e.g., public policies, cultural values) as cross-level moderators that may buffer the undesirable impact of family factors on work processes.

Practical implications

Our diary study shows that family hassles of the previous day impair the full potential of job resources and diminish flourishing because employees ruminate over home while at work. This finding is consistent with the work-home resources model (ten Brummelhuis & Bakker, 2012a), which states that family hassles impact the work domain through a process of personal resources depletion, especially the depletion of cognitive resources when repetitive thinking about the family hassles. Organizations need to recognize that although employees are physically present and participate in the workplace, preoccupying thoughts about family issues may still distract them. Thus, distractions are not only caused by external stimuli but also by internal processes and thoughts. Organizations may consider implementing intervention programs, such as mindfulness training (Chambers, Lo, & Allen, 2008), to improve employees' concentration skills, so that they can fully concentrate on their work and allocate all available job resources to the task at hand.

Other ways to reduce the impact of family hassles may be situational-based methods in the workplace. Organizations may provide more flexible work arrangements for their employees to deal with the interference from the family domain. For example, scheduling flexibility and workplace flexibility can help employees to manage family issues without thinking about these issues or bringing them into work (Allen, Johnson, Kiburz, & Shockley, 2013). In addition, Kossek, Pichler, Bodner, and Hammer (2011) suggest that work-family-specific support is likely to be a more psychologically and functionally useful resource to manage work-family situations. For example, supervisors could inform employees about supportive organizational policies, which may help them solve the problems at home and fully use the available job resources at work.

Conclusion

This study used the work-home resources model to show how family hassles go beyond the family domain and spill over to the work domain through rumination across days. The

results provide support for a cognitive mechanism underlying the family-to-work interference process. We hope that our findings help organizations to recognize the problem of internal family-work interference within the workplace, and provide work-family-specific support and interventions to help employees make full use of their job resources and flourish – at work and at home.

CHAPTER 3

Does Homesickness Undermine the Potential of Job Resources?

A Perspective from the Work-Home Resources Model

This chapter has been published as Du, D., Derks, D., Bakker, A. B. & Lu, C. (2018). Does homesickness undermine the potential of job resources? A perspective from the work-home resources model. *Journal of Organizational Behavior*, 39, 96-112.

Abstract

Rapid economic development in recent decades has resulted in a considerable increase in the number of people working far away from their home locations. Homesickness is a common reaction to the separation from home. Our research uses the work-home resources model to explain how the experience of homesickness can undermine the positive effect of job resources on job performance (i.e., task performance and safety behavior). In addition, we hypothesize that emotional stability and openness are key resources that can buffer the negative interference of homesickness with the job resources-performance relationship. We conducted two studies to test our hypotheses. Study 1 was a two-wave longitudinal study using a migrant manufacturing worker sample. In this study, homesickness was measured at the between-person level and performance was measured three months later. Study 2 was a daily diary study conducted in a military trainee sample. In this study, homesickness was measured at the within-person level to capture its fluctuations over 20 days, and daily job performance was assessed using supervisor ratings. Both studies showed evidence of the hypothesized moderating effect of homesickness and three-way interaction effects of job resources, homesickness, and key resources (i.e., emotional stability, openness) on task performance and safety behavior.

Introduction

The changing economic conditions of the past few decades have created an enormous growth in the number of people working far away from their home locations, whether in their own countries or abroad. According to the United Nations (2013), more than 232 million people, or 3.2% of the world population, live outside their country of origin to pursue career developments (Greenhaus & Kossek, 2014). Organizations use high performance work practices, such as training, participation in decision making, and optimized working conditions (Combs, Liu, Hall, & Ketchen, 2006) to improve the work experiences and performance of those who work far away from home. Most studies of migrants or expatriates have focused on factors in the external environment, such as job characteristics, social support networks, spouse or family adjustment, and confrontation with new cultures that may interfere with work processes (see Kraimer, Bolino, & Mead, 2016, for review). However, little attention has been paid to the internal processes that may hinder employees' job performance, such as their psychological well-being and personal needs (Kraimer et al., 2016).

Homesickness is a frequently occurring phenomenon associated with relocation, which is an indicator of the psychological well-being of people who make geographic moves (Van Tilburg, 2007). When people leave their home environments, they commonly generate ruminative thoughts about home, accompanied by negative emotions and even somatic symptoms (Eurelings-Bontekoe, Vingerhoets, & Fontijn, 1994). According to the work-home resources model (ten Brummelhuis & Bakker, 2012a), the use of personal resources (e.g., concentration, mood, and energy) for issues in one domain depletes these resources, making them unavailable for people to function optimally in the other domain. Ruminating about home and experiencing negative feelings during work may consume employees' attentional, emotional, and energetic resources, thereby preventing these resources from being fully allocated to effortful tasks. This, in turn, may attenuate the effective use of available contextual resources and ultimately undermine job performance (Beal, Weiss, Barros, & MacDermid, 2005). In this research, we examine whether homesickness may undermine the relationship between job resources and performance. We adopt both between- and within-person perspectives to examine the long-term time-lagged effect and the short-term daily effect, respectively, of the interference of homesickness with the work domain. By conducting one study with a longitudinal design among migrant workers and another with a daily diary design among military trainees who work far away from their homes, we strengthen the generalizability and the robustness of our research.

The work-home resources model also proposes that key resources are conditional factors that prevent and attenuate the negative impact of the home domain on the work domain (ten Brummelhuis & Bakker, 2012a). Key resources are stable management resources that facilitate the selection, alteration, and implementation of other resources (Hobfoll, 2002; Thoits, 1994). They represent stable personality traits that enable individuals to cope effectively with stressful situations (e.g., leaving home and adapting to new conditions) and to optimally use their contextual resources (e.g., feedback and help from others) (Halbesleben, Neveu, Paustian-Underdahl, & Westman, 2014). Empirical evidence suggests that emotional stability and openness play a vital role in expatriates' ability to tolerate stress and deal effectively with their

relocation to a new environment (Shaffer, Harrison, Gregersen, Black, & Ferzandi, 2006; Lazarova, Westman, & Shaffer, 2010). Therefore, in line with the work-home resources model, we explore the buffering role of key resources (i.e., trait emotional stability and trait openness) when individuals have to deal with the interference of homesickness with their work processes.

Our research aims to contribute to the literature in the following ways. First, our research investigates the interference of homesickness with the work domain. Instead of simply using work outcomes to represent the work domain and investigating the direct effect of homesickness on these work outcomes, we investigate how homesickness may influence the job resources-job performance relationship. That is, we use the moderating effect of homesickness on the job resources-performance relationship to operationalize the interference of the home domain with the work domain. Moreover, we use the work-home resources model to provide insight into how homesickness may undermine the relationship between job resources and performance, which contributes to the literatures on homesickness and the home-work interface more generally. Second, our research takes both between-person and dynamic within-person perspectives to examine the interference of homesickness with the job resources-performance relationship. In addition, we collected multi-source data and used supervisor-rated task performance and safety behavior as outcome variables to provide a more complete picture of work outcomes that may be affected by homesickness. Third, our research provides empirical support for the functions of key resources in the recently proposed work-home resources model (ten Brummelhuis & Bakker, 2012a). By examining the three-way interaction effects of emotional stability and openness with job resources and homesickness on job performance, our research reveals the role of key resources in how people deal with the interference of homesickness with the work process.

Theoretical Background

The impact of homesickness

Homesickness is a reaction to leaving one's home, characterized by ruminative thoughts about home, including missing family and friends, accompanied by negative emotions and even somatic symptoms such as feeling lonely and uncomfortable in the new environment (Eurelings-Bontekoe et al., 1994). Studies have shown that employees who work far away from home are more likely to develop loneliness and strain induced by the separation from home. Leaving a familiar environment and resettling somewhere else can be a stressful event, and coping with stressful circumstances requires both resource allocation and investment (Hobfoll, 2002). For example, for individuals who work away from home, it is difficult to maintain friendships with those at home, which consumes considerable physiological and/or psychological resources (Shaffer, Kraimer, Chen, & Bolino, 2012). Homesickness is an indicator of the psychological well-being of people who leave home and is known to be associated with a variety of both psychological and physical complaints that can lead to a reduced capacity of using resources effectively (Greenberg, Stiglin, Finkelstein, & Berndt, 1993). The work-home resources model (ten Brummelhuis & Bakker, 2012a) suggests that once an individual's personal resources are allocated to or have been used for one domain (home), they will not be available for the individual to fully use contextual resources or to deal with

situations in the other domain (work). This model explains the underlying process of how homesickness can interfere with the work domain.

Instead of simply using work outcomes to represent the work domain, we try to capture the process of work, which is represented by the well-established relationship between job resources and performance (Bakker, Demerouti, & Sanz-Vergel, 2014). We examine specific contextual resources in the workplace (feedback and social support) and specific indicators of performance (task performance and safety behavior) to investigate how homesickness may interfere with the resources-performance relationship. As Saks and Ashforth (1997) noted, information is critical for newcomers—in particular, information provided by superiors and peers can help newcomers better adapt to a new environment. Moreover, feedback fosters learning, thereby increasing job competence and improving performance. Social support satisfies the need to belong and receiving help from others during task accomplishment can also improve one's performance (Schaufeli & Bakker, 2004). In addition to task performance, safety is always a major concern for organizations, as it is a source of substantial direct and indirect costs (Neal & Griffin, 2006). Our samples consist of manufacturing workers (Study 1) and military driving trainees (Study 2). In these contexts, safety behavior is salient and essential, even on a daily basis. Compared with employees in various other occupations, it is more important for these employees to obey safety procedures because the consequences of safety problems can be severe. To capture the particularity of the settings, we examine both task performance and safety behavior as indicators of performance.

Employees' performance depends on not only the amount of available contextual resources in the workplace, but also whether the employees are able to allocate those resources to the task at hand (Beal et al., 2005). In line with the work-home resources model (ten Brummelhuis & Bakker, 2012a), homesickness may consume physical or mental energy, leaving insufficient personal resources to effectively use the available contextual resources in the work domain and thus threatening job performance. People who work far away from home without being accompanied by family members commonly generate ruminative thoughts about home and have a strong desire to return home (Eurelings-Bontekoe et al., 1994). These persisting thoughts may consume their attention and cognitive resources, attenuating the use of contextual resources in the workplace, such as dealing with supervisor feedback, which may result in diminished performance at work (Demerouti, Taris, & Bakker, 2007; Nohe, Michel, & Sonntag, 2014). In addition, homesick employees are more likely to experience negative feelings and even physical illness (van Tilburg, 2007). Therefore, they tend to see the negative aspects of their work and interpret supervisor feedback as problematic rather than helpful (Waston & Pennebaker, 1989), as well as lack the physical energy to fully participate in the work activities (Popperton, Briner, & Kiefer, 2008). Norris and Kaniasty (1996) also found that people who experience homesickness are more likely to use social support for purposes other than work – namely to offset their (home-related) strain. This finding suggests that homesickness undermines the effective use of social resources for the work domain, which may prevent employees from benefiting from social support and impair their performance. Thus, we make the following hypotheses:

Hypothesis 1a: Homesickness moderates the job resources-task performance relationship. The positive relationship between job resources and task performance is weaker for people with high (vs. low) levels of homesickness.

Hypothesis 1b: Homesickness moderates the job resources-safety behavior relationship. The positive relationship between job resources and safety behavior is weaker for people with high (vs. low) levels of homesickness.

The role of emotional stability and openness

According to the work-home resources model, key resources are stable management resources that facilitate the selection, alteration, and implementation of other resources (Thoits, 1994). Therefore, key resources may prevent and attenuate interference between the home and work domains (ten Brummelhuis & Bakker, 2012a). Conceptually, key resources are more stable and more inherent to a person than other transferrable personal resources. They represent stable personality traits that enable individuals to cope with stressful situations and use other resources more effectively (Halbesleben et al., 2014). The role of key resources provides an explanation for why some people are better than others in coping with homesickness and in using their job resources. We focus on emotional stability and openness as key resources, as they are particularly relevant to new-environment adaptation. Shaffer and colleagues (2006) found that emotional stability and openness are the only two significant predictors of expatriates' work adjustment. For employees who are separated from their family and work away from home, emotional stability and openness to experience may be crucial to adjusting to the new environment.

Emotional stability reflects the tendency to be confident, secure, and steady (Judge & Bono, 2001). Research has found that individuals who are emotionally stable are less vulnerable to the negative impact of homesickness (Eurelings-Bontekoe, Tolsma, Verschuur, & Vingerhoets, 1996). In addition, emotional stability is negatively related to home-work interference (Bruck & Allen, 2003) and buffers the negative effects of home-work interference on the work domain (Kinnunen, Vermulst, Gerris, & Mäkikangas, 2003). Therefore, emotionally stable employees may be less likely to be affected by homesickness during work. Furthermore, emotional stability is positively related to proactive behavior and personal initiative (Thomas, Whitman, & Viswesvaran, 2010), suggesting that individuals who are high in emotional stability are more likely to better use their job resources. Thus, people with high (vs. low) emotional stability are better able to manage their resources and to cope with the interference of homesickness with the work domain.

Openness reflects the tendency to be imaginative, sensitive to art and beauty, emotionally differentiated, behaviorally flexible, intellectually curious, and liberal in values (McCrae & Sutin, 2009). Open individuals are verbally fluent, humorous, and expressive in interpersonal interactions (Sneed, McCrae, & Funder, 1998), and this may help them build relationships with others and adapt to a new environment easily (LePine, Colquitt, & Erez, 2000). Empirical evidence has shown that openness to experience attenuates the negative impact of homesickness (Van Heck et al., 2007). Moreover, open individuals have a positive attitude toward learning experiences, which can be particularly useful in a resourceful environment that provides

constructive feedback (Bakker, Sanz-Vergel, & Kuntze, 2015). Individuals high in openness are more proactive (Thomas et al., 2010) and more responsive to performance feedback from their supervisors and peers (Krasman, 2010). Therefore, people with high openness are able to make full use of available resources and are less likely to be influenced by homesickness.

Based on the work-home resources model and previous findings, emotional stability and openness can be conceptualized as key resources that can buffer the negative interference of homesickness with resources-performance process, as people who are emotionally stable and open to new experiences are able to fully use the available resources in their work environments to prevent decreases in performance. Thus, we formulate the following hypotheses:

Hypothesis 2: Job resources have stronger positive relationships with (a) task performance and (b) safety behavior for individuals who are high (vs. low) in emotional stability and low (vs. high) in homesickness.

Hypothesis 3: Job resources have stronger positive relationships with (a) task performance and (b) safety behavior for individuals who are high (vs. low) in openness and low (vs. high) in homesickness.

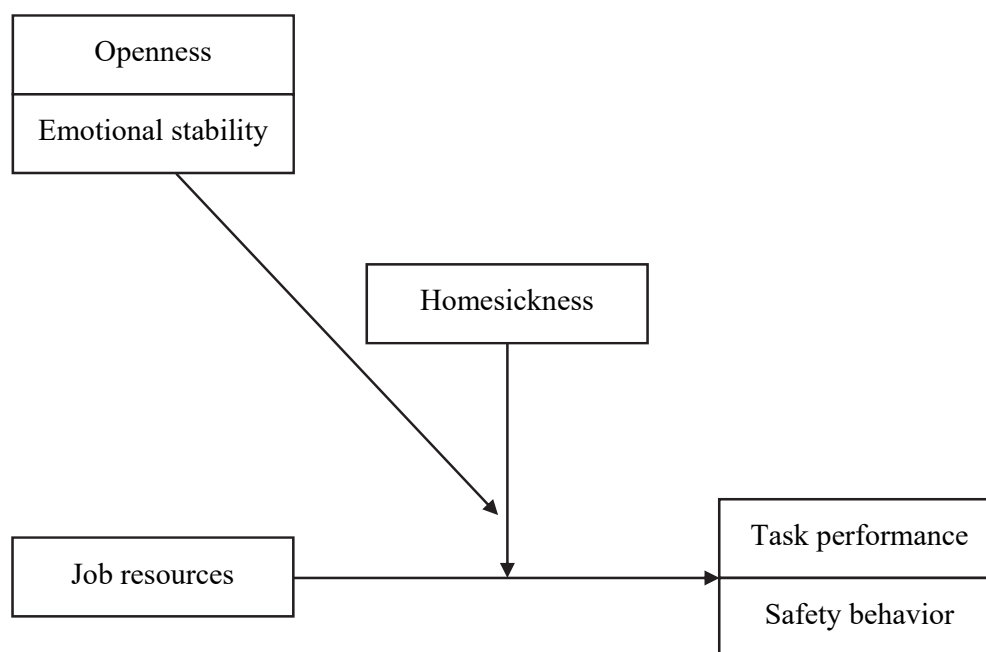


Figure 1. Proposed research model

To test our hypotheses, we conducted two studies. In Study 1, we used a between-person perspective with a two-wave longitudinal design to examine whether homesickness would interfere with the work process and the moderating role of emotional stability and openness in a manufacturing migrant worker sample. In Study 2, we tried to capture the potential day-to-day fluctuations of homesickness and attempted to replicate our results using a four-week daily diary study design with supervisor ratings of performance in a military trainee sample. Our research answered the recent calls for more replication studies with diverse research designs in organizational research (e.g., Wright & Sweeney, 2016). We used two samples with different

research designs and multisource data, which enabled a robust test of the hypothesized model and allowed us to cross-validate our findings.

Study 1

Method

Participants and procedure. We conducted a two-wave survey in a Chinese manufacturing company in a southern coastal city. Our sample consisted of blue-collar workers who were mostly migrant peasant workers. They had left their parents and even their wives and children in their hometowns and come to work in the city to financially support their families. Before the participants registered for the survey, the researcher explained the purpose of the project and asked them for their consent to participate. All of the participants were assured that their responses would remain confidential and that they had the right to withdraw from the study at any time. With the help of research assistants, we distributed 700 questionnaires at Time 1 (T1) and collected 581 valid responses (response rate of 83%). In this survey, we assessed the participants' job resources, homesickness, key resources (openness and emotional stability), and demographic variables. Three months later at Time 2 (T2), we conducted the second survey study. In this survey, the participants reported their task performance and safety behavior. The participants received a gift of RMB10 (about \$1.50) after completing both surveys. In the end, the final matched sample size consisted of 422 employees with a match rate of 72.6%. The average age of the participants was 35.19 years ($SD = 7.46$), the average tenure was 39.71 months ($SD = 38.39$), and the average weekly work hours were 59.36 ($SD = 7.69$). 76.5% of the participants were male, 79.8% were married, and 72.7% were non-management workers.

Measures. All of the items were formulated in Chinese. A back-to-back translation procedure (Brislin, 1980) was performed to translate the scales from English to Chinese.

Job resources. We measured job resources using six items ($\alpha = .71$) with three items assessing feedback and three items assessing social support. The participants provided their responses on 5-point Likert scales; the response format for all of the items was 1 = Never, 2 = Sometimes, 3 = Regularly, 4 = Often, 5 = Very often. The feedback scale was developed by Karasek (1985). An example item is "I receive sufficient information about the results of my work." The social support scale was developed by Van Veldhoven, de Jonge, Broersen, Kompier, and Meijman (2002). An example item is "If necessary, I can ask my colleagues for help." To test whether feedback and social support acted as indicators of one latent "job resources" factor, we compared a first-order model, in which feedback and social support were represented as independent constructs, with a second-order model. The results showed that the second-order model fit the data well ($\chi^2(7) = 22.32, p < .01$, CFI = .96, SRMR = .04, RMSEA = .07) and better than the first-order model ($\Delta\chi^2(1) = 8.08, p < .01$), supporting the representation of feedback and social support as one general latent factor.

Homesickness. We measured homesickness using 20 items ($\alpha = .88$) from the Utrecht Homesickness Scale (Stroebe, van Vliet, Hewstone, & Willis, 2002) and assessed the extent to which the employees experienced homesickness in the current month (1 = Never, 5 = Very often). The items reflected five underlying dimensions assessed with four items each: missing

family (e.g., “Missing home”), loneliness (e.g., “Feeling lonely”), missing friends (e.g., “Missing my friends”), adjustment difficulties (e.g., “Feeling uncomfortable here”), and ruminations about home (e.g., “Continuously having thoughts about home”).

Emotional stability. Trait emotional stability was measured with six items ($\alpha = .79$) from Judge, Rodell, Klinger, Simon, and Crawford (2013). Example items are “I am anxious” (reverse scored) and “I am impulsive” (reverse scored). These items were rated from 1 (I fully disagree) to 7 (I fully agree).

Openness. The scale used to measure the trait openness to experience also consisted of six items ($\alpha = .72$) from Judge et al. (2013). Example items are “I am interested in many different things” and “I have an active imagination” (1 = I fully disagree, 7 = I fully agree).

Task performance. We measured task performance using three items ($\alpha = .76$) from the scale developed by Goodman and Svyantek (1999). An example item is “I meet all the requirements of my position” (1 = I fully disagree, 5 = I fully agree).

Safety behavior. Employees reported their safety behavior using a six-item scale ($\alpha = .75$) developed by Neal, Griffin, and Hart (2000). There were two dimensions: safety compliance (e.g., “I use the correct safety procedures for carrying out my job”) and safety participation (e.g., “I voluntarily carry out tasks or activities that help to improve workplace safety”). These items were rated from 1 (I fully disagree) to 5 (I fully agree).

Job demands. We used job demands as a control variable when predicting performance, because job demands are, besides job resources, another important category of work characteristics (Bakker et al., 2014). By controlling for job demands, we could isolate the unique effects of job resources. We used the three-item workload scale ($\alpha = .79$) developed by Peterson et al. (1995) that focused on the quantitative demands of the job. An example item is “I have too much work to do” (1 = Never, 5 = Very often).

Finally, we included age, gender, marriage, hometown distance (1 = Within same province, 2 = In nearby provinces, 3 = In middle region of China, 4 = In Northern China), and the frequency of contact with the family (1 = Very rarely, 5 = Very frequently) as control variables, as they have been shown to be associated with the perception of homesickness (Stroebe et al., 2002). We used the frequency of contact with the family to represent the attachment to the family. The more frequently individuals have contact with their families, the more psychological distance they experience from their present work situation. Therefore, they may have more difficulties adapting to a new environment (Hendrickson, Rosen, & Aune, 2011). We also included tenure (month), position, and weekly work hours as control variables, as they affect perceived job demands, job resources, and job performance (Lu, Du, Xu, & Zhang, 2017).

Results

Table 1 presents the means, standard deviations, and correlations of all of the variables. The results of a confirmatory factor analysis using Mplus 7 (Muthén & Muthén, 2010) showed that the hypothesized six-factor model (job resources, homesickness, emotional stability, openness, task performance, and safety behavior) provided a good fit for the data ($\chi^2(213) = 380.13, p < .01, CFI = .94, SRMR = .05, RMSEA = .04$). This indicates the factorial validity of

the measures. An alternative five-factor model was specified by allowing the items of task performance and safety behavior to load on the same latent “general job performance” factor. This model fit significantly worse to the data than the six-factor model ($\Delta\chi^2(3) = 144.13, p < .001$), which supports the empirical distinction between task performance and safety behavior.

A series of hierarchical regression analyses were conducted to test our hypotheses. To avoid multicollinearity between the predictors and interaction terms, we first centered the predictor variables and then multiplied them to form the interaction terms (Cohen, Cohen, West, & Aiken, 2003). We first entered the control variables, then T1 job resources, T1 homesickness, and the T1 job resources \times T1 homesickness interaction term. Next, we entered the key resources (i.e., emotional stability, openness) and the two-way interaction terms of T1 job resources \times key resources and T1 homesickness \times key resources. Finally, we entered the three-way interaction terms of T1 job resources \times T1 homesickness \times emotional stability and T1 job resources \times T1 homesickness \times openness.

To test Hypothesis 1, we examined the interaction effect of T1 job resources and T1 homesickness on (a) T2 task performance and (b) T2 safety behavior. As indicated by Step 3 in Table 2 and 3, the interactions effect of T1 job resources and T1 homesickness was only marginally significant for T2 task performance ($\beta = -.09, p < .10$), and significant for T2 safety behavior ($\beta = -.10, p < .05$). Thus, Hypothesis 1a was partially supported and Hypothesis 1b was supported. Following Aiken and West (1991), we conducted simple slope tests and plotted moderation effects. The relationship between T1 job resources and T2 task performance was attenuated when T1 homesickness was high (1 *SD* above the mean) (this plot is available upon request from the first author; the pattern is similar to Figure 2). The slope difference test shows significant difference ($t = 2.88, p < .01$) between the slopes of the T1 job resources-T2 task performance relationship under high ($b = .11, p < .05$) versus low ($b = .24, p < .001$) levels of T1 homesickness. In addition, Figure 2 shows that for employees who were high in T1 homesickness, the T1 job resources-T2 safety behavior relationship was not significant ($b = .08, ns$). In contrast, for employees who were low in T1 homesickness, T1 job resources were positively related to T2 safety behavior ($b = .20, p < .01$). These results indicate that homesickness weakened the positive relationships between job resources and (a) task performance and (b) safety behavior.

Table 1. Descriptive statistics and correlations among variables ($N = 422$), Study 1

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Age	35.19	7.46	--														
2 Gender	1.23	.42	.02	--													
3 Marriage	1.20	.40	-.19**	-.09	--												
4 Family contact	2.04	1.43	-.06	-.08	.14**	--											
5 Hometown distance	1.85	.81	-.03	.06	.09	.05	--										
6 Position	1.32	.61	-.06	-.06	-.07	.01	.13*	--									
7 Tenure (month)	39.71	38.39	.32**	-.07	-.07	.01	.11*	.23**	--								
8 Weekly work hours	59.36	7.69	-.01	.07	-.03	-.03	.07	-.07	.04	--							
9 Job demands T1	2.94	.97	.05	-.08	.02	.03	-.02	.05	.06	.03	(.79)						
10 Job resources T1	3.35	.67	.05	-.10*	-.05	-.04	.03	.16**	.16**	.02	.15**	(.71)					
11 Homesickness T1	2.71	.57	-.04	.01	.11*	-.04	-.05	-.20**	.02	.09	.34**	.08	(.88)				
12 Emotional stability	4.18	1.11	.02	.06	.07	.06	.09	-.08	.05	.07	-.19**	.04	-.36**	(.79)			
13 Openness	4.32	1.05	.07	-.14**	-.03	-.10*	-.03	.14**	.11*	-.08	.16**	.19**	.07	.08	(.72)		
14 Task performance T2	3.99	.65	-.01	-.01	.02	-.11*	-.06	-.06	.06	-.05	.06	.25**	.05	.18**	.14**	(.76)	
15 Safety behavior T2	4.17	.57	.10*	-.06	-.03	-.08	-.04	.05	.18**	.04	.05	.26**	-.01	.15**	.23**	.57**	(.75)

Note. Cronbach's alpha reliabilities are in parentheses on the diagonal. T1 = Time 1; T2 = Time2. Gender: 1 = male, 2 = female; Marriage: 1 = married, 2 = not married; Family contact: 1 = very rarely, 2 = rarely, 3 = occasionally, 4 = frequently, 5 = very frequently; Hometown distance: 1 = within same province, 2 = in nearby provinces, 3 = in middle region of China, 4 = in Northern China; Position: 1 = non-management, 2 = management.

* $p < .05$, ** $p < .01$.

Table 2. Interaction effects of job resources, homesickness, and key resources on task performance, Study 1

		Task performance (T2)									
		Standardized Coefficients									
		Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 5	Step 6	Step 5	Step 6
Step 1	Age	-.04	-.05	-.05	-.06	-.06	-.06	-.06	-.06	-.06	-.06
	Gender	.01	.03	.02	.05	.05	.04	.05	.04	.05	.05
	Marriage	.03	.04	.04	.05	.05	.04	.05	.04	.05	.05
	Family contact	-.12*	-.11*	-.12*	-.09 ⁺	-.09 ⁺	-.09 ⁺	-.09 ⁺	-.09 ⁺	-.09 ⁺	-.09 ⁺
	Hometown distance	-.03	-.04	-.04	-.02	-.02	-.02	-.02	-.02	-.02	-.02
	Position	-.03	-.06	-.06	-.06	-.06	-.06	-.06	-.06	-.06	-.07
	Tenure (month)	.07	.05	.06	.07	.07	.07	.07	.07	.07	.07
	Weekly work hours	.07	.06	.06	.06	.06	.06	.06	.06	.06	.06
	Job demands (T1)	.09 ⁺	.06	.06	.08	.08	.07	.08	.07	.08	.08
Step 2	Job resources (T1)		.26**	.26**	.22**	.22**	.25**	.22**	.25**	.22**	.22**
	Homesickness (T1)		-.02	-.02	.04	.04	.04	.04	.04	.04	.04
Step 3	Job resources (T1)*Homesickness (T1)			-.09 ⁺		-.09 ⁺		-.09 ⁺		-.07	-.07
Step 4	Emotional stability				.23**	.23**	.23**	.23**	.23**	.23**	.23**
	Openness				.13*	.13*	.13*	.13*	.13*	.13*	.13*
Step 5	Job resources (T1)*Emotional stability					.03	.05		.01	.01	.01
	Homesickness(T1)*Emotional stability					-.01	-.02		-.03	-.03	-.03
	Job resources (T1)*Openness										
	Homesickness (T1)*Openness										
Step 6	Job resources (T1)*Homesickness (T1)										
	Emotional stability						-.12				
	Job resources (T1)*Homesickness (T1)										
	*Openness										
	ΔR^2	.04	.06**	.01 ⁺	.06**	.00	.01*	.00	.00	.00	.00

Note. ⁺ $p < .10$; * $p < .05$; ** $p < .01$.

Table 3. Interaction effects of job resources, homesickness, and key resources on safety behavior, Study 1

	Safety behavior (T2)										
	Standardized Coefficients										
	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 5	Step 6	Step 5	Step 6	Step 6
Step 1 Age	.09 ⁺	.08	.09 ⁺	.08	.07	.07	.07	.07	.07	.07	.07
Gender	-.02	-.01	-.01	.02	.03	.02	.01	.02	.01	.01	.01
Marriage	.03	.04	.03	.04	.04	.03	.03	.03	.03	.03	.03
Family contact	-.09 ⁺	-.08	-.09 ⁺	-.07	-.07	-.07	-.07	-.07	-.07	-.07	-.07
Hometown distance	-.05	-.05	-.06	-.04	-.04	-.04	-.03	-.04	-.03	-.03	-.03
Position	.07	.04	.03	-.01	.01	.01	-.01	.01	-.01	.01	.01
Tenure (month)	.14	.12	.15	.15	.16 ⁺	.18 ⁺	.15	.18 ⁺	.15	.15	.15
Weekly work hours	.06	.05	.05	.06	.06	.05	.06	.05	.06	.06	.06
Job demands (T1)	.04	-.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
Job resources (T1)		.25 ^{**}	.25 ^{**}	.21 ^{**}	.21 ^{**}	.25 ^{**}	.21 ^{**}	.25 ^{**}	.21 ^{**}	.21 ^{**}	.21 ^{**}
Homesickness (T1)		-.01	-.01	.03	.03	.03	.04	.03	.04	.03	.03
Job resources (T1)*Homesickness (T1)			-.10 [*]	-.09 ⁺	-.12 [*]	-.07	-.10 [*]	-.07	-.10 [*]	-.10 [*]	-.10 [*]
Emotional stability				.16 ^{**}	.17 ^{**}	.17 ^{**}	.17 ^{**}	.17 ^{**}	.17 ^{**}	.17 ^{**}	.17 ^{**}
Openness				.17 ^{**}	.16 ^{**}	.16 ^{**}	.17 ^{**}	.16 ^{**}	.17 ^{**}	.17 ^{**}	.17 ^{**}
Job resources (T1)*Emotional stability					.09 ⁺	.12 [*]		.12 [*]			
Homesickness(T1)*Emotional stability					-.01	-.02		-.02			
Job resources (T1)*Openness									.09 ⁺	.09 ⁺	.09 ⁺
Homesickness (T1)*Openness									.08	.08	.08
Job resources (T1)*Homesickness (T1)											
*Emotional stability											
Job resources (T1)*Homesickness (T1)											
*Openness											
ΔR^2	.06 [*]	.06 ^{**}	.01 [*]	.04 ^{**}	.01	.02 [*]	.01 ⁺	.02 [*]	.01 ⁺	.00	.00

Note. ⁺ $p < .10$; $*$ $p < .05$; $**$ $p < .01$.

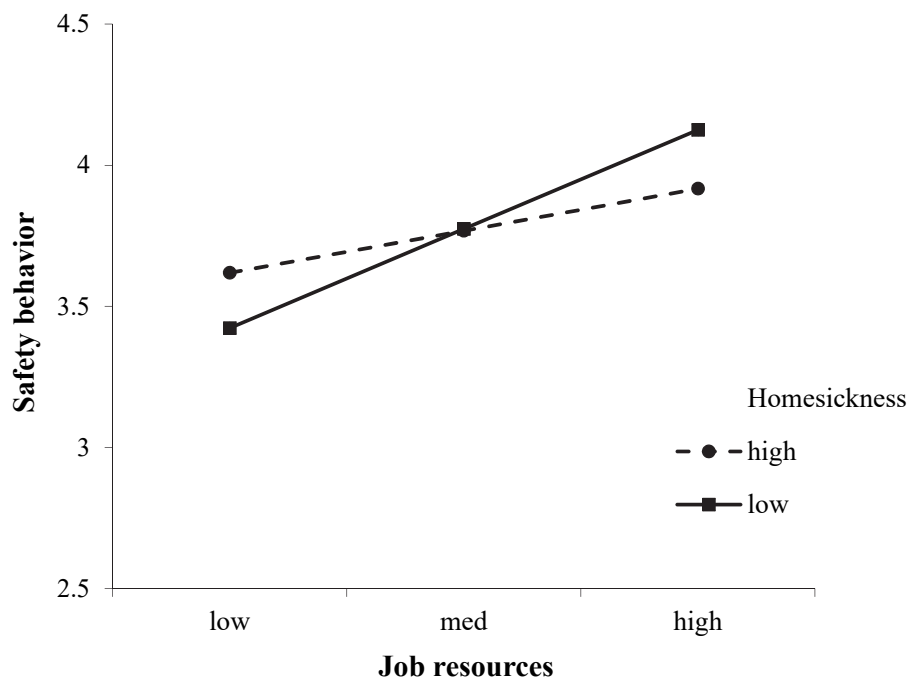


Figure 2. Moderating effect of T1 homesickness on the T1 job resources-T2 safety behavior relationship, Study 1.

To test Hypothesis 2, we examined the three-way interaction effect of trait emotional stability, T1 job resources and T1 homesickness on (a) T2 task performance and (b) T2 safety behavior. As indicated by Step 6 of Table 2, the three-way interaction between T1 job resources, T1 homesickness and trait emotional stability was significant for both T2 task performance ($\beta = -.12, p < .05$) and T2 safety behavior ($\beta = -.15, p < .05$). We conducted simple slope tests and plotted the significant interaction effects. As Figure 3 reveals, the relationship between T1 job resources and T2 task performance was significantly positive for emotionally stable employees with low T1 homesickness ($b = .33, p < .001$). The slopes were not significant in any other conditions (high emotional stability and high homesickness: $b = .11, ns$; low emotional stability and high homesickness: $b = .11, ns$; low emotional stability and low homesickness: $b = .12, ns$). In a similar vein, the positive relationship between T1 job resources and T2 safety behavior was stronger for employees who were emotionally stable with low level of T1 homesickness ($b = .31, p < .001$) than for emotionally stable employees with high level of T1 homesickness ($b = .09, p < .05$). The slopes in the other conditions were not significant (low emotional stability and high homesickness: $b = .07, ns$; low emotional stability and low homesickness: $b = .08, ns$) (the plot for this simple slope analysis is available upon request from the first author; the pattern is similar to Figure 3). Thus, Hypothesis 2 was supported. The results suggest that emotional stability can help employees to better deal with their homesickness and make them able to effectively use the available job resources for their job performance.

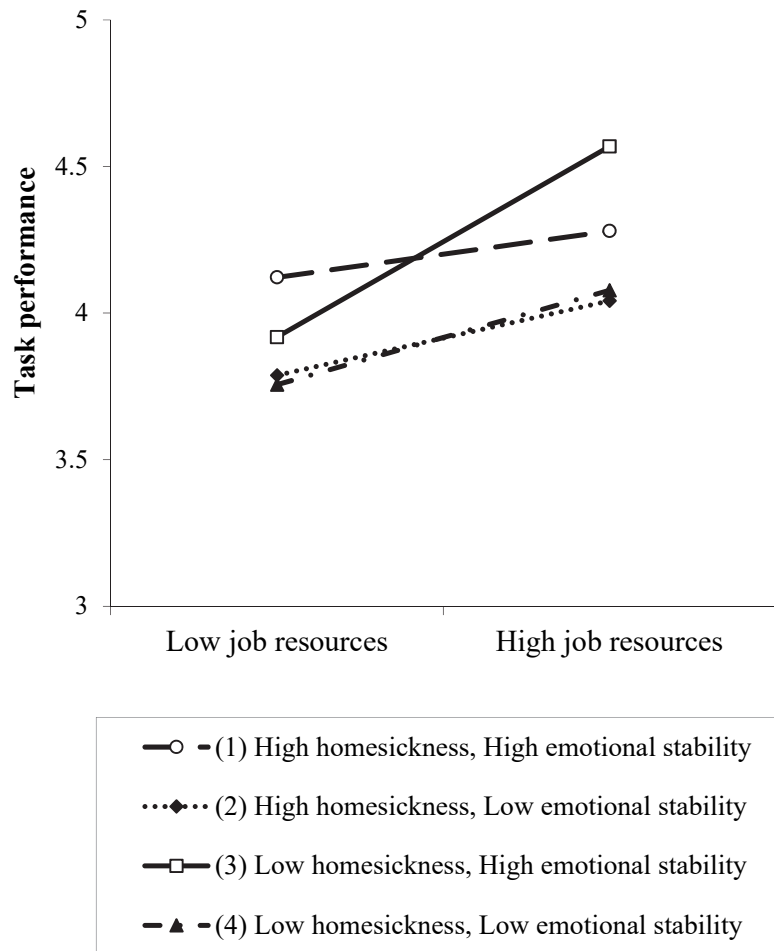


Figure 3. Three-way interaction effect of T1 job resources, T1 homesickness, and trait emotional stability on T2 task performance, Study 1.

To test Hypothesis 3, we examined the three-way interaction effects of trait openness, T1 job resources and T1 homesickness on (a) T2 task performance and (b) T2 safety behavior. As indicated by Step 6 in Table 2, the three-way interaction terms were not significant for both T2 task performance ($\beta = -.02, p > .05$) and T2 safety behavior ($\beta = .01, p > .05$). Therefore, Hypothesis 3 was not supported.

Study 2

Research on homesickness has primarily focused on differences between individuals (Stroebe, Schut, & Nauta, 2015). Between-person variability provides insights into why one person experiences the interference of homesickness with work more strongly than other persons. In contrast, within-person variability highlights the fluctuations in homesickness, which provides insights into why the same person feels a higher level of homesickness at work on specific days, and not on other days.

Study 2 aims to examine the effect of homesickness on the job resources-performance relationship at the within-person level in a military newcomer sample that just left home for a one-month training period. The homesickness level experienced by such newcomers may change every day. On some days, they may have more repetitive thoughts about home, experience more negative feelings, and even show more physical complaints than on other days. However, taking an average across these situations by assessing a general level of homesickness (e.g., asking participants to provide retrospective reports over the previous month as in Study 1) ignores the dynamic part of the homesickness phenomenon.

The work-home resources model considers the temporal character of work-home interactions and proposes both long-term and short-term processes of work-home interference (ten Brummelhuis & Bakker, 2012a). In accordance with the short-term view of home-to-work interference, volatile demands from the home domain impact daily outcomes in the work domain through a loss in volatile personal resources. We used a daily diary design to test whether daily homesickness may deplete volatile personal resources, and leave insufficient personal resources for individuals to fully use the available contextual resources in the work domain, ultimately attenuating their functioning at work.

Method

Participants and procedure. We conducted a daily diary study with military trainees who lived on a campsite and attended a driving training in China. We first approached the commander of the training program and informed him about the study. The commander helped us to contact the newcomers from the training group, and all 51 newcomers in the driving training center agreed to participate in the study. Before administering the survey, the participants were explained the purpose of the project and were assured that they had the right to withdraw from the study at any time.

We collected two types of data: data from a one-time survey and from daily diary surveys. All of the data were collected using paper-and-pencil surveys. When the participants agreed to participate, they were first invited to fill out the one-time survey. This survey assessed the variables assumed to be stable over time—in our case, the key resources (openness and emotional stability) and demographic variables. Additionally, the participants were asked to complete a daily survey for four weeks (20 workdays). With the help of the commander we contacted, we distributed survey material every afternoon when the soldiers were gathered in the field after training. The participants reported day-specific job resources, homesickness, and job demands (included as control variable). Additionally, the trainers were asked to evaluate their trainees' task performance and safety behavior during the driving training of each day. All 51 participants completed the one-time survey and together filled out 846 daily questionnaires matched with their 18 trainers' performance evaluations (resulting in a daily response rate of 82.9%). The soldiers' names were used to match daily surveys to their one-time measure and supervisor-rated performance. The participants were assured of the confidentiality of the study and received a gift of RMB 30 (about \$4.60) after completing both the one-time survey and daily diary surveys.

All of the participants were male, and their ages ranged from 17 to 25 years ($M = 20.01$, $SD = 1.64$). None of the participants was married, and 60.8% of the participants had a high school diploma. Their service time ranged from 1 to 7 months ($M = 2.22$, $SD = 1.62$).

Measures. We measured all of the studied variables (job resources, homesickness, emotional stability, openness, task performance, and safety behavior) using the same scales used in Study 1. All of the items representing the within-person level measures were rephrased to the day level. The participants provided their responses on 5-point Likert scales; the response format for the items ranged from 1 = “I fully disagree” to 5 = “I fully agree”.

Within-person level measures.

Job resources. Similar to Study 1, we used feedback and social support to represent job resources. An example item of daily feedback is “Today, I received sufficient information about the results of my training.” An example item of daily social support is “Today, I was able to ask my peers for help during the training.” We conducted multilevel confirmatory factor analysis using Mplus 7 (Muthén & Muthén, 2010) to compare a first-order model, where feedback and social support were represented as independent constructs, with a second-order model, where feedback and social support were indicators of one latent “job resources” factor. The results showed that the second-order model fit the data well ($\chi^2(22) = 83.14$, $p < .01$, CFI = .98, SRMR = .06, RMSEA = .06) and better than the first-order model ($\Delta\chi^2(1) = 12.24$, $p < .01$), which supported the representation of feedback and social support as one general latent factor. Cronbach’s alpha for the daily job resources scale ranged between .71 and .86 ($M = .79$) across days.

Homesickness. We used the same 20-item homesickness scale as in Study 1. The example items of daily homesickness are: “Today, I missed home”, “Today, I missed my friends”, and “Today, I continuously thought about home.” Cronbach’s alpha coefficients ranged between .90 and .94 ($M = .92$).

Task performance. We obtained ratings of soldiers’ task performance from their trainers every day. Daily task performance was measured using the same scale as in Study 1. An example item is “In today’s training, he met all the standards.” Cronbach’s alpha coefficients had acceptable values and ranged between .68 and .86 ($M = .77$).

Safety behavior. As an important criterion in driving, the trainers evaluated the soldiers’ safety behavior every day. We measured daily safety behavior using the same scale as in Study 1. Example items of daily safety behavior are: “In today’s training, he used the correct safety procedures” and “In today’s training, he voluntarily carried out tasks or activities that helped to improve driving safety.” Cronbach’s alpha coefficients had acceptable values and ranged between .61 and .89 ($M = .75$).

Job demands. To measure the day-level job demands of military driving trainees, we used the four-item cognitive demands scale developed by Van Veldhoven et al. (2002), which focused on the mental effort involved in carrying out training tasks. An example item is “Today’s training required my constant attention.” Cronbach’s alpha coefficients ranged between .81 and .93 ($M = .89$).

Between-person level measures.

Emotional stability. The trait emotional stability was measured using the same scale as in Study 1. Cronbach's alpha in this study was .87.

Openness. The trait openness was measured using the same scale as in Study 1. Cronbach's alpha in this study was .86.

We also included age, service time (month), and frequency of contact with the family (1 = Very rarely, 5 = Very frequently) as between-person level control variables, as younger individuals with lower durations of time since leaving home had a higher risk of experiencing homesickness (Stroebe et al., 2002).

Analysis strategy. Our repeated-measures data can be viewed as multilevel data, with repeated measurements nested within individuals. This leads to a two-level model with the repeated measures (daily variables) at the first level ($N = 846$ occasions) and the individual participants at the second level ($N = 51$ participants). We used the multilevel analysis with the HLM 6.08 software (Raudenbush, Bryk, Cheong, Congdon, & du Toit, 2004) to analyze our data. Predictor variables at the within-person level (level 1, daily job resources, daily homesickness) were centered to the individual mean, and predictors at the between-person level (level 2, emotional stability and openness) were centered to the grand mean. Daily job demands as the control variable was centered to the individual mean.

Multi-level models can be conceptualized as a set of regression equations. First, we specified and tested a null model without independent variables. Second, we entered the control variables at level 1 (job demands) and level 2 (age, service time, and frequency of family contact). Third, we entered predictors at level 1 (job resources and homesickness). Next, we estimated the level 1 interaction between daily job resources and daily homesickness (Hypothesis 1). The interaction term was created by individual mean centering and subsequently multiplying the two predictor variables involved in the interaction (Aiken & West, 1991). Finally, we estimated the cross-level three-way interaction between the personality traits (emotional stability and openness), daily job resources and daily homesickness (Hypothesis 2 and 3). All of the main and two-way interaction effects were included in the model to control for their effects when interpreting the three-way interaction effects.

Results

Table 4 shows the means, standard deviations, reliabilities, intra-class correlations (ICC1), and correlations among the study variables at the within-person and between-person levels of analysis. ICC1 reflects the percentage of variance in each daily measured variable that is explained by between-person differences. The low ICC1 value indicates the high within-person variance in the daily-measured variable. The results showed that 71% of the variance in daily task performance, 50% in daily safety behavior, 42% in daily job resources, and 22% of the variance in daily homesickness was explained by within-person differences, justifying our multilevel approach.

Table 4. Descriptive statistics, within-person and between-person correlations among variables, Study 2

	<i>M</i>	<i>SD</i>	ICC1	1	2	3	4	5	6	7	8	9	10
Level 2 (between-person)													
1 Age	20.01	1.64	--	--									
2 Service time (month)	2.22	1.62	--	.64**	--								
3 Family contact	1.74	.93	--	-.30*	-.29*	--							
4 Emotional stability	4.76	1.05	--	.02	-.12	.10	(.87)						
5 Openness	4.07	1.18	--	-.01	.23	-.08	.19	(.86)					
Level 1 (within-person)													
6 Job demands	3.22	.86	.67	-.20	-.33*	.39**	-.27	.13	(.89)	.40**	.25**	-.04	-.06*
7 Job resources	3.54	.51	.58	.01	.01	-.12	-.19	.49**	.29*	(.79)	.16**	.03	-.02
8 Homesickness	2.41	.64	.78	-.06	-.18	.07	-.29*	.03	.45**	.33*	(.92)	-.04	-.05
9 Task performance	3.79	.38	.29	.01	-.19	-.26	.36**	.00	-.16	.10	-.15	(.77)	.35**
10 Safety behavior	3.67	.52	.50	.08	.04	-.45**	.02	.17	-.14	.29*	-.05	.54**	(.75)

Note. Cronbach's alpha reliabilities are in parentheses on the diagonal. Correlations above the diagonal are based on non averaged data ($N = 846$), while correlations below the diagonal are based on within-person averages ($N = 51$).

Family contact: 1 = very rarely, 2 = rarely, 3 = occasionally, 4 = frequently, 5 = very frequently.

* $p < .05$; ** $p < .01$.

Table 5. Interaction effects of daily job resources, daily homesickness, and key resources on daily task performance, Study 2

	Daily task performance									
	Model 1		Model 2		Model 3		Model 4		Model 5	
	control variable	SE	main effect	SE	moderation effect	SE	cross-level effect	SE	cross-level effect	SE
Level 2 variables										
Age	.04	.04	.04	.04	.04	.04	.06	.04	.06	.04
Service time	-.09*	.04	-.09*	.04	-.09*	.04	-.12*	.04	-.12*	.04
Family contact	-.14*	.05	-.14*	.05	-.13*	.05	-.11*	.05	-.11*	.05
Emotional stability							.15**	.04	.15**	.08
Openness							.04	.04	.05	.04
Level 1 variables										
Job demands	-.04	.03	-.06	.03	-.05	.03	-.04	.03	-.04	.03
Job resources			.09 ⁺	.05	.09 ⁺	.05	.11*	.05	.11*	.05
Homesickness			-.07	.06	-.05	.06	-.06	.06	-.06	.06
Job resources* homesickness					-.30*	.11	-.27*	.12	-.21	.14
Cross-level interaction										
Emotional stability * job resources							.14**	.04		
Emotional stability * homesickness							.11 ⁺	.06		
Emotional stability * job resources * homesickness							-.02	.12		
Openness * job resources									.03	.03
Openness * homesickness									.13*	.05
Openness * job resources * homesickness									-.03	.07
Variance level 1 (within-person)	.33		.33		.32		.32		.32	
Variance level 2 (between-person)	.11		.11		.12		.11		.11	
Model deviance	318.85		319.70		322.38		271.75		269.13	
Δ Pseudo R^2	.04		.00		.01		.01		.01	
Δ Pseudo R^2	.11		.00		.01		.02		.01	

Note. Pseudo R^2 represented within-person variance explained and calculated on the basis of the formula $1 - ((\text{level1 restricted error} + \text{level2 restricted error}) / ((\text{level1 unrestricted error} + \text{level2 unrestricted error})))$. Pseudo R^2 represented between-person variance explained and calculated using formula $1 - ((\text{level-1 restricted error} / n) + \text{level-2 restricted error}) / ((\text{level-1 unrestricted error} / n) + \text{level-2 unrestricted error})$ from Snijders & Bosker (1999). n is the average number of daily points in each level-2 unit.

⁺ $p < .10$; * $p < .05$; ** $p < .01$.

Table 6. Interaction effects of daily job resources, daily homesickness, and key resources on daily safety behavior, Study 2

	Daily safety behavior									
	Model 1		Model 2		Model 3		Model 4		Model 5	
	control variable	Estimate	SE	main effect	Estimate	SE	moderation effect	Estimate	cross-level effect	SE
Level 2 variables										
Age		-.01	.05	-.01	.05	.05		.02	.05	.05
Service time		-.03	.05	-.03	.05	.05		-.05	.04	.04
Family contact		-.27**	.07	-.27**	.07	.07		-.26**	.07	.07
Emotional stability								.02	.07	.07
Openness								.08	.06	.06
Level 1 variables										
Job demands		-.06 ⁺	.02	-.05	.03	.03		-.04	.03	.04
Job resources				.02	.04	.04		.04	.04	.04
Homesickness				-.06	.05	.05		-.06	.05	.08
Job resources* homesickness								-.33**	.11	.13
Cross-level interaction										
Emotional stability * job resources								.18**	.04	
Emotional stability * homesickness								.04	.05	
Emotional stability * job resources * homesickness								-.27*	.10	
Openness * job resources									.08	.06
Openness * homesickness									.06	.08
Openness * job resources * homesickness									-.13*	.05
Variance level 1 (within-person)		.25		.25		.25		.24		.24
Variance level 2 (between-person)		.21		.21		.21		.21		.21
Model deviance		728.58		728.10		715.56		714.19		703.13
Δ Pseudo R_1^2		.09		.00		.01		.01		.00
Δ Pseudo R_2^2		.16		.00		.02		.02		.01

Note. Pseudo R_1^2 represented within-person variance explained and calculated on the basis of the formula $1 - ((\text{level1 restricted error} + \text{level2 restricted error}) / ((\text{level1 unrestricted error} + \text{level2 unrestricted error}))$. Pseudo R_2^2 represented between-person variance explained and calculated using formula $1 - ((\text{level-1 restricted error} / n) + \text{level-2 restricted error}) / ((\text{level-1 unrestricted error} / n) + \text{level-2 unrestricted error})$ from Snijders & Bosker (1999). n is the average number of daily points in each level-2 unit.

⁺ $p < .10$; * $p < .05$; ** $p < .01$.

Multilevel confirmatory factor analysis was conducted using Mplus 7 (Muthén & Muthén, 2010) to examine the construct validity of all of the studied variables, including four within-person variables (i.e., job resources, homesickness, task performance, and safety behavior) and two between-person variables (i.e., emotional stability and openness). The results showed that the six-factor model fit the data quite well ($\chi^2(135) = 319.01, p < .01$, CFI = .94, SRMR = .05, RMSEA = .04). An alternative five-factor model was specified by allowing the items of task performance and safety behavior to load on the same latent “general job performance” factor. This model fit significantly worse than the six-factor model ($\Delta\chi^2(3) = 441.60, p < .001$), which supports the empirical distinction between task performance and safety behavior.

To test Hypothesis 1, we examined the interaction effect of job resources and homesickness on (a) task performance and (b) safety behavior on a daily basis. As indicated by Model 3 in Table 5 and 6, the interactions between daily job resources and daily homesickness in relation to daily task performance ($\gamma = -.30, p < .05$) and daily safety behavior ($\gamma = -.24, p < .05$) were both significant. Following Aiken and West (1991), we conducted simple slope tests. When daily homesickness was high (1 *SD* above the mean), the relationship between daily job resources and daily task performance was not significant ($b = .01, ns$), whereas when daily homesickness was low (1 *SD* below the mean), daily job resources were significantly positively related to task performance ($b = .17, p < .01$). Similarly, for the soldiers who were high in daily homesickness, the daily job resources-daily safety behavior relationship was not significant ($b = -.12, ns$). In contrast, for the soldiers who were low in daily homesickness, daily job resources were positively related to daily safety behavior ($b = .16, p < .05$) (the plots are available upon request from the first author; the patterns are similar to Figure 2). These results support Hypothesis 1 on a daily basis: daily homesickness weakened the relationships between daily job resources and (a) daily task performance and (b) daily safety behavior.

To test Hypothesis 2, we tested the cross-level three-way interaction effects of trait emotional stability, daily job resources, and daily homesickness on (a) daily task performance and (b) daily safety behavior. As indicated by Model 4 in Table 5 and 6, the cross-level three-way interaction between daily job resources, daily homesickness, and trait emotional stability was significant for daily safety behavior ($\gamma = -.27, p < .05$), but not significant for daily task performance ($\gamma = -.02, ns$). Thus, Hypothesis 2 was partially supported. We conducted simple slope tests and plotted the significant interaction effects. As Figure 4 reveals, the relationship between daily job resources and daily safety behavior was significantly positive for emotionally stable people with low homesickness ($b = .43, p < .001$), while the relationship between daily job resources and daily safety behavior was negatively related for emotionally unstable people with high homesickness ($b = -.16, p < .05$). In the other two conditions (high emotional stability and high homesickness/ low emotional stability and low homesickness), the slopes were not significant ($b = .03, ns/ b = -.12, ns$, respectively). These results indicate that emotional stability could attenuate the negative interference of high homesickness with the job resources-safety behavior process and prevent the detrimental consequences of homesickness.

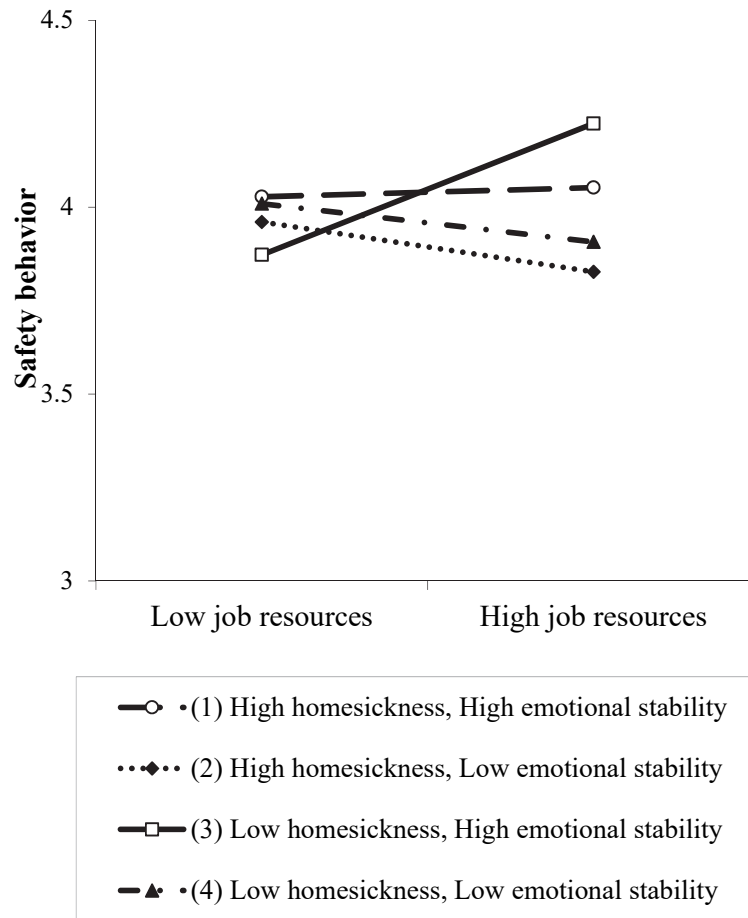


Figure 4. Cross-level interaction effect of daily job resources, daily homesickness, and trait openness on daily safety behavior, Study 2

To test Hypothesis 3, we examined the cross-level three-way interaction effects of trait openness, daily job resources and daily homesickness on (a) daily task performance and (b) daily safety behavior. As indicated by Model 5 in Table 4, the cross-level three-way interaction between daily job resources, daily homesickness, and openness was significant for daily safety behavior ($\gamma = -.13, p < .05$), but not for daily task performance ($\gamma = -.03, ns$). Therefore, Hypothesis 3 was partially supported. The simple slope test shows that for individuals who were open to experience and low in homesickness, daily job resources were positively related to daily safety behavior ($b = .29, p < .01$), whereas the slopes under the other three conditions were not significant (high openness and high homesickness: $b = -.02, ns$; low openness and high homesickness: $b = -.11, ns$; low openness and low homesickness: $b = -.01, ns$) (the plot is available upon request from the first author; the pattern is similar to Figure 4). The results indicate that individuals with high level of openness were less likely to be negatively influenced by homesickness. For the individuals with high openness and high homesickness, the interference of homesickness with the job resources-safety behavior work process was negligible.

Discussion

The purpose of this research was to investigate how homesickness may interfere with the work process of individuals who work far away from their homes. More specifically, we investigated whether homesickness may prevent the effective use of job resources for job performance. In addition, this research aimed to find out whether key resources, namely trait emotional stability and trait openness, attenuate the interference of homesickness with the job resources-performance process. The findings from two studies using both between- and within-person approaches among samples of manufacturing migrant workers and military driving trainees provided largely consistent support for our hypotheses. Study 1 found that at the between-person level, the interaction of homesickness and job resources had a time-lagged effect on job performance. Employees who experienced higher levels of homesickness found it difficult to fully use their job resources, which ultimately undermined their task performance and safety behavior. Furthermore, emotional stability helped migrant workers to better deal with their homesickness, allowing them to make effective use of job resources for their task performance and safety behavior. Study 2 considered the day-to-day fluctuations of homesickness and largely replicated the results of Study 1 at the within-person level. Specifically, military trainees' daily homesickness undermined the relationships between their daily job resources and (a) daily task performance and (b) daily safety behavior. Furthermore, emotional stability and openness attenuated the negative impact of homesickness on the job resources-safety behavior relationship, and helped individuals avoid the detrimental consequences of homesickness.

Theoretical implications

Our findings have several theoretical implications. First, we explored the temporal character of homesickness by taking both between-person and within-person perspectives to examine the long-term time-lagged effect and short-term daily effect of the interference of homesickness with the work domain. In Study 2, 22% of the variance in daily homesickness was due to dynamic, within-person, situational fluctuations from day to day. Even though the majority of the variance in homesickness was shown to be due to between-person individual differences, intra-individual fluctuations in homesickness reflected the experiences in a given situation and period, which still played an important role in predicting the changes of work behaviors over very short time intervals. Most studies of homesickness in the clinical psychology domain have treated homesickness as a chronic and pathological state leading to chronic depression and malfunctioning (Van Tilburg, Vingerhoets, & Van Heck, 1996). Although one study suggested that episodic homesickness could be differentiated from chronic homesickness by its influences on emotion expression (Eurelings-Bontekoe, Brouwers, Verschuur, & Duijsens, 1998), we are unaware of other studies that have focused on how episodic homesickness may affect people's work behaviors over short periods of time.

In addition, by using the work-home resources model as our theoretical framework, we tested the moderation effect of homesickness on the relationship between job resources and job performance. The work-home resources model proposes both long-term and short-term processes of how experiences in one domain may interfere with the other domain (ten

Brummelhuis & Bakker, 2012a). Investigating the moderation effect of daily fluctuations of homesickness thus provides empirical evidence that the work-home resources model used to explain how homesickness operates at the between-person level is also applicable when adopting a within-person perspective. This also extends the homesickness literature by capturing the process of work represented by the job resources-job performance relationship, instead of only using work outcomes to represent the work domain (Stroebe et al., 2015).

Second, based on the work-home resources model (ten Brummelhuis & Bakker, 2012a), our research investigated how homesickness may interfere with the work process, which provides insight into the internal aspects of home-work interference (Carlson & Frone, 2003). Previous studies have mostly investigated how externally generated demands at home interfere with participation at work, such as how taking care of home-related responsibilities reduces the amount of time spent on work-related activities (Michel, Kotrba, Mitchelson, Clark, & Baltes, 2011). We used the moderation effect of homesickness on the job resources-job performance relationship to represent the interference of homesickness with the work domain, instead of the more common explicit measurements of home-work interference (in which the effect is encapsulated in the measurement). More specifically, our research investigated the process of how homesickness undermines performance through the depletion of cognitive, emotional, and energetic resources, providing a closer look at the internal home-work interference process. Our approach also avoids possible biases in the reports of home-to-work interference, which is a problem in the work-family literature.

In addition, our research enriches the work-home interface literature by addressing safety behavior as an outcome, which has been largely neglected in previous studies (Amstad, Meier, Fasel, Elfering, & Semmer, 2011). In high-risk work environments involving cognitively challenging and physically demanding work such as driving and manufacturing, safety-related outcomes like accidents and injuries can be serious (Nahrgang, Morgeson, & Hofmann, 2011). It is important to recognize potential factors that may interfere with workplace safety. Our research shows that in addition to important organizational factors such as job design and engineering systems (Mullen, 2004), interference from the home domain may also undermine safety performance. Our results suggest that homesickness may distract an individual's attention away from work and consume his or her physical and mental energy, resulting in diminished safety behavior. This is in accordance with previous studies showing that home interference with work limits employees' cognitive resources and increases their cognitive failure (Lapierre, Hammer, Truxillo, & Murphy, 2012), leading to unintentional safety errors. The lack of energy and negative mood also impairs one's willingness to comply with safety rules and devote discretionary energy to safety activities (Cullen & Hammer, 2007).

Third, our research reveals that trait emotional stability and trait openness alleviate the negative interference of homesickness with the relationship between job resources and safety behavior. These findings can be interpreted through the lens of the work-home resources model (ten Brummelhuis & Bakker, 2012a), which emphasizes the important roles of key resources in preventing and attenuating home-work interference. In our research, homesickness depletes personal resources and therefore attenuates the full use of job resources and ultimately diminishes performance, while trait emotional stability and trait openness can serve as key

resources that buffer the negative influence of homesickness on these processes. This is in line with the findings of a meta-analytical study showing that neuroticism (the opposite of emotional stability) is positively associated with home-work interference and that openness to experience is negatively related to home-work interference (Allen et al., 2012). Our findings provide support for the work-home resources model (ten Brummelhuis & Bakker, 2012a) and confirm that key resources enable people to better use their contextual resources and cope with stressful situations.

However, the hypothesized three-way interaction effect of job resources, homesickness, and openness on job performance was supported only in Study 2 with the military trainees and not in Study 1 with the manufacturing migrant workers. It is plausible that openness to new experiences is not as salient in a manufacturing environment as it is in a driving training program. Trait openness helps individuals to be more responsive to learning experiences, which may be very useful in a learning environment but less useful in a work environment where learning is not the primary goal (LePine et al., 2000). Additionally, we only found evidence for the cross-level interaction effects of key resources, daily homesickness, and daily job resources on daily safety behavior (and not task performance) in Study 2. A possible reason for this may have been the lack of between-person variance in daily task performance. According to Hoffman (2015), the statistical power to detect cross-level interactions is based on the between-person variance in the level 1 random slope. In our study, between-person differences accounted for 50% of the variance in daily safety behavior, and for only 29% of the variance in daily task performance. This may have precluded us from finding significant cross-level three-way interaction effects on daily task performance.

Limitations and future research

Some limitations of our research should be noted. First, although Study 1 tested the time-lagged effect of the interaction between job resources and homesickness on job performance, our findings from Study 2 should be interpreted as synchronous effects. We did collect information about the participants' personalities before the start of the daily diary study, however, we collected all other data at the same time every day. Therefore, the temporal order of the studied variables could not be established in Study 2. Future diary studies could measure the model variables at different time points within the day to establish causality.

Second, common-method bias might have inflated the observed relationships (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). All of the studied variables in Study 1 were self-reported. We tried to minimize this concern by collecting data over a three-month time interval, which allowed for a more rigorous test of our research hypotheses. Furthermore, in light of Schmitt's (1994) study, the results of the interactions may not be particularly vulnerable to common method issues because correlated errors cannot create spurious interactions but can only attenuate true interactions. In addition, we compensated this problem in Study 2 and collected daily diary data from two different sources—our task performance and safety behavior measures were obtained from the supervisors.

Third, the generalizability of the current findings may be limited. As is often the case, the studies were conducted within one country. We used migrant peasant workers and military

trainees as our samples. Even though all of our participants worked far away from their hometowns, they all lived and worked in China. Therefore, they might not have been in the same position as employees working away from home in other countries (e.g., Western countries). As such, the observed impact of homesickness could be weaker than what would be observed in other groups working abroad. Future research should survey more diverse samples that work across cultures to provide even more valid and robust results.

Finally, future studies could investigate the mechanism underlying the moderation of homesickness and develop a more complex mediated moderation model to explain the interference process between the home and work domains. The work-home resources model (ten Brummelhuis & Bakker, 2012a) proposes that contextual demands and resources from one domain affect outcomes in the other domain through a change in personal resources. Future research may investigate the mediational role of personal resources, such as physical or mental energy, to further explain the moderation effect of homesickness on job resources and job performance.

Practical implications

Our findings show that homesickness undermines the full use of job resources and ultimately diminishes performance. What can organizations do to help employees who work far away from home to fully concentrate on their work and allocate all available job resources to the tasks at hand? One means for successfully concentrating at work may be mindfulness meditation, which has been shown to have unique effects on decreasing rumination (Chambers, Lo, & Allen, 2008). Organizations may consider implementing intervention programs such as mindfulness training to improve concentration skills. Situational-based methods such as family-supportive supervision may offer other ways to reduce ruminative thoughts about home and the experience of negative feelings at work. Kossek, Pichler, Bodner, and Hammer (2011) suggest that work-family-specific support is likely to be a more psychologically and functionally useful resource for managing work-family situations. For example, supervisors could provide emotional support by listening and showing care for employees' work-family issues and inform them of supportive organizational policies, such as holiday arrangements or settlement plans for spouse and children. As for our sample of military newcomers, the use of a "buddy system" in which new soldiers are paired with experienced soldiers may also benefit newcomers by providing them with specific social support. The buddy system may help newcomers better adapt to a new environment and reduce their homesickness (Drummet, Coleman, & Cable, 2003).

In addition, the findings related to the cross-level interaction effect involving trait emotional stability and trait openness suggest that it would be beneficial for organizations to select individuals with high emotional stability and high openness. Under the current situation of increasing shortened expatriate or international assignments less than one year (Firth, Chen, Kirkman, & Kim, 2014), implying that most expatriates have to work far away from their home locations without accompanying family members. Employers may assign emotionally stable and open employees to foreign subsidiaries, as people who are high in emotional stability and openness seem to be less vulnerable to the negative interference of homesickness in the work

process (Fisher, 1989). Moreover, organizations may provide concentration interventions and work-family-specific support for emotionally stable and open employees who experience high homesickness to help them adapt to the new environment easier and make full use of the resources available in the organization.

Conclusion

Drawing on the work-home resources model, our findings from two studies indicate that homesickness has both long-term and short-term effects: it interferes with the job resources-performance process at work. In addition, the findings suggest that key resources, i.e., emotional stability and openness, attenuate the interference of the home domain with the work domain. We hope our findings encourage organizations to provide work-family-specific support and interventions that help individuals who work far away from home make full use of their job resources and perform well.

CHAPTER 4

Major Life Events in Family Life, Work engagement, and Performance:

A Test of the Work-Home Resources Model

This chapter has been published as Bakker, A. B., Du, D., & Derks, D. (in press). Major life events in family life, work engagement, and performance: A test of the work-home resources model. *International Journal of Stress Management*.

Abstract

This weekly diary study (N=185 persons, n=443 occasions) investigates how major life events (MLEs) influence weekly resource use, work engagement, and job performance. On the basis of the work-home resources (W-HR) model, we propose that weekly rumination undermines effective use of personal resources (i.e. self-efficacy), whereas weekly psychological detachment from the MLE facilitates effective use. In addition, we hypothesize that work role centrality acts as a key resource, and amplifies the two-way interaction effects. Results of multilevel analyses were generally in line with predictions, and support the W-HR model. The findings suggest that detachment may effectively prevent negative spillover from home to work.

Over the course of their lives, all individuals experience a variety of major life events. These events can take many different forms, including separation and divorce, the death of one's child, and serious illness of family members. Because major life events have short- and long-term effects on well-being and require considerable readjustment (Luhmann, Hofmann, Eid, & Lucas, 2012), they have the potential to interfere with all life domains. Surprisingly, there is a lack of studies on the impact of such events on employee well-being and organizational behavior (Bhagat, 1983; Hakanen & Bakker, 2017). Moreover, evidence on the impact of major life events on workers' well-being is virtually non-existent (Georgellis, Lange, & Tabvuma, 2012). The available evidence does indicate that stressful life events in private life are associated with job burnout (Hakanen & Bakker, 2017) – nowadays a major societal problem (Leiter, Bakker & Maslach, 2014), but little is known about the possible processes involved. In the present study, we follow employees who have faced a major life event over the course of five working weeks. We use the work-home resources (W-HR) model (ten Brummelhuis & Bakker, 2012a) to propose that rumination about the major life event interferes with effective use of psychological resources for job performance, and that psychological detachment from the major life event facilitates the use of these resources. We also explore the role of work role centrality as a key resource.

Our research aims to contribute to the literature in the following ways. First, we contribute to the literature on the W-HR model by providing an empirical test of one of the basic propositions in the model. Specifically, we test whether experiences in family life may consume so many personal, energetic, and cognitive resources that it impedes the effective use of psychological resources in working life. Instead of simply using work outcomes to represent the work domain and investigating the direct effect of major life events on these work outcomes, we try to investigate how weekly rumination about the major life event may influence the established positive relationship of psychological resources (self-efficacy) with work engagement and job performance (e.g., Xanthopoulou, Bakker, Demerouti & Schaufeli, 2009; Xanthopoulou, Bakker, Heuven, Demerouti & Schaufeli, 2008). That is, we use the moderating effect of rumination on the self-efficacy-work engagement relationship to operationalize the interference of the home domain with the work domain. A second contribution is that we introduce the concept of psychological detachment from the major life event. Using recovery theory (Sonnentag & Fritz, 2015), we argue that employees who mentally detach from the major life event are more likely to use their psychological resources for work tasks, be engaged, and perform well. Evidence for this premise opens the door for work-related training interventions among individuals who have just experienced a major life event. Third, our research integrates the major life events and work-family interface literatures by testing the role of key resources when dealing with a major life event – on a weekly basis. Using the W-HR model (ten Brummelhuis & Bakker, 2012a), we propose that work role centrality is a stable key resource that helps to prevent weekly interference of the major life event with work life. Are individuals who give work a central place in their life better able to use psychological detachment from the event as a strategy to effectively mobilize weekly psychological resources and cope with the impact of a MLE?

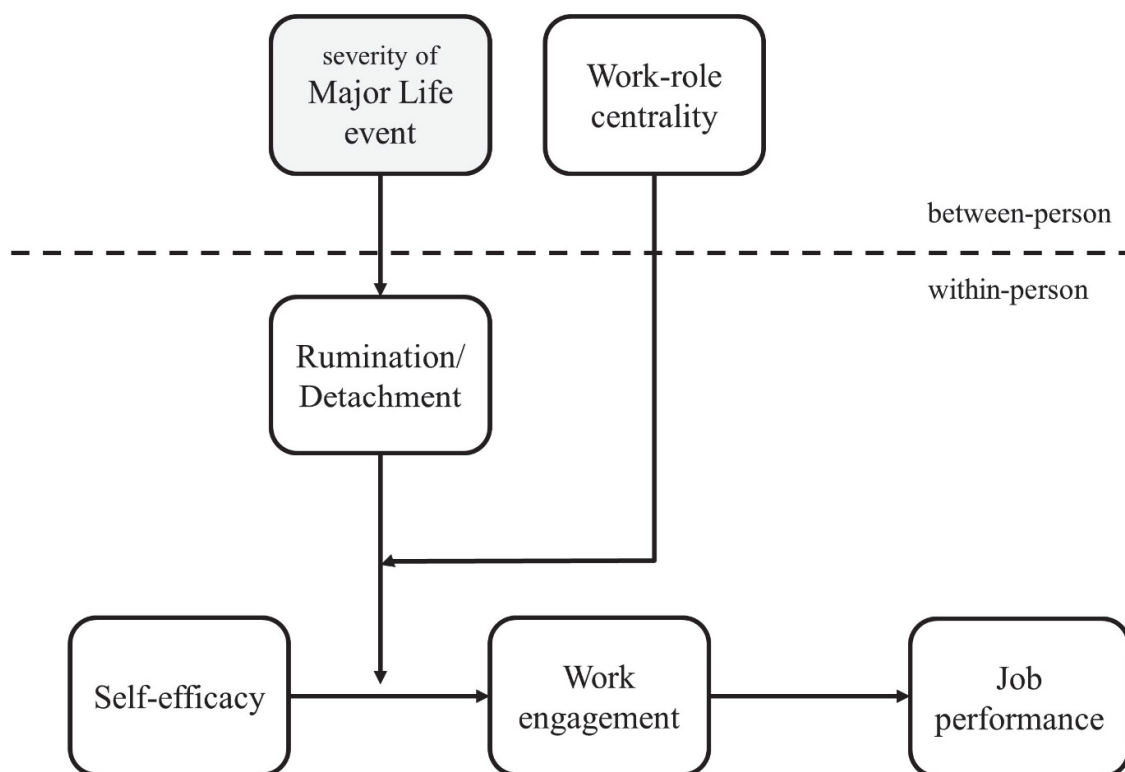


Figure 1. Research model.

Theoretical Background

The work-home resources (W-HR) model (ten Brummelhuis & Bakker, 2012a) describes the conflict between work and home roles as a process whereby demands in one domain deplete personal resources and impede functioning in the other domain. In the present study, we focus on major life events, and investigate the impact of the home domain on the work domain. According to the model, people who are confronted with demands in the home domain (e.g., family problems), lose personal resources such as energy, sleep, and attention. These lacking personal resources subsequently lead to impaired functioning in the work domain. Breevaart and Bakker (2011) conducted an illustrative study among parents of children with behavioral difficulties. Consistent with the WH-R model, they found that parents who were more often confronted with the restless and overactive behaviors of their children reported lower personal resources (less energy), which resulted in lower levels of engagement in the work domain.

The WH-R model further postulates that conflict between the home and work domains is less likely if individuals can mobilize a range of key resources (ten Brummelhuis & Bakker, 2012a). Key resources are personal characteristics (e.g., social power, conscientiousness) that help people to solve problems and cope with stress. Individuals with key resources are also more likely to collect new resources and optimally utilize their contextual resources (cf. Bakker, Sanz-Vergel & Kuntze, 2015; Hobfoll, 2002). For example, individuals high in social power may use their influence to mobilize help to get their work done in time, so that they can spend all leisure time with the family. Thus, work-home conflict is less likely among persons with key resources, because key resources attenuate the negative relationship between contextual

demands and personal resources. We will now discuss the process that takes place when people are confronted with a major life event.

Major Life Events and Rumination

In 2012, there were about one million divorces recorded in the EU-28 (Eurostat, 2014). Focusing on the death of children under five years of age, in the UK alone, 4.9 of every 1000 children die (Institute for Health Metrics and Evaluation, 2014). Exposure to such negative life events has been associated with a variety of adverse physical and psychological health outcomes, including depression and anxiety (e.g., Kessler, Davis & Kendler, 1997), reduced life satisfaction (Krause, 2004), and chronic physical health problems (Krause, Shaw, & Cairney, 2004; for a meta-analysis, see Luhmann et al., 2012). Surprisingly, Ivancevich (1986) found that life events were largely unrelated to job performance and absenteeism. Although the available evidence shows that major life events are also associated with job stress and burnout (Mather, Blom, & Svedberg, 2014), very little is known about the possible micro processes involved when the home domain interferes so dramatically with the work domain (Bhagat, 1983; Hobson, Delunas, & Kesic, 2001).

In this study, we argue that rumination and psychological detachment play a key role in dealing with a major life event (see Figure 1). When individuals are attentive to the major life event and ruminate about the event, they do not have the personal, energetic and cognitive resources available that are needed to function well at work (Michl, McLaughlin, Shepherd, & Nolen-Hoeksema, 2013). Georgellis and his colleagues (2012) showed that the birth of a first child had a major, and unfavorable impact on job satisfaction, up till five years after the event – which is consistent with the view that having a child constrains time and energetic resources. Nolen-Hoeksema (1991) has defined rumination as the compulsively focused attention on the symptoms of one's distress, and on its possible causes and consequences, as opposed to its solutions. According to her response style theory, ruminative responses undermine psychological well-being, because rumination enhances the effects of negative mood on cognitive processes. In addition, rumination prevents the individual from taking action – there is no active, problem-solving coping with the mood or with its causes (Mor & Winquist, 2002).

Since rumination will use up all available energetic and attentive resources, the WH-R model predicts that rumination will undermine the effective use of psychological resources for work. In the present study, we focus on the links between self-efficacy, work engagement, and performance, which have been established in previous research (for an overview, see Bakker, Demerouti & Sanz-Vergel, 2014). For example, in their daily diary studies among restaurant personnel and flight attendants, Xanthopoulou and her colleagues (2008, 2009) found that on days employees felt more self-efficacious, they were more engaged in their work (i.e., reported higher levels of vigor, dedication, and absorption), and consequently, performed better (higher quality of service, better financial results). Consistent with the notion that ruminative thoughts may undermine the use of resources at work, Du, Derks, Bakker, and Lu (2018b) found in two studies that employees who experienced high (vs. low) levels of homesickness were unable to use daily job resources, scored lower on work engagement, and showed impaired job performance (task performance, safety behavior). Based on the WH-R model and these previous

findings, we predict that rumination undermines the relationships between self-efficacy, work engagement, and job performance.

Hypothesis 1: Rumination moderates the self-efficacy-work engagement relationship (a), and subsequently undermines job performance (b). The positive relationship between self-efficacy and work engagement is weaker for people with high (vs. low) levels of rumination.

Psychological Detachment

The concept of psychological detachment was originally developed in the work domain as an important psychological mechanism through which people recover from work-related effort. Psychological detachment refers to “the individual’s sense of being away from the work situation” (Etzion, Eden & Lapidot, 1998; p. 579). Research has convincingly shown that when employees stop thinking about work and disengage mentally from work, they recover from work-related effort and strain (Sonnentag & Fritz, 2015). By switching off from work-related matters and problems, people stop using resources that were used when they were active at work. Moreover, psychological detachment leads to replenishment of used resources and has a positive impact on well-being (ten Brummelhuis & Bakker, 2012b).

In the present study, we explore whether psychological detachment may be a useful coping strategy to deal with major life events. Unlike rumination, psychological detachment from the major life event implies that individuals stop thinking about the event and thus stop spending time, energy, and attention (cf. Sonnentag, Venz & Casper, 2017). By engaging in activities that appeal to other systems than previously used for the major life event (e.g., attending to the needs of customers and colleagues at work), people will focus on other, more positive experiences, and stop cognitive processes that may be responsible for prolongation or reactivation of stress-related physiological activation. As the work-home resources model proposes, the use of personal resources (e.g., concentration, mood, and energy) in one domain depletes these resources, making them unavailable for people to function optimally in the other domain. Psychological detachment from the major life event thus implies that no further demands tax people’s psychobiological system, and more resources will become available to deal with work demands.

We agree with Sonnentag and Fritz (2015, p. 75) that psychological detachment is not just the opposite of rumination. Whereas rumination about the MLE fills the brain with unfavorable thoughts that take the place of other cognitions and prevent the employee from focusing on work, psychological detachment from the MLE helps employees to use their psychological resources for work. This means that the two processes instigated by weekly rumination and weekly psychological detachment actually operate in opposite fashion, and may even work simultaneously in the same week. Whereas psychological detachment from work helps employees to disengage mentally from work and recover from work-related strain (Sonnentag & Fritz, 2015), we propose that psychological detachment from the major life event enables employees to mobilize psychological resources at work (i.e. self-efficacy), which fosters work engagement and performance.

Hypothesis 2: Detachment from the major life event moderates the self-efficacy-work engagement relationship (a), and subsequently facilitates job performance (b). The positive

relationship between self-efficacy and work engagement is stronger for people with high (vs. low) levels of detachment.

Work role Centrality as a Key Resource

Although an individual may be engaged in multiple roles and have multiple identities, these identities are not equally salient. Work role salience or centrality is defined as “individual beliefs regarding the degree of importance that work plays in their lives” (Walsh & Gordon, 2008, p. 46). High work centrality means that individuals identify with their work, and devote considerable time and energy to the work role (Diefendorff, Brown, Kamin, & Lord, 2002). When work plays a central role in life, work provides individuals with meaning, self-worth, and purpose (Noor, 2004). For example, research has shown that work centrality leads to investment of considerable time and energy in building a good relationship with the employer. This psychological contract, in turn, contributes positively to individuals’ overall attitudes towards work (Bal & Kooij, 2011).

In the context of the W-HR model (ten Brummelhuis & Bakker, 2012a), work role centrality can be positioned as a key resource. Key resources refer to management resources that facilitate the selection, alteration, and implementation of other resources (Thoits, 1994). Work role centrality is a resource in the form of a personal value, which serves as guiding principle about preferred ways of acting in the life of a person (Meglino & Ravlin, 1998). It facilitates the mobilization of other resources, and it makes the use of these other resources more effective. Individuals high in work role centrality are more likely to invest time and energy in the work domain. This helps them better mobilize resources, such as self-efficacy, to buffer the negative impact of the major life event on work.

When work is central to one’s identity and provides purpose and self-esteem, individuals will be better able to prevent or decrease the negative impact of the home domain on the work domain. Put differently, work role centrality and the meaning work provides helps individuals to focus on their daily work and experience work as a distraction from their misery. Thus, people high in work role centrality are more likely to successfully use work as a means to psychologically detach from their MLE. If work role centrality is high, people who have been confronted with a major life event can turn to work to make meaning and mobilize psychological resources, such as feedback, social support, and self-efficacy (Halbesleben, Neveu, Paustian-Underdahl, & Westman, 2014). This active psychological investment in work will help them to buffer the negative impact of rumination on resource utilization.

In a similar vein, psychological detachment from the major life event will most likely facilitate utilization of resources in the workplace when individuals invest considerable time and energy in their work, and identify strongly with it. In contrast, when work does not play a central role in people’s life, it will be much more difficult to use work activities to overrule ruminative thoughts about the MLE in order to utilize one’s self-efficacy at work. When work is not important to individuals, work lacks the meaning that is needed to detach from the MLE and be engaged at work. Thus, we argue that work role centrality will act as a key resource, and further qualifies the proposed two-way interactions between self-efficacy and rumination/detachment. Stated formally,

Hypothesis 3a: Work role centrality and rumination have a combined impact on the self-efficacy-work engagement relationship. Specifically, the positive relationship between self-efficacy and work engagement is strongest for people with low (vs. high) levels of rumination and high (vs. low) work role centrality.

Hypothesis 3b: Work role centrality and detachment from the major life event have a combined impact on the self-efficacy-work engagement relationship. Specifically, the positive relationship between self-efficacy and work engagement is strongest for people with high (vs. low) levels of detachment and high (vs. low) work role centrality.

Method

Participants and Procedure

The sample consisted of 185 Dutch employees who were recruited with network sampling (Demerouti & Rispens, 2014). Network sampling is a data collection method that uses student research assistants who recruit participants based on their professional network, snowball sampling, and the use of social media. This data collection technique often results in heterogeneous samples from various sectors, and can be used to stratify people by major life event. Individuals could only participate in the study if they had experienced a major life event in the year before the study started. The majority of the sample was female (69.6%), and the mean age was $M = 32.22$ years ($SD = 11.21$, age range: 18-59 years). Participants had on average 10.90 years of work experience ($SD = 10.69$), and mean work tenure was 5.24 years ($SD = 6.69$). They worked on average 30.72 hours a week ($SD = 15.57$). In terms of education, 31% finished high school, 14% secondary vocational education, 20% higher professional education, and 35% university. The participants worked in various occupational sectors, including healthcare (23.4%), education (13.3%), business (12.0%), communication (5.7%), and government (5.1%).

The university research ethics committee approved the study. There were two stages of data collection. First, participants completed a one-time survey that assessed the demographics, and individual-level variables (the major life events, and work role centrality). Then, participants were asked to respond to weekly questionnaires for five subsequent workweeks. All surveys were programmed using a web-based survey platform and the links to the surveys were sent by e-mail. Participants were asked to fill out the one-time survey during the first week. The questionnaires at the week-level were filled out at the end of every workweek on Thursday or Friday, depending on when the workweek ended. The participants reported their weekly levels of rumination, psychological detachment from the major life event, self-efficacy, social support (control variable), work engagement, and in-role job performance. In total, participants completed 443 weekly surveys, resulting in a weekly response rate of 47.8%.

Measures

Between-person level measures

Major life events (MLE) were assessed with Norbeck's (1984) Life Event Questionnaire. The original questionnaire consists of 82 items, but we adapted the questionnaire to avoid response burden. Specifically, we used eight common major life events in the family domain,

and added an open-ended answer category so that all participants could indicate their MLE. Here is a list of the major life events that were included: death of a family member or close friend; major change in health or behavior of a family member or close friend (illness, accidents, drug or disciplinary problems, etc.); breaking up with partner or breaking an engagement; divorce; being a victim of a violent act (rape, assault, etc.); death of a child; being robbed; death of spouse or partner; other (divorce parents, abortion). We decided to limit the study to negative life events, although we are aware that major life events can also be positive (e.g., the birth of a child). Participants were asked to choose which events they had experienced in the last year, for example divorce, death of a family member or a close friend, or being robbed. After that, they filled in how much impact the MLE had on their daily life, rated on a 5-point scale ranging from 1 (*no impact*) to 5 (*very large impact*). We labeled this variable “Severity of the MLE.”

Work role centrality was measured by Carr, Boyar, and Gregory’s (2008) five-item scale. Example items are: “Work should be considered central to life”, and “The major satisfaction in my life comes from my work rather than my family.” Participants rated each item along a five-point Likert-type scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Responses to these items were scored such that higher values indicated that individuals viewed work as being more central to their lives. The internal consistency of the scale was good. Cronbach’s alpha coefficient was .91.

Within-person level measures

Due to the space constraints that are inherent to diary studies (Xanthopoulou et al., 2009), we used validated short versions of original scales. If not available, original scales were shortened using the items with the highest factor-loadings in previous research. All items were adapted to the week level, and participants could respond using a seven-point scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

Self-efficacy was assessed with four items of the Generalized Self-Efficacy Scale (Schwarzer & Jerusalem, 1995). An example item is: “Last week, I was confident that I could deal efficiently with unexpected events.” Cronbach’s alpha ranged between .88 and .94 ($M = .91$).

Rumination was measured with the Rumination subscale of the Cognitive Emotion Regulation Questionnaire (CERQ-short; Garnefski & Kraaij, 2006). The scale consists of four items that were slightly adapted to refer to the MLE. Examples are: “Last week, I often thought how I felt about the major life event that I experienced”, and “Last week, I dwelt upon the feelings the major life event has evoked in me.” In their validation study, Garnefski and Kraaij offer evidence for the reliability and validity of the rumination measure, also vis-à-vis depressive symptoms. Cronbach’s alpha ranged between .92 and .96 ($M = .93$).

Psychological detachment from the MLE was measured using four modified items of the Recovery Experience Questionnaire (Sonnentag & Fritz, 2007). The original items measure psychological detachment from work, during non-job time. To measure detachment from the MLE, the questions were transformed. An example item is: “Last week, I did not think about the major life event at all, during work time.” Cronbach’s alpha ranged between .82 and .93 ($M = .89$).

Work engagement was measured with the nine-item Utrecht Work Engagement Scale (UWES; Schaufeli, Bakker, & Salanova, 2006). The UWES includes scales for the assessment of vigor, dedication, and absorption (three items each). Here are example items for each indicator of work engagement: “Last week, I felt strong and vigorous at my job” (vigor), “Last week, I was proud of the work that I do” (dedication), and “Last week, I was immersed in my work” (absorption). Cronbach’s alpha ranged between .90 and .93 ($M = .91$).

Job performance was assessed using three of the seven items included in Williams and Anderson’s (1991) scale. An example item is: “Last week, I fulfilled responsibilities specified in my job description.” Previous research has shown that this self-report scale correlates positively ($r = .46, p < .001$) with supervisor-ratings of weekly in-role job performance (Bakker & Bal, 2010). Cronbach’s alpha ranged between .85 and .93 ($M = .89$).

Social support. To test the unique effects of rumination, detachment, and work role centrality on the use of self-efficacy, we controlled for social support – an important resource in the work environment (Bakker et al., 2014). We used the three-item social support scale developed by Van Veldhoven, de Jonge, Broersen, Kompier, and Meijman (2002). An example item is “Last week, I was able to ask my peers for help during the work.” Cronbach’s alpha ranged between .82 and .90 ($M = .86$).

Strategy of Analysis

Our repeated measures data can be viewed as multilevel data, with weekly measurements nested within individuals. This leads to a two-level model with weeks at the first-level ($N = 443$ occasions) and individual participants at the second level ($N = 185$ participants). We conducted multilevel structural equation modeling using Mplus 7 (Muthén & Muthén, 2012) to analyze the data. To test within-person interaction effects between weekly self-efficacy and weekly rumination/weekly psychological detachment on weekly work engagement and subsequent weekly job performance (Hypothesis 1 and 2), we specified multi-level moderated mediation models with a cross-level direct effect of severity of the major life event on weekly rumination or weekly detachment, and we used the XWITH command to model the within-person interactions, such as “EfficacyxRuminate | Efficacy XWITH Ruminate”.

To further test the cross-level three-way interaction effect of work role centrality (Hypothesis 3a and 3b), we regressed work role centrality on the random slopes of the within-person interaction effect of weekly self-efficacy and weekly rumination as well as the interaction between weekly self-efficacy and weekly detachment in separate models at the between-person level on the basis of the previous multilevel moderated mediation models. We first generated the random effect of the within-person interaction of self-efficacy and rumination on work engagement for example, using command “S | Engagement ON EfficacyxRuminate”, at the within-person level.

Subsequently, we included the grand-mean centered observed variable work role centrality as a between-person predictor of the random slope of the interaction between self-efficacy and rumination, using the command “S ON Work role centrality”, which indicates the cross-level three-way interaction of work role centrality with self-efficacy and rumination. The two-way interactions, such as the interaction of work role centrality with self-efficacy, and work

role centrality with rumination, are also cross-level interactions. Similarly, we first generated the random slope of the within-person relationship using command “S1 | Engagement ON Efficacy” for example, and then predicted the slope by work role centrality at the between-person level using “S1 ON Work role centrality”, which indicates the cross-level moderation effect of work role centrality. Weekly work-related social support was modeled as a control variable influencing weekly work engagement. Variables at the within-person level (level 1, weekly self-efficacy, weekly rumination, weekly detachment, weekly work engagement, weekly job performance, weekly work-related social support) were modeled as latent variables, and the predictors at the between-person level (level 2, severity of major life event, work role centrality) were modeled as observed variables and centered to the grand mean.

Results

Descriptive Statistics

The various major life events participants were confronted with are presented in Table 1. The majority of the participants lost a family member or close friend (27.1%), or experienced a major change in the health or behavior of a loved one (24.3%). The negative major life event happened on average 9.01 months before the study took place ($SD = 10.64$). Table 2 shows the means, standard deviations, reliabilities, intra-class correlations (ICC1), and correlations among the study variables at the within-person and between-person levels of analysis. The value of $1 - ICC1$ indicates the within-person variance in the weekly-measured variables. The results showed that 40% in weekly self-efficacy, 45% in weekly rumination about major life event, 41% in weekly detachment from major life event, 35% in weekly work engagement, and 49% of the variance in weekly job performance was explained by within-person differences, justifying our multilevel approach. As can be seen in Table 1, severity of the MLE correlated positively ($r = .53, p < .01$) with the aggregated score of weekly rumination about the MLE, and negatively ($r = -.19, p < .05$) with the aggregated score of weekly detachment from the MLE.

Measurement Model

Multilevel confirmatory factor analysis was conducted using Mplus 7 (Muthén & Muthén, 2012) to examine the construct validity of the model variables. Except the single-item variable “severity of the major life event”, the measurement model included six within-person variables (i.e., weekly self-efficacy, weekly rumination about the MLE, weekly psychological detachment from the MLE, weekly work engagement, weekly job performance, and weekly work-related social support) and one between-person variable (i.e., work role centrality). Results showed a better fit to the data for a model comprising the seven distinct factors, $\chi^2(179) = 405.82$, CFI = .95, TFI = .94, RMSEA = .05, SRMR_{within} = .05, SRMR_{between} = .02, as compared to all possible six-factor models or models with even fewer factors, $\Delta\chi^2(5) \geq 407.10$, $p < .001$.

Table 1. Distribution of the Major Life Events across the sample

Major Life Events	<i>k</i>	%
Major change in the health or behavior of a family member or close friend (illness, accidents, drug or disciplinary problems, etc.)	69	27.1
Death of a family member or close friend	62	24.3
Breaking up with a girlfriend or boyfriend or breaking an engagement	39	15.3
Divorce	21	8.2
Being a victim of a violent act (rape, assault, etc.)	7	2.7
Being robbed	7	2.7
Death of a child	3	1.2
Death of spouse or partner	3	1.2
Other (e.g., divorce parents, abortion)	44	17.2

Note. *k* = 255 major life events. *N* = 185 participants.

Table 2. Descriptive statistics, within-person and between-person correlations

	M	SD	ICC	1	2	3	4	5	6	7	8
Level 1 (within-person)											
1. Weekly self-efficacy	5.27	.58	.60	(.91)	-.04	.16**	.15**	.42**	.23**		
2. Weekly rumination about major life event (MLE)	4.03	.95	.55	-.14**	(.93)	-.29**	.03	-.06	.13**		
3. Weekly detachment from MLE	4.70	.75	.59	.33**	-.47**	(.89)	.12*	.22**	.19**		
4. Weekly social support	4.81	.68	.62	.13*	-.02	.29**	(.86)	.29**	.24**		
5. Weekly work engagement	4.54	.56	.65	.45**	-.19**	.42**	.29**	(.91)	.40**		
6. Weekly job performance	5.79	.55	.51	.46**	.04	.27**	.24**	.26**	(.89)		
Level 2 (between-person)											
7. Severity of the MLE	3.65	1.11	--	-.03	.53**	-.19*	.00	-.10	.14	--	
8. Work role centrality	2.56	.97	--	.09	.00	.14	.21**	.18*	.00	-.07	(.91)

Note. Correlations below the diagonal are based on between-person averages (*N* = 185), while correlations above the diagonal are based on within-person data (*N* = 443). MLE = Major Life Event.

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

Hypotheses Testing

According to Hypothesis 1, rumination about the MLE would (a) undermine the self-efficacy-work engagement relationship, and (b) subsequently undermine job performance. As shown in Table 3 (Model 1), severity of the major life event was significantly related to weekly rumination ($\gamma = .656, p < .01$), and the moderation effect of weekly rumination on the relationship between weekly self-efficacy and weekly work engagement was weak but significant ($\gamma = -.038, p < .05$). Following Aiken and West (1991), we plotted the moderation effect and conducted simple slope tests. Figure 2 indicates that the positive relationship between weekly self-efficacy and work engagement was weaker ($t = -2.433, p < .05$) during the weeks employees ruminated relatively often about the MLE ($b = .315, p < .01$) than during the weeks employees hardly ruminated ($b = .388, p < .01$). Thus, hypothesis 1a was supported: rumination about the MLE undermined the relationship between self-efficacy and work engagement.

To test hypothesis 1b, we estimated the indirect effects of weekly self-efficacy on weekly job performance via weekly work engagement at high (indirect effect = .109, $SE = .045, p < .05$, 95% CI [.021, .197]) and low (indirect effect = .137, $SE = .048, p < .01$, 95% CI [.043, .230]) levels of rumination. The results showed that the difference between both conditions was not significant (difference = -.028, $SE = .024, p = .246$, 95% CI [.019, -.075]). This means that Hypothesis 1b was not supported: rumination about the MLE did *not* weaken the sequential mediation of self-efficacy, work engagement, and job performance.

Hypothesis 2 predicted that psychological detachment from the MLE would (a) strengthen the self-efficacy-work engagement relationship, and (b) subsequently relate to job performance. As shown in Table 4 (Model 1), severity of the major life event was negatively related to weekly detachment ($\gamma = -.328, p < .01$), and the moderation effect of weekly detachment on the relationship between weekly self-efficacy and weekly work engagement was significant ($\gamma = .064, p < .05$). Simple slope analyses and the plot of the interaction (see Figure 3) indicate that the positive relationship between weekly self-efficacy and work engagement was stronger ($t = 3.200, p < .01$) during the weeks employees showed a great deal of psychological detachment from the MLE ($b = .376, p < .01$) than during the weeks employees showed little detachment ($b = .280, p < .01$). This means that Hypothesis 2a was supported as well.

To test Hypothesis 2b, we estimated the indirect effects of weekly self-efficacy on weekly job performance via weekly work engagement at high (indirect effect = .145, $SE = .054, p < .01$, 95% CI [.039, .250]) and low (indirect effect = .107, $SE = .046, p < .05$, 95% CI [.018, .196]) levels of psychological detachment from the MLE. The test of differences between the indirect effects under the two conditions was significant (difference = .038, $SE = .018, p < .05$, 95% CI [.001, .076]). Psychological detachment from the MLE boosted the indirect relationship between weekly self-efficacy and weekly job performance via weekly work engagement. Thus, Hypothesis 2b was supported.

Table 3. Multilevel moderated mediation model of rumination

	Model 1				Model 2			
	Weekly rumination	Weekly work engagement	Weekly job performance		Weekly rumination	Weekly work engagement	Weekly job performance	
	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE
Level 1 variables								
Weekly social support			.193**	.044		.166**		.050
Weekly self-efficacy			.352**	.055		.304**		.074
Weekly rumination about MLE			-.054*	.021		-.031		.036
Weekly self-efficacy * weekly rumination			-.038*	.019		-.058		.052
Weekly work engagement							.206**	.072
Level 2 variable								
Severity of the MLE	.656**	.109		.322**	.609**	.110		
Work role centrality							.265**	.095
Cross-level interactions								
Work role centrality * weekly self-efficacy						.079		.088
Work role centrality * weekly rumination						-.107		.093
Work role centrality * weekly self-efficacy * weekly rumination						-.009		.089
Variance level 1 (within-person)			.407				.391	
Variance level 2 (between-person)			1.035				1.002	
Model deviance			1071.710				1066.169	

Note. MLE = Major Life Event. ⁺ $p < .10$, ^{*} $p < .05$, ^{**} $p < .01$.

Table 4. Multilevel moderated mediation model of detachment

	Model 1				Model 2			
	Weekly detachment		Weekly work engagement		Weekly detachment		Weekly work engagement	
	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE
Level 1 variables								
Weekly social support			.151 [*]	.049			.198 ^{**}	.054
Weekly self-efficacy			.328 ^{**}	.071			.297 ^{**}	.076
Weekly detachment from MLE			.161 [*]	.063			.149 ⁺	.082
Weekly self-efficacy * Weekly detachment			.064 [*]	.030			.086 [*]	.040
Weekly work engagement								
Level 2 variable								
Severity of the MLE	-.328 ^{**}	.109						
Work role centrality					-.303 ^{**}	.085		
Cross-level interactions								
Work role centrality * weekly self-efficacy							.259 ^{**}	.094
Work role centrality * weekly detachment							.111	.086
Work role centrality * weekly self-efficacy * weekly detachment							-.016	.063
Work role centrality * weekly self-efficacy * weekly detachment							.148 [*]	.072
Variance level 1 (within-person)			.391				.391	
Variance level 2 (between-person)			1.054				1.004	
Model deviance			1062.503				1065.681	

Note. MLE = Major Life Event. ⁺ $p < .10$, ^{*} $p < .05$, ^{**} $p < .01$.

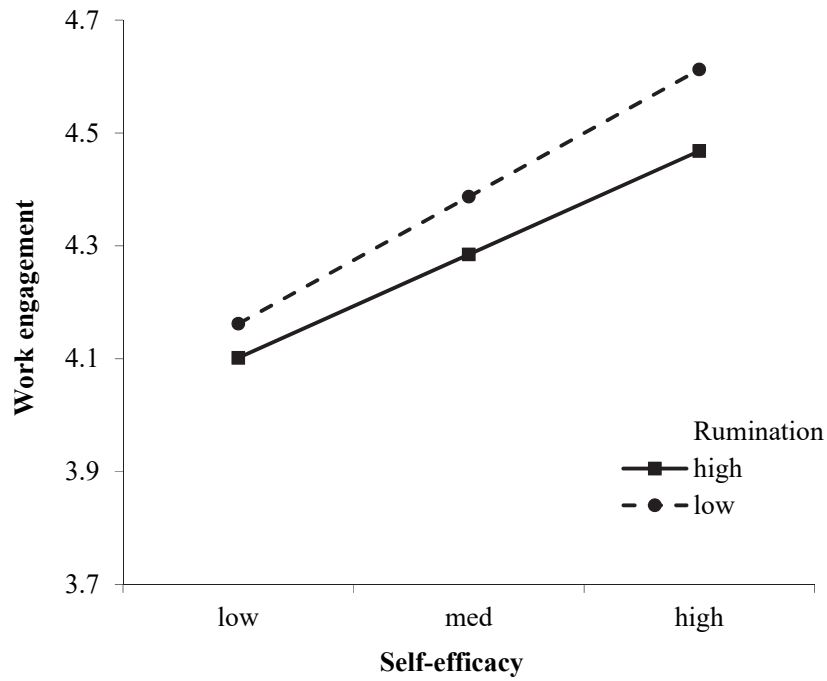


Figure 2. Moderating effect of weekly rumination about the MLE on the weekly self-efficacy-weekly work engagement relationship.

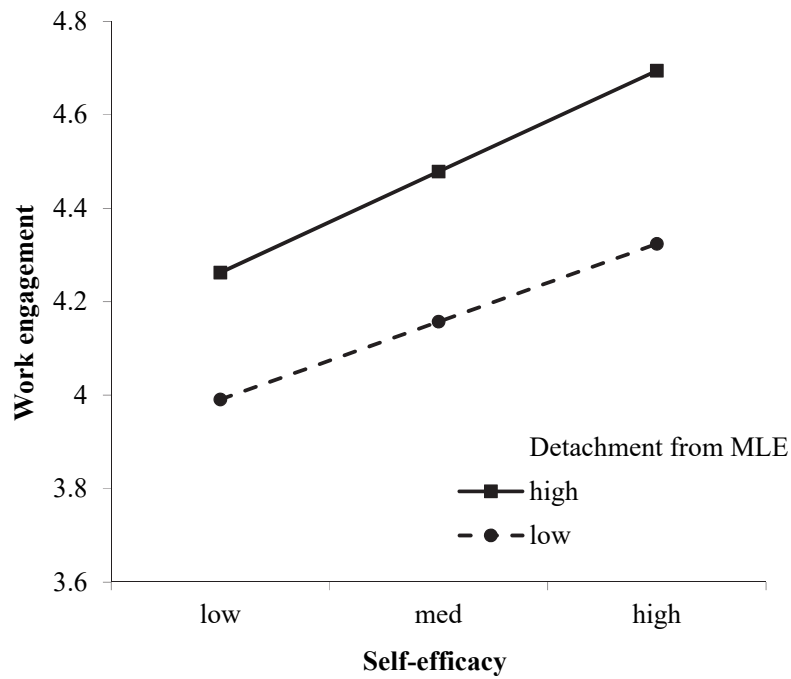


Figure 3. Moderating effect of weekly detachment from the MLE on the weekly self-efficacy-weekly work engagement relationship.

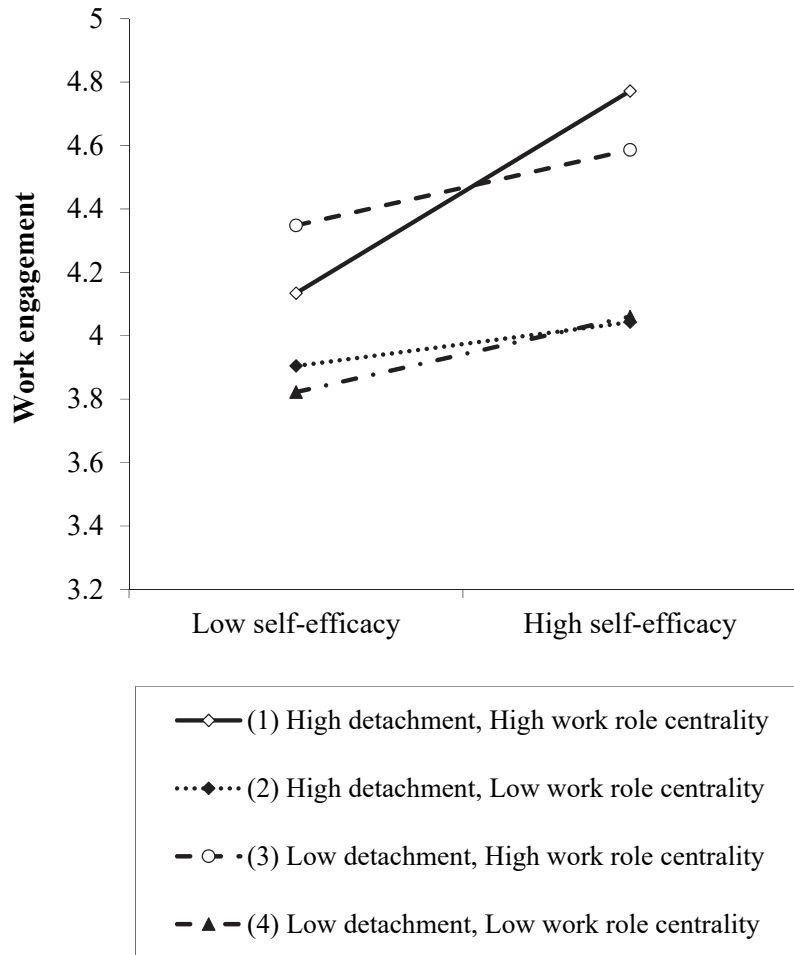


Figure 4. Three-way interaction effect of weekly self-efficacy, weekly detachment from the MLE, and work role centrality on weekly work engagement.

Hypothesis 3 proposed that work role centrality and rumination (3a) / detachment (3b) have a combined impact on the self-efficacy-work engagement relationship. As shown in Table 3 (Model 2), the three-way interaction of self-efficacy, rumination, and work role centrality was not significant ($\gamma = -.009, p > .05$). Therefore, Hypothesis 3a was not supported. However, as can be seen in Table 4 (Model 2), the three-way interaction of self-efficacy, detachment, and work role centrality was significant ($\gamma = .148, p < .05$). Again, we conducted simple slope tests and plotted the interaction effect. As Figure 4 shows, the relationship between weekly self-efficacy and weekly work engagement was significantly positive for employees with high work role centrality and high weekly detachment from the MLE ($b = .577, p < .01$). In contrast, the slopes were not significant in any of the other conditions (high work role centrality, low detachment, $b = .322, p < .10$; low work role centrality, high detachment, $b = .146, p > .05$; low work role centrality, low detachment, $b = .233, p > .05$). Therefore, Hypothesis 3b was supported. The positive relationship between weekly self-efficacy and work engagement was strongest during the weeks people with high work role centrality could detach well from the MLE.

Discussion

In the present study, we investigated how major life events (MLEs) interfere with working life, and how working life can help individuals detach and feel engaged under stressful circumstances. We used a multilevel approach in which the MLE and work role centrality were treated as stable person-level factors, whereas rumination about / detachment from the MLE, as well as self-efficacy, work engagement and job performance were assessed with weekly diary surveys. Results showed that rumination undermined the use of self-efficacy for work engagement, whereas psychological detachment facilitated the use of self-efficacy for work engagement and job performance. Consistent with the W-HR model, these findings suggest that a MLE uses up weekly energetic and cognitive resources, thus preventing the full use of psychological resources for work. Moreover, the findings indicate that work role centrality strengthens the moderating impact of psychological detachment (not rumination) on the link between self-efficacy and work engagement. In what follows, we discuss the most important contributions of our study.

Theoretical Contributions

A first contribution of the present study is that it offers support for a central proposition in the W-HR model (ten Brummelhuis & Bakker, 2012a), namely that experiences in family life may consume so many energetic and cognitive resources that it impedes the effective use of psychological resources in working life. Our study focused on the process triggered by a MLE, a stressor in the family domain that requires considerable adaptation. When individuals are confronted with a divorce, death of a loved one, or family members' major health problems, it is hard to think of anything else than the major event (Luhmann et al., 2012). The sadness and depressive thoughts may be so overwhelming that people end up in an existential crisis that may have prolonged spillover effects to other life domains. In this study, we investigated a heterogeneous group of employees from various occupations that was confronted with a variety of MLEs. Remarkably, the MLE had happened an average of no less than nine months before the start of the study. Still, the severity of the MLE correlated substantially with weekly rumination (strong positive relationship) and weekly detachment from the event (moderate negative relationship). Consistent with the WH-R model, weekly rumination undermined the use of weekly self-efficacy, whereas detachment from the MLE facilitated the use of weekly self-efficacy as a *personal* resource for work engagement and job performance.

Although the rumination x self-efficacy interaction effect was significant, it is important to notice that the effect was actually relatively weak. Nevertheless, Abelson (1985) has argued that small effects can accumulate and eventually yield large effects. Importantly, the findings shed light on the family-to-work role conflict process, and expand previous findings by Du and her colleagues (2018a, 2018b). The latter authors found that homesickness undermined the use of performance feedback and support as *job* resources for performance (work engagement was not studied in Du et al.'s (2018b) research). Similarly, Du, Derks and Bakker (2018a) found that rumination about small family hassles undermined the positive link between morning job resources (autonomy, task identity, skill variety, etc.) and afternoon flourishing (feeling good and competent, and actively contributing to the happiness and well-being of others). Taken

together, these studies reveal that repeated and compulsively focusing attention on the symptoms, causes and consequences of one's distress uses up so many attentive resources that people are unable to fully profit from the resources in their work environment or from their personal resources like self-efficacy. Note that our study used the WH-R model to investigate the impact of the *home* domain on the work domain through rumination, offering support for an under-studied effect in spillover research.

A second contribution of this study is that we introduced the concept of detachment from the major life event. Since psychological detachment was only weakly negatively related to rumination (within-person $r = -.29, p < .01$), it is clear that a low score on detachment does not imply a high score on rumination – the concepts are qualitatively different. Using recovery theory (Sonnentag & Fritz, 2015; Sonnentag et al., 2017), we proposed and found that employees who psychologically detach from the major life event are more likely to use their psychological resources for work tasks, are more engaged, and perform better. Sonnentag and colleagues have argued that psychological detachment from work-related effort during off-job time (usually in the home domain) *restores* the cognitive and energetic resources lost while dealing with work demands. Additionally, they argue that psychological detachment from work may create *new* volatile resources, for example when the recovery activity involves listening to inspiring music or podcasts and leads to positive emotions and enthusiasm. Inspired by these ideas, we proposed distancing from the home domain (the MLE) to fully profit from personal resources in the work domain.

The present results are conceptually consistent with the findings of a recent study among prison officers. Kinman, Clements and Hart (2017) investigated the moderating roles of rumination and psychological detachment in the link between (a) job demands and aggressive behaviors by prisoners, and (b) emotional exhaustion. Results suggested that job stressors were only related to exhaustion when rumination about work was high (vs. low) or when psychological detachment from work was low (vs. high). Our results expand these previous findings by showing the role of rumination and detachment in the context of a major life event. Our study suggests that detachment facilitates resource use, and eventually contributes to self-reported job performance. These findings contribute to recovery theory, and introduce psychological detachment as a coping strategy in the domain of MLEs. Our results are also consistent with Sonnentag and Kuhnel's (2016) proposition that workers need to reattach to work (i.e. rebuild the mental connection with one's work) when returning to work after a short respite to experience work engagement.

Third, our study provided evidence for the role of key resources in the WH-R model. We focused on work role centrality (Carr et al., 2008), and argued that individuals who give work a central place in their life are better able to use detachment from the MLE as an effective strategy to mobilize weekly psychological resources. Work role centrality means that individuals identify with their work, and devote considerable time and energy to the work role (Diefendorff et al., 2002). When work plays a central role in one's life, it provides the individual with meaning, self-worth, and purpose (Noor, 2004). Our findings suggest that work can be an important domain to facilitate detachment from the MLE and create meaning (Van den Heuvel, Demerouti, Bakker & Schaufeli, 2013). It is even conceivable that MLEs make people realize

that life is too short to waste time – and by realizing that time is limited, people may decide to engage in work and focus more on the things at work that are really important to them, in order to have impact.

Strengths, Weaknesses, and Avenues for Future Research

The present study has some strengths but also some weaknesses. A strength is that we combined two methods of data collection (general survey and weekly diary questionnaires). This means that although we had only one source of information, common method variance was not a major threat to the validity of our findings. Moreover, the relationships between the variables were as predicted, but moderate in magnitude; additionally, we focused on statistical interaction effects – relationships that would not have been found if the variables had shown too much overlap. Nevertheless, future research may consider using different sources of information, including physiological indicators for rumination / detachment, and supervisor- or colleague-ratings for job performance. Another strength of this study is that we used a weekly diary design to collect repeated measures of our model variables. However, all variables at the within-person, week-level were measured at the same time implying that we cannot make causal inferences. Future research may want to establish lagged effects of self-efficacy on work engagement and performance (see also, Xanthopoulou et al., 2008, 2009).

Whereas the current study focused on negative MLEs, future research may test the W-HR model using positive MLEs. For example, marriage, the birth of a baby, or graduation may spark a positive family-to-work spillover process that may have rather different effects than negative MLEs. The positive emotions caused by positive MLEs may facilitate work outcomes because of the inspiration and energy that is generated by these events. However, positive MLEs may also undermine the focus on work activities, which may hinder goal achievement. Future research is needed to illuminate how, when, and for whom positive life events influence the work domain.

Another interesting avenue for future research is to test the impact of a major event at work (e.g., death of a colleague, promotion to higher position) on family functioning. Previous work-family research has clearly indicated that what happens at work has important implications for the family domain (Amstad, Meier, Fasel, Elfering, & Semmer, 2011). It would be interesting to test whether the model proposed in the current study would hold if the direction of the effect is reversed (i.e. from work to family), and whether detachment from work, as well as family role centrality act as moderators.

Future research may also want to test various other key resources that help people solve problems and cope with stress. According to the WH-R model, people with key resources are more likely to collect new resources and optimally utilize their contextual resources (cf. Bakker et al., 2015; Hobfoll, 2002). It would be interesting to investigate core personality factors as possible key resources, for example, extraversion, conscientiousness, and emotional stability. Such stable personality traits will theoretically help employees to better deal with MLEs and mobilize the contextual resources needed for work engagement and performance.

Finally, it would be very interesting to develop a training intervention in which people who experienced a MLE may learn how to detach themselves psychologically from thoughts

about the negative event. Following the principles of detachment from work-related problems (Hahn, & Binnewies, Sonnentag, & Mojza, 2011), participants could learn various strategies that help to mentally disengage from the MLE, like meditation, sports and exercise, or if wanted, and as suggested by the present findings – engagement in work activities.

Practical Implications

The present findings have some implications for practice. One important implication is that psychological detachment from the MLE seems to be an effective mechanism to stop using cognitive and energetic resources on the event, attach to work, and use personal resources in the work domain. Building on previous recovery research (ten Brummelhuis & Bakker, 2012b), we argue that engagement in social activities with colleagues, sports and exercise, as well as engagement in hobbies may facilitate disengagement from the MLE and have a restoring effect. Moreover, our findings suggest that when individuals manage to detach psychologically from the MLE, they are better able to optimally use psychological resources at work and feel engaged in their work activities. Organizations may help their employees who go through difficult times by offering them access to recovery training programs. Hahn and her colleagues (2011) have shown that psychological detachment—in their study from work-related stressors—can be effectively facilitated by a recovery training program. It is plausible that the same techniques and exercises work to psychologically detach from private stressors induced by a MLE. The program should be tailored to the specific MLE an employee experienced.

Conclusion

The present study shows how major life events (MLEs) may influence weekly resource use, work engagement, and job performance. Consistent with the W-HR model, we argued and found that weekly rumination about the MLE undermines effective use of personal resources (i.e. self-efficacy), whereas weekly psychological detachment facilitates the mobilization of resources. In addition, we showed that work role centrality acts as a key resource, and amplifies the effectiveness of psychological detachment from the MLE. Our findings suggest that detachment may prevent the spillover of negative events in the home domain to work domain – even if these events represent dramatic changes in people’s lives.

CHAPTER 5

Capitalization on positive family events:

A Test of the Work-Home Resources Model

This chapter has been submitted for publication as Du, D., Bakker, A. B., & Derks, D. Capitalization on positive family events: A test of the work-home resources model.

Abstract

Based on the Work-Home Resources Model, the present study aims to investigate the family-to-work enrichment process. Specifically, we theorize that positive child-related events and capitalizing on these events with significant others may facilitate employees' functioning at work. To test this spillover process, we collected daily diary data from 112 Dutch working parents at two time points per day for five consecutive workdays. We tested a mediated moderation model in which previous day positive child-related events were hypothesized to strengthen the positive relationship between daily job demands and daily task performance, through capitalization during the previous evening. As predicted, results of multilevel analyses revealed that the relationship between job demands and task performance was positive when employees experienced high (vs. low) level of positive child-related events. In addition, sharing these positive events with significant others strengthened the job demands – task performance relationship during the subsequent workday. Finally, the moderating effect of previous day positive child-related events was mediated by capitalization at home during the previous evening. These findings support the work-home resources model, and contribute to the work-family literature by showing that capitalization is an important mechanism explaining family-to-work enrichment.

Introduction

Working parents with young children constantly need to juggle work and family roles, which can be quite challenging (Milkie, Kendig, Nomaguchi, & Denny, 2010). Combining multiple roles can easily lead to role conflicts, and the work-family literature has therefore predominantly focused on the negative side of combining roles (van Steenbergen, Ellemers, & Mooijaart, 2007). However, both work and family activities may also satisfy basic psychological needs, and contribute to life satisfaction (Walker & Kono, 2018). This suggests that engagement in multiple roles can be beneficial, because it provides access to various resources in the work and family domains (Barnett & Hyde, 2001).

According to the work-home resources model (ten Brummelhuis & Bakker, 2012a), enrichment between the work and family domains occurs when resources in one domain develop personal resources such as positive mood and energy and improve functioning in the other domain. For working parents, child-related events—activities and experiences with their children—are the centrality of parents' family life (Ryff, Schmutte, & Lee, 1996). Experiencing positive child-related events in the family domain may be the trigger of a positive process, which may also enrich the work domain. For example, positive events induce positive emotions (Kanner, Coyne, Schaefer, & Lazarus, 1981), which may broaden individuals' ways of thinking and dealing with the tasks at work (Fredrickson, 2001). Do positive child-related events spill over to the work domain? How can such positive family experiences be prolonged and enhanced? The present study focuses on capitalization—the social sharing of positive experiences with others when good things happen (Langston, 1994). In particular, we examine how sharing positive child-related events with significant others at home may facilitate employees in dealing with their demands at work. By investigating the function of social sharing, our study may help individuals to initiate interpersonal behaviors that may facilitate the enrichment between domains.

This study contributes to the work-family literature in at least three ways. First, we address the family-to-work enrichment process within persons across days. The focus of previous studies on working parents' experience of conflict between work and family roles has resulted in a one-sided and negative view of the work-family interface (Voydanoff, 2004). In the present research, we focus on the positive side of the family domain and investigate the beneficial effects of positive child-related events on employees' functioning at work through a process of sharing and reliving these events with significant others at home (i.e., capitalization). Instead of directly asking individuals to report about their family-to-work enrichment, we focus on the concrete behaviors and use the process view of enrichment proposed by the work-home resources model (ten Brummelhuis & Bakker, 2012a). As depicted in Figure 1, we examine how contextual resources (i.e., positive child-related events) in the family domain induce an underlying process of personal resources facilitation through capitalization, which may help employees to better deal with the demands in the work domain.

Secondly, we expand previous research by investigating the role of capitalization in the family-work enrichment process. We argue that the effects of positive child-related events on employees' work process can be transmitted by actively sharing the positive experiences with others at home. It is theoretically and practically important to unravel the role of behaviors in

the spillover process, because (a) it informs the theory regarding mechanisms that explain the relationship between the family and work domains, and (b) it informs employees and employers how family life benefits the work domain. Thirdly, previous studies examined the effect of capitalization over very short time periods of a few hours within one day (e.g., Culbertson, Mills, & Fullagar, 2012; Ilies, Keeney, & Scott, 2011). We extend the time frame by assessing how capitalizing on positive child-related events during the previous evening is related to daily work processes. Our approach provides insight into the dynamics of how behaviors of social sharing with significant others in the family domain may facilitate functioning in dealing with job demands in the work domain across days.

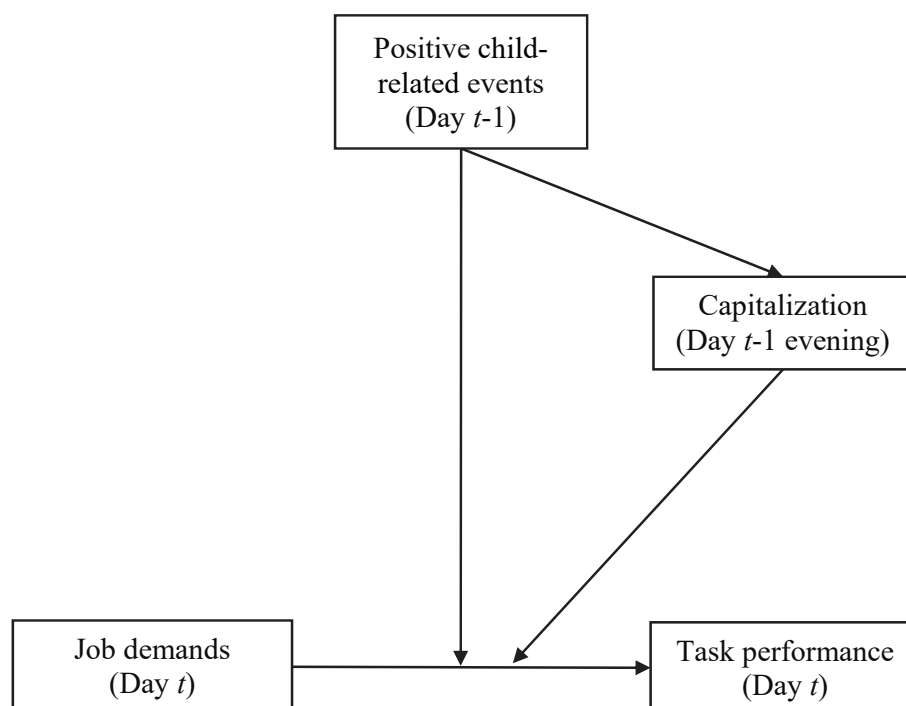


Figure 1. Hypothesized model.

Theoretical background

Family-to-work enrichment

As the work-home resources model indicates (ten Brummelhuis & Bakker, 2012a), family-work enrichment may occur when contextual resources in the family domain increase individuals' personal resources, which in turn positively impacts the functioning in the work domain. We argue that for a working parent, participating in the family role creates opportunities to build personal resources (e.g., positive emotions, self-efficacy, and self-esteem). Spending time with children and ensuring that they are doing well is a central purpose in parents' family life (Dotti Sani & Treas, 2016). Therefore, having positive experiences and activities with children represents the fulfillment of the parental role. It may increase working parents' personal resources, such as self-efficacy, which may spill over and contribute to their performance in the work domain.

In most modern organizations, employees are expected to maximize their efforts to meet job demands in order to reach high performance levels. However, research investigating this relationship between job demands and job performance has resulted in mixed findings, showing positive, negative, and curvilinear relationships, or even no relationship at all (see, Gilboa, Shirom, Fried, & Cooper, 2008; Rosen, Chang, Djurdjevic, & Eatough, 2010, for overviews). These inconsistent findings may be explained by boundary conditions that can moderate the relationship between job demands and performance. Job demands-resources theory (Bakker & Demerouti, 2017) proposes that resources of the job—which foster personal growth and development—play a moderating role in the relationship between job demands and strain. Specifically, job resources buffer the pressure of job demands on employees and ultimately promote job performance (Bakker, Van Veldhoven, & Xanthopoulou, 2010). In a similar vein, contextual resources from the family domain may foster personal resources, which, in turn, moderate the job demands-task performance relationship.

Positive child-related events can be seen as contextual resources in the family domain. Experiencing positive child-related events is associated with positive emotions, which may spill over to the work domain and facilitate the work process. For example, taking the child to an entertaining event or seeing that the child is considerate of others' feelings induces positive affect and makes parents feel proud. These positive feelings can broaden the thought-action sequences of individuals in the workplace (Fredrickson, 2001). Employees who are cognitively flexible are better able to think fast and find optimal solutions, which facilitates the efficiency of dealing with job demands at work. In addition, when employees experience positive affect, they are more likely to see the positive aspects of their work and view workload rather as challenging than problematic (Lyubomirsky, King, & Diener, 2005). This may help employees to better manage their job demands and improve their performance at work. Positive child-related events, such as teaching the child something new or hearing that the child has helped others, may also increase parents' personal resources, such as self-efficacy and self-esteem. Employees with more personal resources are better able to cope with the stressors at work (Hobfoll, 2002), which facilitates the accomplishment of work tasks, and ultimately promotes performance. Moreover, when children are thriving and employees have positive experiences with their children, they may have less to worry about regarding family life, and have more attentional and energetic resources available to deal with work issues. Thus, we hypothesize:

Hypothesis 1: Previous day positive child-related events moderate the relationship between job demands and task performance, such that job demands are positively related to task performance when employees experience high (vs. low) levels of positive child-related events.

Capitalizing on positive child-related events

Positive events are “opportunities on which to seize or capitalize” (Langston, 1994, p. 1112). Social sharing lies in the nature of human beings (Melé & Cantón, 2014). Daily diary studies indicate that people share the best part of their day with at least one other person between 60% and 80% of the time (Gable, Reis, Impett, & Asher, 2004). Langston (1994) defined capitalization as the social sharing of positive experiences with others. Contrary to the purpose

of sharing negative experiences, which would be to seek for social support and comfort to diminish the harm of the negative event, the motive of sharing positive experiences is to enhance or prolong the benefits of the positive event. There is also empirical evidence showing that this act of telling others has the potential to multiply the benefits of positive events. For example, Gable and colleagues (2004) found that communicating personal and positive events with others was associated with increased daily positive affect and well-being, above and beyond the impact of the positive event itself and other daily events.

People generally want to feel good (vs. bad), and it is commonly held that people aspire to maintain or prolong these pleasant feelings. Previous research on capitalization has found that individuals prefer to share their experiences with people who are emotionally close to them (Rimé, Mesquita, Philippot, & Boca, 1991). The home provides a psychologically safe environment where individuals can share emotional information with their significant others without fear of unfavorable judgment (Ilies et al., 2011). For working parents, children are a salient part of their family domain (Ryff et al., 1996). It is natural for parents to talk about their children and share child-related events with family members and friends at home. Therefore, we hypothesize that:

Hypothesis 2: Daily positive child-related events are positively related to capitalization with significant others at home in the evening.

Based on the work-home resources model (ten Brummelhuis & Bakker, 2012a), we argue that contextual resources in the family domain (i.e., positive child-related events) may spill over to the work domain through the development of personal resources. Capitalization refers to discussing positive events with significant others at home, and can be seen as a behavioral action that may enhance personal resources. These personal resources, for example positive feelings, perceptions of self-esteem, and energies, may be responsible for the transfer of positive child-related events across domains. Sharing positive child-related events with significant others is likely to maintain and increase the positive feelings surrounding these positive events (Gable et al., 2004). The prolonging of positive feelings by sharing positive events with significant others in the family domain broadens cognitions and the scope of attention (Fredrickson, 2001). This broadening increases the available number of thoughts and actions a person can use to respond to the environment, which fosters new ways or more efficient ways of dealing with tasks, and ultimately facilitates performance (Fredrickson & Branigan, 2005). Moreover, engaging in positive social interactions with significant others may allow individuals to perceive that others are pleased for them. This, in turn, boosts their self-esteem and facilitates positive reflected appraisals—i.e., perceiving oneself positively in the eyes of others (Baumeister, 1998). Sharing positive child-related events with significant others at home increases one's value as a good parent and may boost the perception that others appreciate and value oneself (Gable & Reis, 2010). Personal resources shape the way people understand their environment and react to it (Judge, Bono, & Locke, 2000). Employees who possess more personal resources may see work tasks as less problematic and feel confident that they are able to deal with these job demands, and ultimately reach high performance. In addition, positive social interactions during the evening hours facilitate the recovery process (Sonnentag, 2001). Therefore, during the next day, employees are able to work with high levels of energy refilled

by means of the capitalization on positive child-related events with significant others during the previous evening. This may improve their functioning at work.

Hypothesis 3: Previous evening capitalization moderates the relationship between job demands and task performance, such that job demands are positively related to task performance when the level of capitalization is high (vs. low).

Taking Hypotheses 1-3 together, when working parents experience positive child-related events, they are likely to capitalize on these events with significant others. This social sharing of positive events will facilitate employees' functioning at work in dealing with job demands, and further result in increased task performance. We expect that social sharing with significant others mediates the effect of positive child-related events on the relationship between job demands and task performance. In other words, we propose that the original moderating effect of positive child-related events on the job demands-task performance relationship is mediated through capitalization. Previous research has investigated the mediating role of interpersonal capitalization in the opposite direction, namely from work to family. Ilies, Keeney, and Goh (2015) found that capitalization mediates the relationship between positive work events and personal outcomes (e.g., life satisfaction). Our research expands this research and focuses on the family-to-work process. We hypothesize that:

Hypothesis 4: Previous evening capitalization mediates the moderating effect of previous day positive child-related events on the relationship between job demands and task performance.

Method

Participants and procedure

The sample consisted of 112 Dutch employees who were recruited by posting recruitment messages to personal and professional networks of the researchers. As the key part of the study involved capturing positive child-related events in the family domain and employees' ratings of their capitalization with significant others at home, only employees who were either married and/or were living together with their partners and had underage children were eligible to participate. There were two stages of data collection. First, participants completed a one-time survey that assessed demographics. Then, employees were asked to respond to two daily surveys each day, for five subsequent workdays. On each workday, participants completed the work survey immediately after finishing their work in the afternoon (between 4:00 p.m. and 7:00 p.m.), and completed the home survey just before going to bed (between 9:00 p.m. and 0:00 a.m.). All surveys were programmed using a web-based survey platform and the links of surveys were sent to participants through emails. For participants who took part in all measuring moments, we raffled off 10 LEGO coupons worth 50 euros each.

In total, 112 working parents filled out background questionnaire and completed 397 daily surveys out of total possible 560 daily surveys (112 participants * 5 days), resulting in a 70.9% daily response rate. Because our model hypothesized the relationships between previous day positive child-related events and capitalization at home in the evening (measured in Day $t-1$'s evening survey), daily job demands and daily task performance (measured in Day t 's afternoon survey), the maximum number of useful daily observations provided by each participant was

four (evening surveys from Days 1–4 were matched up with afternoon surveys from Days 2–5). This resulted in 223 usable daily surveys for our analyses.

The sample was predominantly female (81.2%), with 43.6% having completed at least college education. The average age of the participants was 35.6 ($SD = 6.1$). They had on average 6.6 years of work tenure ($SD = 5.7$), and worked on average 30.9 hours a week ($SD = 7.6$). Participants had 1 to 3 children who lived together with them ($M = 1.7$). The mean age of children was 4.6 ($SD = 3.5$).

Measures

Due to the space constraints that are inherent to diary studies (Ohly, Sonnentag, Niessen, & Zapf, 2010), we used validated short versions of original scales. All items were translated to Dutch and rephrased to the day level context. A back-to-back translation procedure (Brislin, 1980) was performed to translate scales from English to Dutch, except the job demands scale (Van Veldhoven, de Jonge, Broersen, Kompier, & Meijman, 2002), which is originally a Dutch questionnaire.

Home survey (evening, bedtime)

Daily positive child-related events. We measured daily positive child-related events in the evening survey with eight items to assess positive behaviors of children and individuals' positive activities with children. Positive behaviors of children were measured with five items adapted from the prosocial subscale of the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997). An example item is "Today, my child was kind to other kids". Employees' positive activities with children were measured with three items adapted from the children subscale of the Inventory of Small Life Events (Zautra, Guarnaccia, & Dohrenwend, 1986). The inventory refers to small life events that may happen every day. We focused on daily uplifts that related to activities with children. An example item is, "Today, I took my child to an entertaining event". The participants were asked how much they enjoyed the child-related uplift and provided their responses on a seven-point scale, 1 = None, 7 = A great deal. Cronbach's alpha ranged between .80 and .90 across days ($M = .84$). We conducted a confirmatory factor analysis to test whether positive behaviors of children and positive activities with children can be represented by one latent factor "positive child-related events". The results showed a good model fit ($\chi^2(18) = 22.24$, CFI = .99, TLI = .99, RMSEA = .03, SRMR = .04), which supports the representation of positive child-related events using one general latent factor.

Capitalization at home in the evening. We used three statements that asked employees to indicate the extent to which they shared the positive child-related events in the family domain with significant others during the evening. The statements were adapted from Ilies et al.'s (2011) capitalization measure, for example, "To what extent did you share today's positive things related to your child with your significant others (e.g., spouse, friend, parent, or other)?" (1 = Not at all, 7 = A great deal). Cronbach's alpha ranged between .69 and .82 across days ($M = .76$).

Work survey (afternoon)

Daily job demands. We measured daily job demands using the adapted four-item work pressure scale developed by Van Veldhoven et al. (2002). An example item is “Today at work, I had too much work to do” (1 = I fully disagree, 7 = I fully agree). Cronbach’s alpha ranged between .88 and .91 across days ($M = .90$).

Daily task performance. We measured daily task performance with adapted three items from Goodman and Svyantek’s (1999) scale (Breevaart, Bakker, Demerouti, & van den Heuvel, 2015). An example item is “Today, I met all the standards of my work” (1 = I fully disagree, 7 = I fully agree). Cronbach’s alpha ranged between .88 and .95 across days ($M = .91$).

Daily job resources. We used job resources as a control variable when predicting performance, because job resources are, besides job demands, another important category of work characteristics (Bakker & Demerouti, 2017). By controlling for job resources, we could isolate the unique effects of contextual resources from the family domain. Supervisors act as organizational agents. Employees receiving favorable treatments from a supervisor contributes to their perceptions of contextual resources in the organization (Rhoades & Eisenberger, 2002). We assessed supervisor support with five items from Graen and Uhl-Bien’s (1991) scale (Bakker, Demerouti, & Euwema, 2005). An example item is “Today at work, my supervisor helped me solve problems at work” (1 = I fully disagree, 7 = I fully agree). Cronbach’s alpha coefficients ranged between .72 and .84 across days ($M = .78$).

Strategy of Analysis

Our repeated measures data can be viewed as multilevel data, with daily measurements nested within individuals. This leads to a two-level model with days at the first-level ($N = 223$ occasions) and the individual participants at the second level ($N = 112$ participants). Multilevel analysis with the HLM 6.08 software (Raudenbush, Bryk, Cheong, Congdon, & du Toit, 2004) was applied. Predictor variables at the within-person level (Level 1, e.g., daily job demands) were centered to the individual mean. The mediated moderation relationships in multilevel models can be conceptualized as a set of regression equations (Preacher, Rucker, & Hayes, 2007). We started with the moderating effect of Day $t-1$ positive child-related events on the association between Day t job demands and Day t task performance, and then we pursued to explain the moderating effect by using a mediator (Day $t-1$ evening capitalization at home) that carries the moderating effect.

First, we specified and tested a null model without independent variables. Then, we entered the control variable Day t job resources. After that, we entered predictors (Day $t-1$ positive child-related events and Day t job demands) and the interaction between Day $t-1$ positive child-related events and Day t job demands. The interaction term was created by person-mean centering and subsequently multiplying the two predictor variables involved in the interaction. Finally, we entered Day $t-1$ evening capitalization at home, and the interaction terms of Day t job demands with Day $t-1$ evening capitalization at level 1. We examined whether Day $t-1$ evening capitalization at home accounted for the moderating effect of Day $t-1$ positive child-related events on the Day t job demands – Day t task performance relationship.

We tested the indirect effect of the interaction of Day $t-1$ positive child-related events and Day t job demands through Day $t-1$ evening capitalization at the within-person level by using the Monte Carlo Method (Bauer, Preacher, & Gil, 2006). For the mediated effect, we calculated the distribution of the specific mediation effect using (a) the estimate and the standard error of the effect of Day $t-1$ positive child-related events on the mediator Day $t-1$ evening capitalization at home, as well as (b) the estimate and the standard error of the interactions of Day $t-1$ evening capitalization with Day t job demands in predicting Day t task performance. When the distribution of possible estimates for the products of a and b lies above or below zero, the mediator (Day $t-1$ evening capitalization at home) significantly mediates the interaction of Day $t-1$ positive child-related events and Day t job demands on Day t task performance.

Results

Descriptive statistics

Table 1 shows the means, standard deviations, reliabilities, intra-class correlations (ICC1), and correlations among the study variables at the within-person and between-person levels of analysis. The value of 1-ICC1 indicates the within-person variance in the daily-measured variables. The results showed that 37% of the variance in Day $t-1$ positive child-related events, 55% in Day $t-1$ evening capitalization at home, 48% in daily job resources, 40% in daily job demands, and 63% of the variance in daily task performance was explained by within-person fluctuations, justifying our multilevel approach.

Table 1. Descriptive statistics, within-person and between-person correlations

	<i>M</i>	<i>SD</i>	ICC1	1	2	3	4	5
1. Positive child-related events (Day $t-1$)	4.21	.61	.63	(.84)	.36**	-.02	-.07	-.03
2. Capitalization (Day $t-1$ evening)	4.38	.75	.45	.40**	(.76)	-.12	.02	-.02
3. Job resources (Day t)	4.02	.77	.52	.14**	.10*	(.78)	.03	.04
4. Job demands (Day t)	4.32	.77	.60	-.13**	-.02	-.02	(.91)	-.04
5. Task performance (Day t)	5.26	.69	.37	.29**	.10*	.17**	.17**	(.88)

Note. Correlations above the diagonal are based on non-averaged data ($N = 223$), while correlations below the diagonal are based on within-person averages ($N = 112$).

* $p < .05$; ** $p < .01$

Measurement model

Multilevel confirmatory factor analysis was conducted using Mplus 7 (Muthén & Muthén, 2010) to examine the construct validity of all studied variables. The proposed model included the five within-person model variables (i.e., previous day positive child-related events, capitalization at home during previous evening, daily job resources, daily job demands, and daily task performance). Results showed a better fit to the data for a model comprising five distinct factors, $\chi^2(218) = 245.61$, CFI = .99, TFI = .99, RMSEA = .02, SRMR = .04, as

compared to all possible four-factor models or models with even fewer factors, $\Delta\chi^2(4) \geq 201.08, p < .001$.

Hypotheses testing

According to Hypothesis 1, previous day positive child-related events would moderate the relationship between daily job demands and daily task performance. As shown in Table 2, the interaction term for Day t job demands and Day $t-1$ positive child-related events was significant ($\gamma = .294, p < .05$). We plotted the interaction and conducted simple slope tests to interpret the interaction effect. Figure 2 illustrates that when previous day positive child-related events were low (1 SD below the mean), the relationship between daily job demands and daily task performance was not significant ($b = -.170, p = .104$). However, when previous day positive child-related events were high (1 SD above the mean), daily job demands were significantly positively related to task performance ($b = .188, p < .05$). This pattern of results is consistent with Hypothesis 1.

Table 2. Interaction Effects of Previous Day Positive Child-related Events, Previous Evening Capitalization, Daily Job demands on Daily Task Performance

	Capitalization (Day $t-1$ evening)		Task performance (Day t)			
	Estimate	SE	Estimate	SE	Estimate	SE
Job resources (Day t)	-.131	.079	.014	.071	.019	.072
Positive child-related events (Day $t-1$)	.436**	.108	.003	.096	.011	.103
Job demands (Day t)			-.009	.082	.073	.087
Job demands (Day t) * Positive child-related events (Day $t-1$)			.294*	.146	.106	.171
Capitalization (Day $t-1$ evening)					.027	.083
Job demands (Day t) * Capitalization (Day $t-1$ evening)					.241*	.119
Variance level 2 (individual)	.647		.420		.430	
Variance level 1 (day)	.800		.643		.591	
Deviance	622.057		566.429		512.337	

Note. * $p < .05$; ** $p < .01$

Hypotheses 2 predicted that daily positive child-related events would be positively related to capitalization with significant others at home in the evening. As shown in Table 2, the relationship between Day $t-1$ positive child-related events and Day $t-1$ evening capitalization at home was significant ($\gamma = .436, p < .01$). This result provides support for Hypothesis 2.

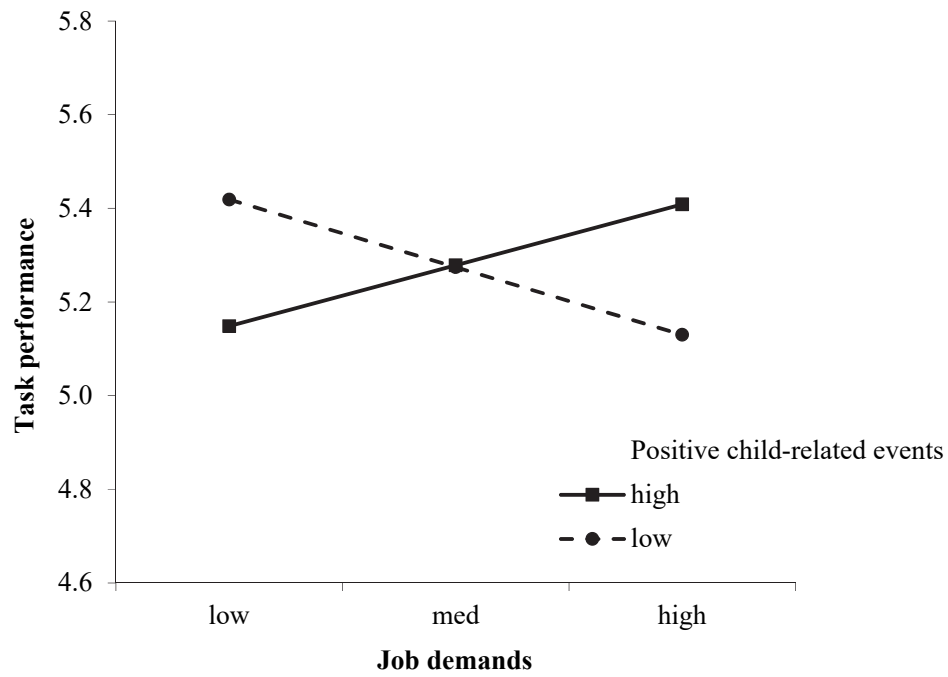


Figure 2. Moderating effect of previous day positive child-related events on the daily job demands-daily task performance relationship.

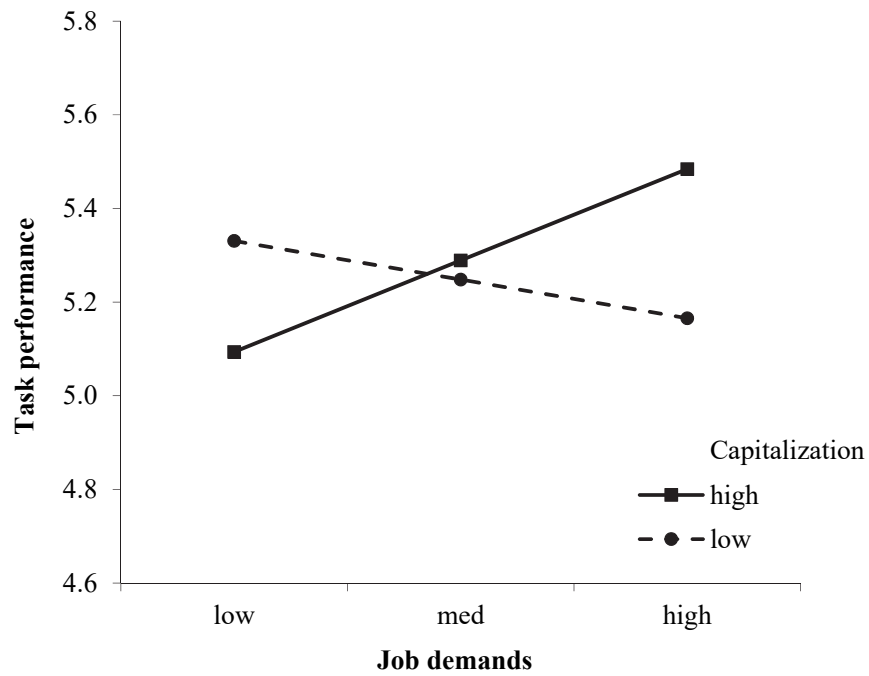


Figure 3. Moderating effect of previous evening capitalization at home on the daily job demands-daily task performance relationship.

Hypothesis 3 predicted that capitalization during the previous evening would moderate the relationship between daily job demands and daily task performance. Table 2 shows that the interaction between Day t job demands and Day $t-1$ evening capitalization at home was significant ($\gamma = .241, p < .05$). Simple slope analyses and the plot of the interaction (see Figure 3) show that the relationship between daily job demands and daily task performance was non-significant when capitalization during previous evening was low ($b = -.107, p = .202$) and significantly positive when capitalization was high ($b = .255, p < .05$). These results are consistent with Hypothesis 3.

Finally, Hypothesis 4 proposed that previous evening capitalization would mediate the moderating effect of previous day positive child-related events on daily job demands – daily task performance relationship. By using a Monte Carlo simulation procedure with 20,000 replications, we found that the indirect effect of the interaction of Day $t-1$ positive child-related events and Day t job demands through Day $t-1$ evening capitalization was .105, with a 95% bias-corrected bootstrap confidence interval of [.0036, .2363]. This indicates that the mediating effect of previous evening capitalization was significantly different from zero, providing support for Hypothesis 4.

Discussion

The present study investigated the family-to-work enrichment process by testing how positive child-related events exert a positive influence on the work domain through the social sharing of positive experiences with significant others. We found that previous day positive child-related events facilitated the relationship between daily job demands and daily task performance by capitalizing on these events with significant others in the evening. In other words, social sharing of positive child-related events carried the moderating effect of positive child-related events and facilitated the association between job demands and task performance. Our results suggest that employees who capitalized on experienced positive child-related events in the previous evening are better able to deal with job demands in the workplace.

Theoretical implications

First, based on the work-home resources model (ten Brummelhuis & Bakker, 2012a), our study investigated how contextual resources (i.e., positive child-related events) may facilitate the work process, which provides a process view of family-work enrichment. Most of the research on work-to-family and family-to-work enrichment has asked participants to directly self-report the amount of enrichment by using measures that include causal attributions in the item formulation (e.g., “My involvement in my work provides me with a sense of accomplishment and this helps me be a better family member”; Carlson, Kacmar, Wayne, & Grzywacz, 2006). Such a procedure is suboptimal from a methodological perspective, because in this way researchers are asking their participants to report a complex process. Instead of using such measurements that are susceptible to subjectivity bias, our study applied the process view of the work-home resources model to investigate family-work enrichment. We tested the moderation effect of positive child-related events on the job demands-task performance

relationship, and theorized how these positive events could enrich and facilitate the work domain. Therefore, our study reduced retrospective bias and improved our understanding of the causal process between the family and work domains.

Second, our research links the work-home resources model to the literature on capitalization by examining how previous day positive child-related events facilitate the work process. Our findings reveal that the social sharing of positive child-related events during the previous evening can benefit employees' dealing with their job demands at work. The results are consistent with previous research about interpersonal capitalization with partners at home on positive work experiences. By talking about the positive events with significant others, individuals are able to prolong good feelings and increase job and relationship satisfaction (e.g., Ilies et al., 2011) or increase general well-being (e.g., Ilies et al., 2015). We extended these findings by showing that the effects of capitalization benefit employees in a more extensive and distal manner by influencing the work process. Sharing positive experiences at home enhances personal resources, such as positive emotions, self-esteem, and energy, which seem to spill over to the work domain and facilitate employees' functioning in the workplace. In line with the work-home resources model (ten Brummelhuis & Bakker, 2012a), our findings indicate that capitalization may help to convert the contextual resources (positive child-related events) from the family domain to employees' functioning (dealing with job demands) in the work domain, thereby increasing task performance. The mediating role of behavioral action (i.e., capitalization) reveals the way of how employees can transfer positive influences of the family to the work domain.

Third, our study shows the process of family-to-work enrichment across days. Previous studies have tested the mechanism of work-family interpersonal capitalization linking the work domain to the family domain within the same day (e.g., Ilies et al., 2015; Ilies, Liu, Liu, & Zheng, 2017), while less attention has been paid to the overnight spillover of positive experiences from the family domain to the work domain. Our study found more distal effects and shows that the effects of social sharing of positive child-related events on employees' functioning process at work were both across domains and days. The work-home resources model (ten Brummelhuis & Bakker, 2012a) considers the temporal character of work-family interactions and explains how the enrichment process develops over time. The cross-day family-to-work enrichment occurs when volatile contextual resources from the family domain induce a developmental process of volatile personal resources, which ultimately facilitates employees' functioning in the work domain. Our results indicate that sharing positive child-related events with significant others at home during previous evening may facilitate employees' functioning in dealing with job demands, which ultimately increases task performance.

Limitations and future research

Our study is not without limitations. All the variables examined in our study were measured by self-report and the results may be contaminated by common method variance. However, following the suggestions by Podsakoff, MacKenzie, Lee, and Podsakoff (2003), we separated the measures of the positive child-related events and capitalization in the daily

evening survey, while job demands and task performance in the daily afternoon survey. Therefore, it is less likely that the relationships found in the current study were due to common method bias. Nevertheless, future studies may also use partner-reports of child-related events and supervisor-reports of task performance to replicate the current findings.

Another possible limitation is that we only focused on behaviors (i.e., capitalization) as the linking pin between the family and work domains. It is also conceivable that positive child-related events have enriching effects on the work domain through different mechanisms as well. For example, increased self-efficacy from successfully communicating and educating children may also boost an individual's self-efficacy in communicating with people in the work role (Greenhaus & Powell, 2006). Future studies could investigate other potential mechanisms through which employees can facilitate their work domain.

In addition, we only investigated how resources in the family domain (i.e., positive child-related events) influence the work process of dealing with job demands. However, working parents have more demands in the family domain than employees without child-care responsibilities (Milkie et al., 2010). The conflict process between domains implies that demands from the family domain may also interact with work demands in predicting job performance (Greenhaus & Beutell, 1985). Future studies may consider both resources and demands in the family domain, and investigate whether the positive effects of positive family events on the work process would be stronger under the absence of negative events in the family domain.

There is also still room for improvement in the research design because we only tested the within-level process of family-work enrichment. The work-home resources model (ten Brummelhuis & Bakker, 2012a) proposes that conditional factors such as characteristics of the person (key resources) and the context in which individuals are living (macro resources) can facilitate the enrichment between the family and work domains. Future studies may investigate individual differences (e.g., optimism, extraversion) and general social conditions (e.g., public policies, cultural values) as cross-level moderators that may strengthen the positive impact of family-domain triggers on work processes.

Practical implications

Our study suggests that employees' functioning in dealing with job demands can be facilitated by positive experiences with children and social interactions with significant others at home. Therefore, providing family-friendly policies to promote employee's work-life balance not only benefits the individual employee, but also benefits the organization (Tang, Huang, & Wang, 2017). For example, organizations may set limits on working overtime and using e-mail for work during off-job hours, so employees will be able to spend time with children in the family domain and interact with significant others at home. This may bring substantial benefits to the organization by facilitating employees' functioning at work.

The finding of the mediating role of capitalizing on positive child-related events in the evening suggests that sharing positive experiences with significant others at home may help employees to better deal with work situations. Capitalization at home is a technique that employees can easily and effortlessly implement in their lives to add to the benefits of positive

events in the family domain (Ilies et al., 2017). Employees can maintain and enhance the positive experiences from family and benefit from it in their work domain by simply sharing good things with significant others more often.

Conclusion

Drawing on the work-home resources model, our study indicates how positive experiences with children go beyond the family domain and facilitate the work domain across days through social behavioral actions (i.e., capitalizing on positive child-related events in the family domain with significant others). This means that on the days we realize that our children make us happy and proud, we may function better at work the next day. In addition, we hope that our findings can make employees aware of the potential of social sharing behaviors at home in benefiting their work domain.

CHAPTER 6

Positive Events at Home and Positive Behaviors at Work:

A Test of the Work-Home Resources Model

This chapter has been submitted for publication as Du, D., Bakker, A. B., & Derks, D. Positive events at home and positive behaviors at work: A test of the work-home resources model.

Abstract

Based on the Work-Home Resources Model, this research aims to investigate the home-to-work enrichment process. Specifically, we focus on how daily social resources may spill over from the home to the work domain, and lay the foundation for crafting social job resources and organizational citizenship behavior towards individuals (OCBI). Furthermore, we hypothesize that trait optimism acts as a key resource and facilitates this enrichment process. We collected daily diary data from 91 Chinese employees at two time points during each day for five consecutive workdays. The results of multilevel analyses revealed that employees who capitalized on experienced positive events in the home domain during the evening reported more job crafting behavior (increasing social resources) and OCBI during the next day in the work domain. In line with our expectations, trait optimism facilitated the home-work enrichment process by boosting each of the relationships between positive events in the home domain and capitalization at home, and between capitalization at home and (a) crafting social job resources, and (b) OCBI. Our findings contribute to the work-home literature by providing evidence for the spillover of positive social behaviors from the home domain to the work domain, supporting the work-home resources model.

Introduction

Small things matter because they shape our everyday life. Some research suggests that daily hassles and uplifts are even better predictors of psychological well-being than major life events (Kanner, Coyne, Schaefer, & Lazarus, 1981). Although negative events are often more impactful and have captured much research attention, positive events are considerably more prevalent in our lives. On a given day, the positive events people experience outnumber the negative events with factor three (Gable & Haidt, 2005). How can individuals make the best use of these positive events and make good feelings last? Social sharing lies in the nature of human beings (Melé & Cantón, 2014). Langston (1994) defined capitalization as the social sharing of positive experiences with others when good things happen. This act of telling others has shown the potential to multiply the benefits of positive events (Gable, Reis, Impett, & Asher, 2004). Empirical research has found that capitalizing on positive events is not only beneficial for an individual's personal outcomes; it may also facilitate one's work-related outcomes (e.g., job satisfaction; Ilies, Keeney, & Scott, 2011).

The overarching theoretical framework of our study is the work-home resources model (ten Brummelhuis & Bakker, 2012a). According to this model, home-work enrichment occurs when resources from the home domain lead to the development of personal resources, which subsequently facilitate performance in the work domain. Greenhaus and Powell (2006) identified five types of resources that can be seen as crucial drivers of the enrichment process, namely skills and perspectives, psychological and physical resources, social-capital resources, flexibility, and material resources. In the present study, we specifically focus on social capital—the resources derived from interpersonal relationships—as resources that may facilitate home-work enrichment. Employees' social interactions and connections in organizations are vital. Organizations depend on individuals to interact and form connections to accomplish the work of the organization (Dutton & Heaphy, 2003). Our study investigates how social interactions and social resources may transfer from the home domain to the work domain. Specifically, we examine how sharing positive events in the home domain with significant others may facilitate approaching and helping behaviors at work. The work-home resources model further proposes that enrichment between the home and work domain becomes more likely when individuals are able to mobilize a range of key resources (ten Brummelhuis & Bakker, 2012a). Key resources represent stable personality traits or individual characteristics that enable individuals to optimally utilize their personal or social resources (Hobfoll, 2002; Thoits, 1994). These key resources play a central role in explaining why some people are better than others in building and utilizing their resources and experience more home-work enrichment. Optimism enables individuals to view the environment more positively and to respond in a more active manner (Boudrias et al., 2011). Therefore, in line with the work-home resources model, we explore the boosting effect of trait optimism as a key resource in the daily social resources spillover process of home-to-work enrichment.

Our study contributes to the work-home literature by addressing a social psychological process of home-to-work enrichment within persons across days. More specifically, we investigate the beneficial effect of positive events in the home domain on employee's job crafting in the form of increasing social resources at work and organizational citizenship

behavior towards individuals (OCBI) through capitalization with significant others at home. Instead of using well-being and personal outcomes linked to the capitalization process (e.g., Ilies, Keeney, & Goh, 2015), our study investigates more distal work-related outcomes and behaviors (i.e., job crafting and OCB) in the work domain. Secondly, previous studies examined the effect of capitalization over very short time periods of a few hours within one day (e.g., Culbertson, Mills, & Fullagar, 2012; Ilies et al., 2011). We extend the time frame by assessing capitalizing on positive events in the home domain during the evening and work processes during the next day, which provides insight into the dynamics of how social interactions in the home domain may facilitate social interactions in the work domain (i.e., crafting social job resources and OCBI) across days. Thirdly, our research provides empirical support for the function of key resources in the work-home resources model (ten Brummelhuis & Bakker, 2012a). By examining the moderating effect of optimism on the relationships among positive events in the home domain, capitalization at home, crafting social job resources, and OCBI, our research reveals the facilitating role of optimism in the daily home-work enrichment process.

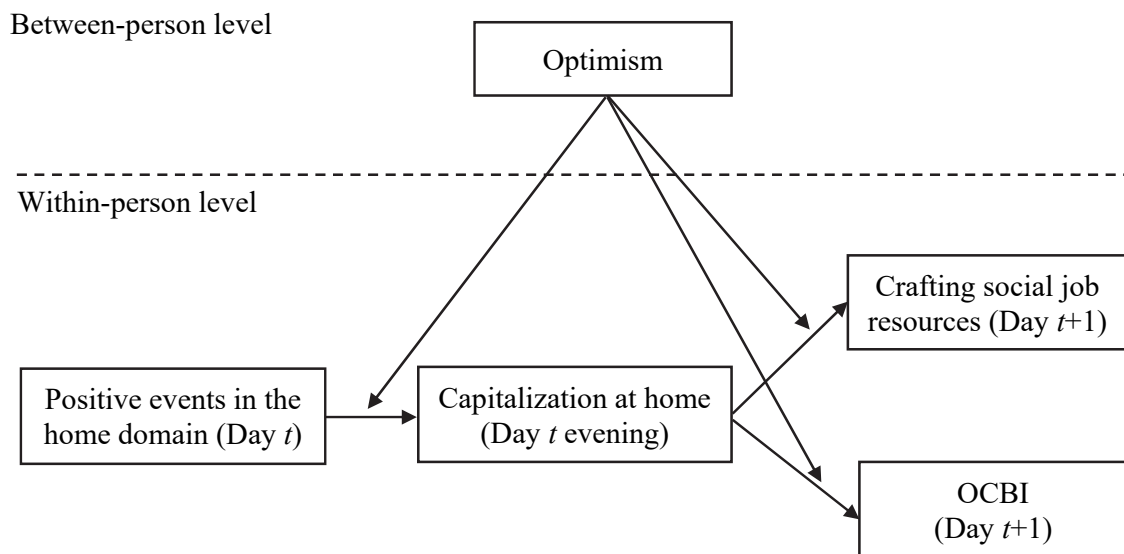


Figure 1. Hypothesized model

Theoretical background

Capitalizing on positive events in the home domain

During the past decades, psychological science has primarily focused on individuals' responses to negative life events and the ways to buffer the harmful effects of negative events. Since the greater impact of negative events over good ones has been found in everyone's daily life (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001), there is an extensive literature on social support, which reveals the value of seeking helpful interactions with others during difficult times (see Taylor, 2011, for a review). However, although positive events typically greatly outnumber negative events, relatively little attention has been paid to positive life events and the benefits of social sharing of positive events (Gable & Haidt, 2005). Langston (1994) was the first to use the term "capitalization" in the context of receiving social support when

revealing positive experiences. Contrary to the purpose of sharing negative experiences, which would be to diminish the harm of the negative event, the motive of sharing positive experiences is to enhance or prolong the benefits of the positive event. Gable and colleagues (2004) formally defined capitalization as “the process of informing another person about the occurrence of a positive personal event or experience and thereby deriving additional benefit from it” (p. 228).

Positive events are “opportunities on which to seize or capitalize” (Langston, 1994, p. 1112). Daily diary studies indicate that people share the best part of their day with at least one other person between 60% and 80% of the time (Gable et al., 2004). People generally want to feel good (vs. bad), and it is commonly held that people aspire to maintain or prolong these pleasant feelings. Previous research on capitalization has found that people prefer to share their experiences with people who are emotionally close to them (Rimé, Mesquita, Philippot, & Boca, 1991). It is natural for individuals to share life experiences with significant others at home. The home provides a psychologically safe environment where individuals can share emotional information with their significant others without fear of excessive judgment (Ilies et al., 2011). Therefore, we hypothesize that:

Hypothesis 1: Daily positive events in the home domain are positively related to capitalization with significant others at home in the evening.

From capitalization at home to positive work behaviors

According to the work-home resources model (ten Brummelhuis & Bakker, 2012a), contextual resources from the home domain, such as positive events in the home domain, facilitate the work domain through the development of personal resources. Capitalization—discussing positive events with significant others at home—is likely to maintain and increase the positive feelings surrounding these positive events (Gable et al., 2004). Moreover, engaging in positive social interactions with significant others may allow individuals to perceive that others are pleased for them. This, in turn, boosts their self-esteem and facilitates positive reflected appraisals—i.e., perceiving oneself positively in the eyes of others (Baumeister, 1998). As Hobfoll (1998, 2001) proposed, resources can generate new resources because initial gain begets further gain. The creation of new resources from existing resources constitutes a gain spiral. Therefore, those who possess strong resource pools have a greater likelihood to create opportunities to further increase their resources (Chen, Westman, & Hobfoll, 2015). For example, the positive feelings prolonged by sharing positive events in the home domain with significant others broadens cognitions and the scope of attention (Fredrickson, 2000). This broadening increases the available number of thoughts and actions a person can respond to the environment, which fosters exploratory behaviors that may increase opportunities to build more resources over time (Fredrickson & Branigan, 2005).

We argue that positive social interactions at home (i.e., capitalizing on positive events in the home domain with significant others) may particularly contribute to the positive social interactions and the building of social resources at work. Behavioral priming effects occur when individuals are being exposed to specific actual behaviors, increasing the likelihood of expressing that same behavior (Cesario, Plaks, & Higgins, 2006). When individuals are being primed with social interactions, it increases the accessibility of mental representations of

behavior associated with social connections in the brain (i.e., it becomes more salient). Thus, the enactment of social behaviors is being facilitated when it applicable to the present circumstances (Bargh, 2014). Although there has been controversy over priming effects, meta-analytic research has shown that the effects are replicable (Cameron, Brown-Iannuzzi, & Payne, 2012), as well as in the work domain (Shantz & Latham, 2009). As a result of spreading activation, capitalization at home increases social mood and activates social interactions of employees (Ilies et al., 2007). Positive social interactions with significant others at home increase one's value as a relational partner and may boost the perception that others respect and value oneself (Gable & Reis, 2010). People who believe others perceive them positively are more likely to feel connected to others at work (Rhoades & Eisenberger, 2002). The greater sense of relatedness and connectivity fosters opportunities for more exploratory and proactive behaviors in shaping the relations with people in the workplace (Losada & Heaphy, 2004), such as seeking feedback from the supervisor or offering help to coworkers.

Job crafting represents self-initiated actions employees take to shape their job characteristics (Wrzesniewski & Dutton, 2001). Our study focuses on the initiatives employees take to shape the relational characteristics in their job and increase their social job resources in the workplace (e.g., crafting more social support, feedback, and coaching; Tims, Bakker, & Derks, 2012). Employees craft social job resources by changing their social environment at work. They alter the amount and nature of social interactions with other people they encounter in their jobs (Slomp & Vella-Brodrick, 2014; Wrzesniewski & Dutton, 2001). These changes may create or upgrade the quality of the relationships with others, which is reflected in the gaining of social resources at work (Demerouti, Bakker, & Gevers, 2015). In addition, the increase of personal resources enhanced by capitalizing on positive events in the home domain implies that more resources become available to be invested in the work domain (Westman, Hobfoll, Chen, Davidson, & Laski, 2005). Employees are able to invest more resources that are not required for everyday functioning or reserve capacity (Hobfoll, 1998).

Organizational citizenship behavior (OCB) refers to "performance that supports the social and psychological environment in which task performance takes place" (Organ, 1997, p. 95). This study focuses on OCB directed toward individuals (i.e., OCBI; Williams & Anderson, 1991) that benefit other employees and indirectly contribute to the organization, such as helping and cooperating with others in the organization to get tasks accomplished. It is expected that employees who have an abundance of resources are more willing to invest these resources in benefiting others than employees who may lack the resources themselves (Bolino, Turnley, & Bloodgood, 2002). Furthermore, OCBI is relational in nature and the reciprocity norm obliges the return of favorable treatment (Saks, 2006). In this regard, employees are willing to invest greater resources (i.e., show more OCBI) in turn for greater payoff (Hobfoll, 1998). In line with our theoretical framework of the work-home resources model (ten Brummelhuis & Bakker, 2012a), positive social interactions with significant others about positive events in the home domain may increase employees' personal resources, which may facilitate the positive social interactions and build more social resources in the work domain. Thus, we hypothesize that:

Hypothesis 2a: Capitalizing on positive events in the home domain during the evening at home is positively related to next-day crafting social job resources at work.

Hypothesis 2b: Capitalizing on positive events in the home domain during the evening at home is positively related to next-day organizational citizenship behavior towards individuals at work.

Taking Hypotheses 1–2 together, we examine the complete sequential mediation of positive events in the home domain, social interactions at home (i.e., capitalization at home) and at work (i.e., crafting social job resources and OCBI). We expect that when employees experience positive events in the home domain, they are likely to capitalize on these events with significant others at home, which will facilitate job crafting behaviors in the form of increasing social job resources and OCBI that is beneficial to other employees in the organization. The work-home resources model (ten Brummelhuis & Bakker, 2012a) describes the enrichment between the work and home domain as a process whereby resources in one domain develop personal resources and increase functioning in the other domain. Experiencing positive events in the home domain may be the trigger of a sequence of enrichment behaviors. The capitalization of these specific positive events in the home domain with significant others makes individuals relive the event which both increases and prolongs the positive feelings and makes social behaviors more salient. Therefore, social interactions at home have the potential to broaden individual's thoughts and actions to initiate social interactions, which facilitates building social resources in the workplace. Previous research has also found the mediating role of interpersonal capitalization in the relationship between positive events and personal outcomes (e.g., life satisfaction; Ilies et al., 2015). In line with this, we hypothesize that:

Hypothesis 3a: Daily positive events in the home domain relate indirectly with next-day crafting social job resources at work through capitalization at home in the evening.

Hypothesis 3b: Daily positive events in the home domain relate indirectly with next-day OCBI at work through capitalization at home in the evening.

The moderating role of optimism

According to the work-home resources model (ten Brummelhuis & Bakker, 2012a), trait optimism can be seen as a key resource, which may strengthen the social resources transmission process of home-to-work enrichment by boosting the relations among positive events in the home domain, capitalization at home, crafting social job resources, and OCBI. Optimism is defined as a generalized expectation of positive experiences and outcomes throughout one's life (Scheier, Carver, & Bridges, 2001). Optimism equips individuals with the strength to view the environment more positively and to respond in a more active manner (Boudrias et al., 2011). We expect optimism to boost the relationship between positive events in the home domain and capitalization at home, because individuals high in optimism attribute the good things that happen to them to internal causes other than external or accidental causes (Scheier & Carver, 1993). As such, they develop more personal resources and positive emotions, such as self-efficacy and pride, when good things happen to them (Segerstrom, 2007). Therefore, optimistic individuals are more inclined to actively share positive experiences with significant others (i.e., capitalization) when they encounter positive events in the home domain than individuals low in optimism.

Hypothesis 4a: Optimism moderates the relationship between daily positive events in the home domain and capitalization at home in the evening, such that this relationship is stronger when optimism is high rather than low.

In addition, we expect optimism to facilitate the relationship between capitalization at home and (a) crafting social job resources and (b) OCBI at work. Optimism facilitates the acquisition of personal resources because individuals high in optimism tend to behave in ways that positively influence their day-to-day conditions (Segerstrom, 2007). Through capitalizing on positive events with significant others, optimistic individuals gain more personal resources such as enthusiasm and self-esteem than individuals low in optimism. As Hobfoll (2001) indicated, individuals who possess more resources are more likely to utilize these resources to further increase their level of resources. Therefore, optimistic individuals may show more proactive interpersonal behaviors (i.e., crafting social job resources and OCBI) after sharing positive experiences in the home domain. Furthermore, individuals high in optimism also tend to expect positive outcomes from their own actions, and therefore they may be more motivated to initiate social ties to develop extensive and supportive social networks (Brissette, Scheier, & Carver, 2002). As such, optimism might boost the effect of sharing positive experiences at home on active crafting behaviors to increase social job resources at work (Boudrias et al., 2011). This hopeful lens of optimism also positively influences individuals' use of personal resources, which allows individuals greater opportunities for citizenship behaviors towards other employees for greater payoff (Munyon, Hochwarter, Perrewé, & Ferris, 2010).

Hypothesis 4b: Optimism moderates the relationship between capitalizing on positive events in the home domain during the evening and next-day crafting social job resources at work, such that this relationship is stronger when optimism is high rather than low.

Hypothesis 4c: Optimism moderates the relationship between capitalizing on positive events in the home domain during the evening and next-day OCBI at work, such that this relationship is stronger when optimism is high rather than low.

Method

Participants and procedure

We collected data in China using convenience sampling. Participants were recruited by sending recruitment messages and flyers to personal and professional networks of the researchers. As a key part of the study involved capturing positive events in the home domain and employees' ratings of their capitalization with significant others at home, only participants who were married were eligible to participate. There were two stages of data collection. First, participants completed a one-time survey that assessed the demographics and individual-level variables (i.e., optimism and background variables). Then, employees were asked to respond to two daily surveys each day for five subsequent workdays. On each workday, participants completed the work survey immediately after finishing their work in the afternoon (between 4:00 p.m. and 7:00 p.m.), and completed the home survey just before going to bed (between 9:00 p.m. and 0:00 a.m.). All surveys were programmed using a web-based survey platform and the links of surveys were sent to participants through a mobile messaging application.

Participants received 25 RMB (about 3.50 EUR) as a token of appreciation for completing all phases of data collection.

In total, 91 individuals filled out the background questionnaire. Because our model hypothesized relationships between daily positive events in the home domain and capitalization at home in the evening (measured with Day t 's evening survey) on the one hand, and next-day crafting social job resources and OCBI (measured with Day $t+1$'s afternoon survey) on the other hand, the maximum number of useful daily observations provided by each participant was four (evening surveys from Days 1-4 were matched up with afternoon surveys from Days 2-5). Participants completed 347 out of total possible 364 daily surveys (91 participants * 4 days), resulting in a 95.3% daily response rate. The sample was predominantly female (65.9%), with 47.5% having completed college education. The occupations of participants were comprised of technicians (37.4%), teachers (19.8%), engineers (16.5%), managers (12.1%), office workers (8.8%), and sales (4.4%). The average age of the participants was 36.2 ($SD = 6.2$), the average job tenure was 9.1 years ($SD = 6.8$), and the average work hours per week was 47.7 hours ($SD = 9.8$).

Measures

All of the items representing the within-person level measures were rephrased to the day level and translated to Chinese. A back-to-back translation procedure (Brislin, 1980) was performed to translate the scales from English to Chinese.

Home survey (evening, bedtime)

Daily positive events in the home domain. We measured daily positive events in the home domain in the evening survey with eight items adapted from the measure developed by Zautra, Guarnaccia, and Dohrenwend (1986). The scale refers to small life events that may happen every day. We focused on daily uplifts at home and adapted items from the recreation subscale, the family members subscale, and the social life subscale. Examples are, "Today I went to a concert/ sporting event/ exhibition", "Today, I received a gift from a friend/ family member", and "Today, I had a party or social gathering (dinner, dance, club, or movie)". The participants were asked how much they enjoyed the event today and provided their responses on a 7-point Likert scale, 1 = *None*; 7 = *A great deal*. Cronbach's alpha ranged between .71 and .80 across days ($M = .76$).

Capitalization at home in the evening. We used three statements that asked employees to indicate the extent to which they shared their positive events in the home domain with significant others on each evening. The statements were adapted from Ilies et al.'s (2011) capitalization measure, for example, "To what extent did you share today's off-job activities that pleased you with your significant others(e.g., spouse, friend, parent, or other)?", and "To what extent did you discuss the positive things that happened at home today with your significant others?" (1 = *Not at all*, 7 = *A great deal*). Cronbach's alpha ranged between .82 and .89 ($M = .86$) across days.

Work survey (afternoon)

Daily crafting social job resources. Our study focused on job crafting behavior in the form of increasing social job resources. We measured crafting social job resources in the afternoon survey using five items from daily job crafting scale adapted by Petrou, Demerouti, Peeters, Schaufeli, and Hetland (2012). An example item is “Today at work, I asked my supervisor for advice” (1 = *I fully disagree*, 7 = *I fully agree*). Cronbach’s alpha ranged between .72 and .88 ($M = .84$) across days.

Daily OCBI. The three-item shortened version (Demerouti et al., 2015) of Goodman and Svyantek’s (1999) scale was adapted to measure employee’s daily organizational citizenship behavior towards individuals. An example item is “Today, I helped colleagues who were under high work pressure or who had other problems” (1 = *I fully disagree*, 7 = *I fully agree*). Cronbach’s alpha ranged between .80 and .87 ($M = .83$) across days.

Daily job demands. To isolate the unique effects of positive events and capitalization from the home domain on crafting job resources and OCBI, we controlled for daily job demands, another important category of work characteristics in the work domain (Bakker, Demerouti, & Sanz-Vergel, 2014). We used the four-item work pressure scale developed by Van Veldhoven, de Jonge, Broersen, Kompier, & Meijman (2002). An example item is “Today at work, I had too much work to do” (1 = *I fully disagree*, 7 = *I fully agree*). Cronbach’s alpha ranged between .88 and .91 ($M = .90$) across days.

Initial one-time survey

Optimism. We measured trait optimism using the four positive items from the scale developed by Scheier and Carver (1985). Measuring optimism with four positive worded items has been shown to be reliable and valid (Chang, Maydeu-Olivares, & D’Zurilla, 1997). An example item is “On the whole, I assume that more positive things will happen to me than nasty things”. These items were rated from 1 (*I fully disagree*) to 5 (*I fully agree*). Cronbach’s alpha for this scale was .73.

Strategy of Analysis

Our repeated measures data can be viewed as multilevel data, with daily measurements nested within individuals. This leads to a two-level model with days at the first-level ($N = 347$ occasions) and individual participants at the second level ($N = 91$ participants). We conducted multilevel structural equation modeling using Mplus 7 (Muthén & Muthén, 2012) to analyze the data. To test within-person main effects and mediation effects, we estimated the multilevel mediation models (i.e., lower level mediation or 1-1-1 mediation model; Bauer, Preacher, & Gil, 2006, p. 143) that did not include optimism as the cross-level moderator. Daily job demands were modeled as a control on both daily crafting social job resources and daily OCBI. We tested the significance of the indirect effects of Day t positive events in the home domain on Day $t+1$ crafting social job resources or Day $t+1$ OCBI by using the Monte Carlo simulation procedure (Bauer et al., 2006). For each indirect effect, we used (a) the estimate of Day t positive events in the home domain predicting Day t evening capitalization at home, (b) the estimate of Day t evening capitalization at home predicting Day $t+1$ crafting social job resources or Day $t+1$

OCBI, and (c) variances and covariances among these parameter estimates to calculate the simulation distribution of the indirect effect. The resulting simulation distribution of the indirect effect is used to obtain the 95% confidence interval around the observed indirect effect. When the 95% confidence interval of the indirect effect lies above or below zero, the mediator (Day t evening capitalization at home) significantly mediates the relationship between Day t positive events in the home domain and Day $t+1$ crafting social job resources or Day $t+1$ OCBI.

To test the cross-level moderation effects and the moderated mediation effects, we used path analysis in the multilevel structural equation modeling framework involving optimism as the between-person level moderator. Instead of testing the whole model in which optimism moderates all the relationships of the mediation model simultaneously, we specified three separate models with optimism moderating each of the relationships in the home-to-work enrichment process. On the basis of the mediation model, we tested the moderated mediation models that included the cross-level moderating effect of optimism on the random slopes of the relationships between Day t positive events in the home domain and Day t evening capitalization at home (i.e., Hypothesis 4a, Model 1), between Day t evening capitalization at home and Day $t+1$ crafting social job resources (i.e., Hypothesis 4b, Model 2), and between Day t evening capitalization at home and Day $t+1$ OCBI (i.e., Hypothesis 4c, Model 3), respectively. Predictors at the within-person level (level 1, Day t positive events in the home domain, Day $t+1$ job demands) were centered to the individual mean (i.e., group-mean centering), and the moderator at the between-person level (level 2, optimism) was centered to the grand mean. By using the Monte Carlo simulation procedure (Bauer et al., 2006), we generated the simulation distributions of the indirect effects of Day t positive events in the home domain on Day $t+1$ crafting social job resources and Day $t+1$ OCBI at home at higher (+1 SD) and lower levels (-1 SD) of optimism, and computed 95% confidence intervals to test the significance of the moderated mediation effects of three models.

Results

Descriptive statistics

Table 1 shows the means, standard deviations, reliabilities, intra-class correlations (ICC1), and correlations among the study variables at the within-person and between-person levels of analysis. The value of 1-ICC1 indicates the within-person variance in the daily-measured variables. The results showed that 46% of the variance in Day t positive events in the home domain, 44% in Day t evening capitalization at home, 33% in Day $t+1$ crafting social job resources, and 42% of the variance in Day $t+1$ OCBI was explained by within-person differences, justifying our multilevel approach.

Table 1. Descriptive statistics, within-person and between-person correlations among variables

	<i>M</i>	<i>SD</i>	ICC1	1	2	3	4	5	6
Level 1 (within-person)									
1. Positive events in the home domain (Day <i>t</i>)	3.31	.55	.54	(.76)	.40**	.15*	.14*	-.03	
2. Capitalization at home (Day <i>t</i> evening)	4.32	.69	.56	.49**	(.86)	.14*	.15**	.05	
3. Crafting social job resources (Day <i>t</i> +1)	4.72	.55	.67	.27**	.40**	(.84)	.36**	.25**	
4. OCBI (Day <i>t</i> +1)	4.28	.80	.58	.38**	.39**	.53**	(.83)	.17**	
5. Job demands (Day <i>t</i> +1)	3.80	.75	.66	.26**	.21**	.31**	.37**	(.90)	
Level 2 (between-person)									
6. Optimism	3.60	.77	--	.12*	.10	.23**	.09	.07	(.73)

Note. Correlations below the diagonal are based on between-person averages ($N = 91$), while correlations above the diagonal are based on within-person data ($N = 347$). Within-person level reliabilities of daily measures and general reliability of between-person level variable are in parentheses on the diagonal.

* $p < .05$, ** $p < .01$.

Measurement model

Multilevel confirmatory factor analysis was conducted using Mplus 7 (Muthén & Muthén, 2012) to examine the construct validity of all studied variables. The proposed model included the five within-person model variables (i.e., daily positive events in the home domain, capitalization at home in the evening, next-day job demands, crafting social job resources, and OCBI) and one between-person variable (i.e., optimism). Results showed that the proposed model comprising six distinct factors had a good fit to the data, $\chi^2(96) = 155.63$, CFI = .98, TFI = .97, RMSEA = .04, SRMR = .05. Moreover, it had a better fit compared to all possible five-factor models or models with fewer factors, $\Delta\chi^2(4) \geq 104.48$, $p < .001$.

Mediation hypotheses

We continued by testing direct effects (hypotheses 1 and 2) and the indirect effects (hypothesis 3) proposed by our hypothesized model. Results of multilevel structural equation modeling showed that daily positive events in the home domain was indeed positively related to employees' capitalization at home in the evening ($\gamma = .582$, $SE = .084$, $p < .001$, 95% CI [.418, .746]). Employees' evening capitalization at home was positively related to employees' next-day crafting social job resources ($\gamma = .261$, $SE = .098$, $p < .01$, 95% CI [.069, .452]) and OCBI ($\gamma = .226$, $SE = .108$, $p < .05$, 95% CI [.014, .438]). These findings support hypotheses 1 and 2. In addition, indirect effects of daily positive events in the home domain on employees' next-day crafting social job resources (indirect effect = .152, $SE = .067$, $p < .05$, 95% CI [.020, .284]) and on OCBI (indirect effect = .131, $SE = .064$, $p < .05$, 95% CI [.002, .261]) through employees' capitalization at home in the evening were both significant, thereby supporting Hypothesis 3.

Moderation hypotheses

Hypotheses 4a-4c stated that trait optimism would boost each of the relationships between (a) positive events in the home domain and capitalization at home, (b) capitalization at home and crafting social job resources, and (c) capitalization at home and OCBI. As Table 2 and 3 shows, results from three separate moderated mediation models with optimism as the level-2 moderator indicated that optimism was positively related to the random slopes of the relationships between daily positive events in the home domain and capitalization at home in the evening (Model 1, $\gamma = .386$, $SE = .194$, $p < .05$, 95% CI [.008, .767]), between capitalization at home in the evening and next-day crafting social job resources (Model 2, $\gamma = .382$, $SE = .162$, $p < .05$, 95% CI [.063, .700]), and between capitalization at home in the evening and next-day OCBI (Model 3, $\gamma = .387$, $SE = .192$, $p < .05$, 95% CI [.011, .703]), respectively. Following Preacher, Curran, and Bauer's (2006) approach, we conducted simple slope tests for the cross-level moderation and plotted the moderation effects. Figure 2 illustrates that the positive relationship between positive events in the home domain and capitalization at home was stronger for employees whose optimism was higher ($b = .680$, $p < .001$) than employees with lower optimism ($b = .187$, $p = .260$). Figure 3 shows that when optimism was high, the relationship between capitalization at home in the evening and next-day crafting social job resources was significant ($b = .443$, $p < .01$); whereas when optimism was low, the relationship

was not significant ($b = -.146, p = .471$). A similar pattern is depicted in Figure 4. For employees with high optimism, the relationship between capitalization at home in the evening and next-day OCBI was significant ($b = .461, p < .01$); while for employees with low optimism, the relationship was nonsignificant ($b = -.133, p = .465$). Thus Hypotheses 4a-4c were supported.

Additional analyses

Although we did not hypothesize a moderated mediation effect, we extended hypotheses 4a-4c and estimated the indirect effects of daily positive events in the home domain on next-day OCBI via capitalization at home in the evening and crafting social resources at work at high (+1 *SD*) and low (-1 *SD*) levels of trait optimism. For Model 1 with optimism moderating the relationship between positive events in the home domain and capitalization at home, the indirect effect of positive events in the home domain on crafting social job resources was .132 ($SE = .056, p < .05, 95\% CI [.023, .242]$) when optimism was high, whereas the indirect effect was .034 ($SE = .039, p = .381, 95\% CI [-.042, .111]$) when optimism was low. The indirect effect of positive events in the home domain on OCBI was .172 ($SE = .061, p < .01, 95\% CI [.053, .291]$) when optimism was high, whereas the indirect effect was .056 ($SE = .033, p = .088, 95\% CI [-.008, .120]$) when optimism was low. For Model 2 with optimism moderating the link between capitalization at home in the evening and next-day crafting social job resources, the indirect effect of daily positive events in the home domain on crafting social job resources was .182 ($SE = .073, p < .05, 95\% CI [.039, .321]$) when optimism was high, whereas the indirect effect was -.061 ($SE = .044, p = .170, 95\% CI [-.148, .026]$) when optimism was low. For Model 3 with optimism moderating the relationship between capitalization at home in the evening and next-day OCBI, the indirect effect of daily positive events in the home domain on OCBI was .243 ($SE = .120, p < .05, 95\% CI [.007, .479]$) when optimism was high, whereas the indirect effect was -.080 ($SE = .082, p = .325, 95\% CI [-.240, .080]$) when optimism was low. These results suggest that the indirect effects of daily positive events in the home domain on next-day crafting social job resources and OCBI through capitalization at home in the evening are stronger for employees whose optimism is relatively high.

Table 2. Results of multilevel moderated mediation models

	Model 1				Model 2			
	Capitalization (Day t evening)		Crafting social job resources (Day $t+1$)		Capitalization (Day t evening)		Crafting social job resources (Day $t+1$)	
	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE
Level 1 variables								
Positive events in the home domain (Day t)	.484**	.076	.030	.019	.403**	.064	-.018	.023
Capitalization at home (Day t evening)			.168*	.073			.147*	.055
Job demands (Day $t+1$)			.288**	.068			.222**	.063
Level 2 variable								
Optimism	.149	.137					.294*	.118
Cross-level interactions								
Optimism * positive events (Day t)	.386*	.194					.382*	.162
Optimism * capitalization (Day t evening)								
Level 1 residual variance (within-person)			.466	.066			.344	.048
Level 2 residual variance (between-person)			.727	.106			.756	.146
Model deviance			1778.038				1598.980	
Δ Pseudo R^2			.176				.119	
Δ Pseudo R^2			.060				.085	

Note. Each model was compared with an unrestricted model or null model that only contains intercept. Pseudo R^2 represented within-person variance explained and calculated on the basis of the formula $1 - ((\text{level 1 restricted error} + \text{level 2 restricted error}) / (\text{level 1 unrestricted error} + \text{level 2 unrestricted error}))$. Pseudo R^2 represented between-person variance explained and calculated using formula $1 - ((\text{level 1 restricted error} / n) + \text{level 2 restricted error}) / ((\text{level 1 unrestricted error} / n) + \text{level 2 unrestricted error})$ from Snijders & Bosker (1999). n is the average number of daily points in each level-2 unit.

* $p < .05$, ** $p < .01$.

Table 3. Results of multilevel moderated mediation models

	Model 3					
	Capitalization (Day <i>t</i> evening)		Crafting social job resources (Day <i>t</i> +1)		OCBI (Day <i>t</i> +1)	
	Estimate	SE	Estimate	SE	Estimate	SE
Level 1 variables						
Positive events in the home domain (Day <i>t</i>)	.403**	.064	.028	.022	.030	.040
Capitalization at home (Day <i>t</i> evening)			.171*	.074	.164*	.065
Job demands (Day <i>t</i> +1)			.209**	.072	.036	.069
Level 2 variable						
Optimism					.054	.132
Cross-level interactions						
Optimism * capitalization (Day <i>t</i> evening)					.387*	.192
Level 1 residual variance (within-person)						
			.671	.112		
Level 2 residual variance (between-person)						
			.835	.189		
Model deviance						
			2022.344			
Δ Pseudo R^2						
			.056			
Δ Pseudo R^2						
			.041			

Note. * $p < .05$, ** $p < .01$.

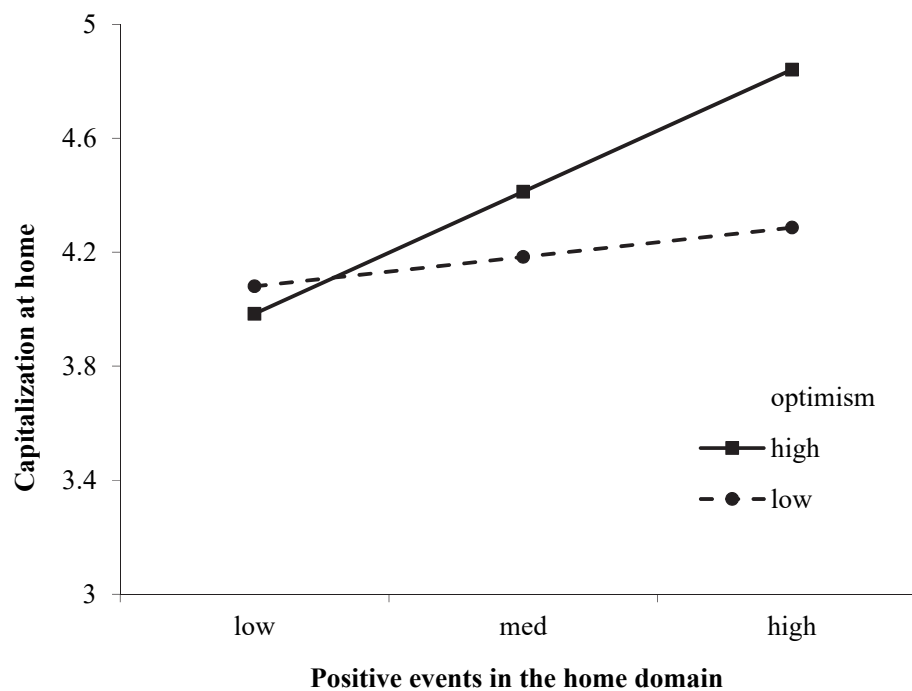


Figure 2. Cross-level moderation effect of optimism on the relationship between daily positive events in the home domain and capitalization at home in the evening.

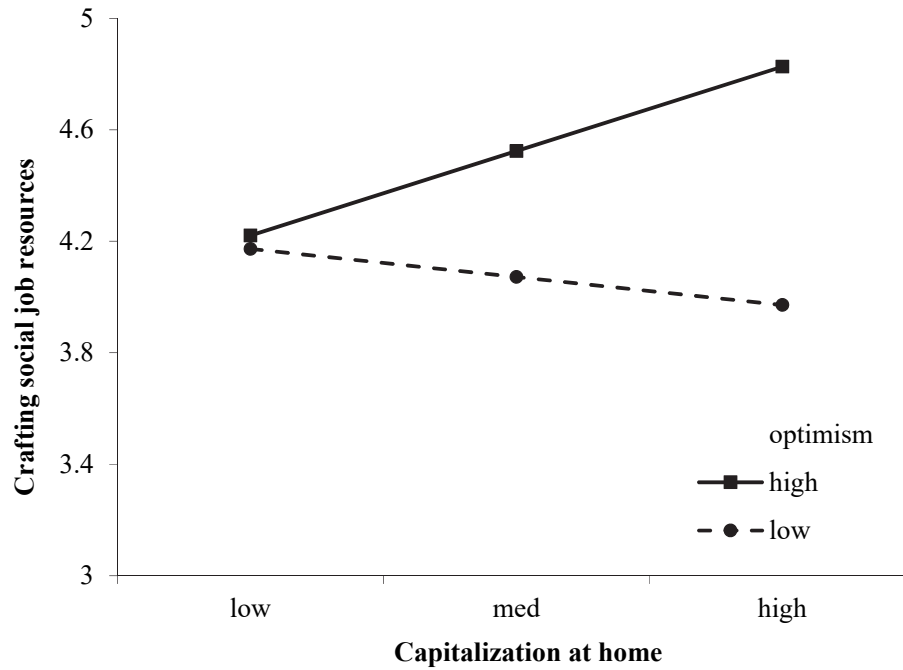


Figure 3. Cross-level moderation effect of optimism on the relationship between capitalization at home in the evening and next-day crafting social job resources.

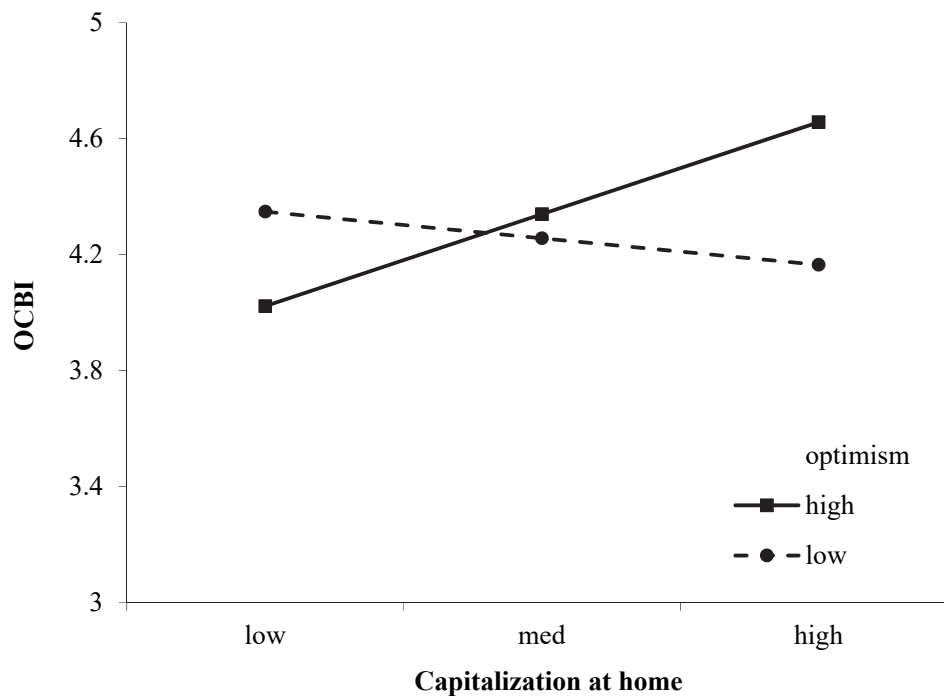


Figure 4. Cross-level moderation effect of optimism on the relationship between capitalization at home in the evening and next-day organizational citizenship behavior towards individuals (OCBI).

Discussion

The present study investigated the home-work enrichment process by testing how positive events in the home domain exert a positive influence on the work domain through a behavioral mechanism of sharing positive experiences with significant others. Within the theoretical framework of the work-home resources model (ten Brummelhuis & Bakker, 2012a), we integrated insights from the conservation of resources theory (Hobfoll, 2001) and principles of behavioral priming (Bargh, 1990; Cameron et al., 2012) to explore how social interactions and social resources in the home domain transfer and multiply in the work domain. We found evidence for the indirect effects of positive events in the home domain on next-day crafting social job resources and organizational citizenship behavior towards individuals at work through capitalization in the evening. The results showed that employees who experienced and capitalized on positive events in the home domain during the evening showed more proactive approaching and helping behaviors in the workplace next day. Additionally, we found that trait optimism enhanced the proposed work-home enrichment process. Specifically, for employees with relatively high levels of optimism, the positive relationships between positive events in the home domain and capitalization, between capitalization and (a) crafting social job resources and (b) OCBI were stronger than for less optimistic employees.

Theoretical implications

First, the present study links the work-home resources model to the literature on capitalization by examining the mechanism through which positive events in the home domain in the evening influence next-day positive behaviors at work. Our result reveals that the social sharing of positive events can increase employee's approaching and helping behaviors at work during the following day. Our findings are consistent with previous research about interpersonal capitalization with partners at home on positive work experiences. By talking about the positive events with significant others, individuals are able to prolong good feelings and increase satisfaction within the home and work domains (e.g., Ilies et al., 2011) or increase general well-being (e.g., Ilies et al., 2015). We extended these findings by showing that the effects of capitalization benefit the employees in a more extensive and distal manner by influencing work behaviors. We found that capitalizing on positive events in the home domain at home increases crafting behaviors in the form of proactively shaping relationships in the workplace and organizational citizenship behaviors towards individuals. In line with the principles of spreading activation, the priming of social interactions at home carried over from one context to the next and activated the interpersonal behaviors in the workplace (Bargh, 2014; Shantz & Latham, 2009). Through the positive social interactions such as approaching and helping others at work, employees are developing high-quality relationships that are considered as social resources in the workplace (Dutton & Heaphy, 2003). As the work-home resources model (ten Brummelhuis & Bakker, 2012a) indicated, contextual resources in the home domain facilitate the work domain through the development of personal resources. Our findings suggest that capitalization at home may help translate the contextual resources from home (positive events in the home domain) to the development of social resources (crafting social job resources and

OCBI) in the work domain, which enables employees create a positive gain spiral across domains (Hobfoll, 2001).

Second, our study shows the process of home-to-work enrichment across days. Previous studies have tested the mechanism of work-home interpersonal capitalization linking the work domain to the home domain within the same day (e.g., Ilies et al., 2015; Ilies, Liu, Liu, & Zheng, 2017), while less attention has been paid to the overnight spillover of positive experiences from the home domain to the work domain. Our results indicate that sharing positive events in the home domain with significant others at home may facilitate proactive behaviors that increase social job resources and helping behaviors in the workplace during the next day. The work-home resources model (ten Brummelhuis & Bakker, 2012a) considers the temporal character of work-home interactions and explains how the enrichment process develops over time. The cross-day home-to-work enrichment occurs when volatile contextual resources from the home domain induce a developmental process of volatile personal resources, which ultimately facilitates employees' functioning in the work domain. In line with the process view of this model, we found that positive experiences in the home domain trigger social sharing at home, which increases social mood and activates social interactions in the work context. This helps employees to build more social resources in the workplace the next day. These findings are also in line with broaden-and-build theory (Fredrickson, 2001), which suggests that positive emotions broaden individual thoughts and behaviors, and in turn facilitate the building of social resources. Instead of concentrating effects of positive experiences on the core domains of home and work within the same day, our study shows that the effects of positive events on individual behaviors linked by behavioral actions (i.e., capitalization at home) were both across domains and days.

Third, our research reveals that trait optimism strengthens the home-to-work enrichment process by boosting the relationships between positive events in the home domain and capitalization at home, between capitalization and crafting social job resources, and between crafting social job resources and OCBI. These findings can also be understood through the lens of the work-home resources model (ten Brummelhuis & Bakker, 2012a), which emphasizes the important role of key resources in facilitating home-work enrichment. In our research, trait optimism served as a key resource that facilitated employees' social sharing of positive experiences with significant others, boosted the transmission of capitalization at home to relational job crafting behaviors at work and helping behaviors in the workplace. Our findings provide support for the work-home resources model and confirm that key resources enable people to benefit more from their contextual resources in the home domain and ultimately facilitate work behaviors in the organization.

Limitations and future research

Our study is not without limitations. As a start, all the variables examined in our study were measured by self-report and the results may be contaminated by common method variance. However, following the suggestions by Podsakoff, MacKenzie, Lee, and Podsakoff (2003), we separated the measures of the positive events in the home domain and capitalization in the daily evening survey, crafting social job resources and OCBI in the daily afternoon

survey, and optimism in the general survey. Therefore, it is less likely that the relationships found in the current study were due to common method bias. Nevertheless, future studies may also use partner-reports of capitalization and supervisor-/coworker-reports of OCBI to replicate the current findings. Another statistical limitation is that instead of testing the whole model, we specified three separate moderated mediation models. We tested the cross-level moderating effect of optimism on each of the relationships between positive events in the home domain and capitalization at home, and between capitalization at home and (a) crafting social job resources and (b) OCBI, separately. Strictly speaking, these separate results are not the same as an overall moderating effect of optimism on the whole enrichment process. In addition, we tested our model using path analysis instead of full structural equation modeling with latent variables to avoid convergence difficulties in estimating an overly complex model. This may also attenuate the precision of our results. However, note that the reliabilities and the measurement model of studied variables were acceptable and that all three moderating effects showed the same pattern, which still provides robust evidence of the boosting role of optimism in the development of home-to-work enrichment across days.

Our study used the work-home resources model (ten Brummelhuis & Bakker, 2012a) to investigate the resources transmission process from the home domain to the work domain. We only included the enrichment process to explain how positive events in the home domain influence work behaviors. This automatically implies that the conflict process, which explains how negative events in the home domain may influence the work domain, is neglected in this study. Both processes together may explain resources transmission between domains but through different mechanisms. For example, Du, Derks, and Bakker (2018a) found that family hassles influence the work domain through rumination (i.e., the depletion of cognitive resources). A related limitation is that we only focused on social interactions (i.e., capitalization at home) as the underlying mechanism for home-to-work enrichment. It is also conceivable that positive events in the home domain have enriching effects on the work domain through different mechanisms. For example, increased self-esteem from achievement in sports may also boost an individual's self-esteem in the work role (Greenhaus & Powell, 2006). However, by using distal social behavioral actions (i.e., crafting social job resources and OCBI) as the outcomes of home-work enrichment process, our study reveals the enrichment effects of positive events in the home domain on the work domain more conservatively compared to using more proximal outcomes (e.g., positive affect) of positive events in the home domain. Moreover, we only focused on the trait moderator and investigated the facilitating role of optimism in the enrichment process. Future studies could investigate potential behavioral moderators, so that employees can facilitate their home-to-work enrichment on daily basis. For example, leisure crafting at home (Petrou & Bakker, 2016) and micro-break activities at work (Troughakos & Hideg, 2009) may create more opportunities for employees to engage in positive social interactions with others.

Practical implications

The findings of this study showing the effects of capitalizing on positive events in the home domain at home on crafting social job resources and OCBI at work suggest that engaging

in capitalization at home may help employees become more proactive the next day at work. Capitalization at home is a technique that employees can easily and effortlessly implement in their lives to add to the benefits of positive events in the home domain (Ilies et al., 2017). Employees can maintain and enhance the positive experiences from home and benefit from it in their work domain by simply sharing good things with significant others more often.

In addition, our study suggests that employee's work behaviors (i.e., crafting social job resources and OCBI) can be facilitated by positive experiences and social interactions with significant others at home. Therefore, providing family-friendly policies to promote employee's work-life balance not only benefits the individual employee, but also benefits the organization (Tang, Huang, & Wang, 2017). For example, organizations may set limits on working overtime and using e-mail for work during off-job hours, so employees will have the time to experience positive events in the home domain and interact with significant others at home. This may bring substantial benefits to the organization by increasing employee proactive work behaviors.

The results of our study reveal that individuals high in optimism are more likely to share positive events in the home domain with significant others, and to transfer social interactions from home and increase approaching and helping behaviors at work. Therefore, it would be beneficial for organizations to provide interventions to stimulate optimistic thinking and help employees to develop a higher level of optimism (Luthans, Avey, Avolio, Norman, & Combs, 2006). Employees can learn to view the situation positively, attribute good things to their own causes, and expect positive outcomes out of their actions. Optimistic employees may experience more home-to-work enrichment and show more proactive behaviors in the workplace. This may be particularly important in organizational contexts that profit from personal initiative, for example, the creative industry and start-ups.

Conclusion

Drawing on the work-home resources model, our study indicates that positive events in the home domain facilitate the work domain through the mechanism of social behavioral actions (i.e., capitalizing on positive experiences in the home domain with significant others), which increase positive interpersonal work behaviors (i.e., crafting social job resources and OCBI). In addition, the key resource of trait optimism boosts the enrichment process from the home domain to the work domain. We hope that our study inspires scholars and practitioners to implement the work-home resources model in organizational settings, because our findings clearly suggest that the home and work domains are connected in important ways.

CHAPTER 7

Rumination and Relaxation during Daily Work Life:

A Test of the Work-Home Resources Model among PhD Candidates

This chapter has been submitted for publication as Du, D., Bakker, A. B., & Derks, D. Rumination and relaxation during daily work life: A test of the work-home resources model among PhD candidates.

Abstract

Previous research has mainly focused on PhDs' negative work-to-home interactions showing that work pressure interferes with personal life. Based on the Work-Home Resources model, our study simultaneously investigates both positive and negative processes underlying PhDs' work-to-home and home-to-work interactions. Specifically, we examine how job demands and resources at work may influence PhDs' evening experiences at home and their emotions the next morning at work, which, in turn, influence their goal attainment. We collected daily diary data from 85 Dutch PhDs at three time points during each day for five consecutive workdays. It is important to note that in the Netherlands, PhDs have a formal employment agreement with the university, and they are comparable to highly educated employees from other professions. Results of multilevel structural equation modelling analyses revealed that morning job demands increased ruminative thoughts about work in the evening. This increased next-morning negative affect and undermined goal attainment on that day. In contrast, morning job resources facilitated relaxation in the evening, which marginally increased next morning positive affect. This ultimately increased goal attainment on that day. Our findings support the work-home resources model and help PhDs to find a sustainable way to pursue their goals on a daily basis.

Introduction

Undertaking a PhD project in any subject in any part of the world is thrilling and frustrating at the same time. Although individual experiences may vary, the way towards the final goal—completing a doctoral thesis—is often stressful. Research shows that many PhD candidates suffer from feelings of depression, sleeping problems, and not being able to enjoy day-to-day activities (Levecque, Anseel, Beuckelaer, Heyden, & Gisle, 2017). The prevalence of mental health problems is higher in PhD candidates than in the highly educated population in general, highly educated employees, and higher education students. As Levecque and colleagues noted, the primary predictor of these issues was work-family conflict, where research-related demands interfere with PhD candidates' family or personal life. Common factors here include work overload, unrealistic expectations, unsupportive supervisors, and interpersonal problems at work.

In the present study, we build on this work by examining how job demands (workload and time pressure) and job resources (feedback and social support) in the work domain may influence PhDs' evening experiences in the home domain, and how this, in turn, may further influence PhDs' goal attainment at work across days. Theoretically, we lean on the work-home resources model (ten Brummelhuis & Bakker, 2012a) to propose that rumination about job demands in the evening generates negative emotions during the next morning, which undermines work-goal attainment during the day. In addition, we propose that job resources increase relaxation in the evening, which generates positive emotions during the next morning, which will facilitate goal attainment.

Our research aims to contribute to the literature in the following ways. First, our research investigates both positive and negative processes underlying work-home interactions of PhD candidates. Previous research has primarily focused on PhDs' negative spillover from work to home (Fox, Fonseca, & Bao, 2011). Our study takes both negative and positive aspects of the work environment into account, which provides a more representative picture of PhDs' work life. Second, our research investigates both how the work domain influences the home domain and how this may further influence work outcomes (work → home → work). More specifically, we examine how contextual demands in the work domain induce rumination and deplete emotional resources, which impairs PhDs' goal attainment in the work domain; as well as how contextual resources in the work domain facilitate relaxation and positive emotions, which benefits PhDs' work-goal attainment. Instead of using self-report measurements of work-to-home and home-to-work interference and enrichment (which may be susceptible to demand characteristics), we test the process view of work-home interactions proposed by the work-home resources model (ten Brummelhuis & Bakker, 2012a). Our study provides insight into the dynamic development process of work-home interactions across days by assessing job demands and resources in the morning, rumination and relaxation in the evening, next-day positive and negative affect in the morning, and goal attainment in the afternoon. Third, our study integrates goal attainment with the work-home interface literature, which provides an opportunity to reveal sustainable goal-pursuit strategies for PhD candidates to achieve everyday work goals. PhDs' academic performance in terms of research output usually requires long-time learning and processing. Therefore, our study used daily goal attainment to capture PhDs'

achievement every day. Within the overarching framework of the work-home resources model (ten Brummelhuis & Bakker, 2012a), we integrate insights from cognitive theories of rumination (Martin, Tesser, & McIntosh, 1993), theories of recovery (Sonnentag & Fritz, 2007), and broaden-and-build theory (Fredrickson, 2001) to explain how the work and home domains interact and influence PhD candidates' goal pursuit on a daily basis.

Theoretical background

Negative work-home interactions

The overarching theoretical framework of this study is the work-home resources model (ten Brummelhuis & Bakker, 2012a), which describes the interference between the work and home domains as a process whereby contextual demands in one domain deplete personal resources (including volatile physical, emotional, and cognitive resources), and impede functioning in the other domain. Our study extends this process and investigates how contextual demands in the work domain may deplete personal resources and interfere with the evening experiences in the home domain, which may further undermine the functioning in the work domain. Previous research among PhD candidates suggests that work overload and work intensification are the major sources of work stress (Stubb, Pyhältö, & Lonka, 2011). Levecque and colleagues' (2017) findings also indicate that work overload and urgent deadlines are common factors that interfere with PhDs' family or personal life. Therefore, our study examines workload and time pressure as contextual demands in the work domain, and discusses the negative spillover process that takes place when PhDs are confronted with these job demands.

According to cognitive theories of rumination (Martin, Tesser, & McIntosh, 1993), rumination refers to conscious thinking directed toward failure in goal pursuit for an extended period of time. It contains repetitive and unintentional perseverative thoughts in the absence of obvious external cues (Martin & Tesser, 1996). Continued cognitive effort is brought up as a result of the lack of closure that stems from an unfinished task (Syrek & Antoni, 2014). Cropley and Zijlstra (2011) argue that employees start rumination when the workload is too high, and fear they cannot manage to get their work done in time. An abundance of unfinished tasks is a burden that may increase ruminating about work issues in the evening. Research shows a strong association between stressors and rumination (Berset, Elfering, Lüthy, Lüthi, & Semmer, 2011). A diary study by Cropley and Millward Purvis (2003) supports positive the relationship between job demands and ruminative thinking about work-related issues during leisure time. Time pressure has also been found to be positively associated with rumination (Widmer, Semmer, Kälin, Jacobshagen, & Meier, 2012). Thus, we hypothesize the following:

Hypothesis 1: Job demands in the morning are positively related to rumination in the evening.

Research on daily stress and coping suggests that rumination induced by goal failure might serve to maintain negative emotions and prolong the negative impact of daily stressors (Suls & Martins, 2005). According to Nolen-Hoeksema (1991), rumination casts a negative bias on thinking, making it easier for people to access their negative thoughts. Repetitively reliving the failure in goal pursuit may lead to prolonged or even strengthened negative affect. In addition, rumination interferes with instrumental behaviours, preventing people from improving their

mood. For example, rumination reduces the willingness to engage in pleasant and distracting activities that could improve an individual's mood, even if the individual believes that he or she will enjoy such activities (Lyubomirsky & Nolen-Hoeksema, 1993). Moberly and Watkins (2008) found that within-person fluctuations in rumination predict negative affect at subsequent occasions. Wang and colleagues (2013) also find that rumination in the evening is positively related to negative affect during the next morning.

Hypothesis 2: Rumination in the evening is positively related to negative affect during the next morning.

Broaden-and-build theory (Fredrickson, 2001) posits that negative affect narrows thought-action repertoires, making people drench in the problem and unable to think of different pathways to solving the problem. This may especially undermine PhDs' goal attainment regarding their demanding work. Negative affect has been associated with less cognitive flexibility, which may make PhDs unable to effectively deal with research-related problems. Therefore, negative affect is likely to be detrimental to PhDs' daily achievement. Moreover, negative affect narrows people's attention to their own feelings, which could hinder potential self-regulatory resources to direct the attention on purposeful cognitive and behavioural activities (Beal, Weiss, Barros & MacDermid, 2005). PhDs who experience negative affect need to expend more effort to regulate these negative emotions in order to concentrate on their complex tasks (Rothbard & Wilk, 2011). Consistent with this argumentation, Kaplan, Bradley, Luchman, and Haynes's (2009) meta-analysis shows that negative affect predicts task performance in the occupational domain. In addition, Soucy Chartier, Gaudreau, and Fecteau (2011) find negative affect is negatively related to academic goal attainment.

Hypothesis 3: Negative affect in the morning is negatively related to daily goal attainment.

Taking Hypotheses 1–3 together, we examine the complete sequential mediation of PhDs' negative work-home interactions across days. In line with the framework of the work-home resources model (ten Brummelhuis & Bakker, 2012a), we expect that when PhDs experience job demands in the morning, they are likely to ruminate in the evening, which will generate negative affect the next morning, and eventually undermine goal attainment at work on that day. Previous research has found that employees' rumination at night mediates the relationship between customer mistreatment and negative mood in the next morning (Wang et al., 2013), and that negative emotions mediate the relation between illegitimate tasks and negative work-family outcomes (Ahmed, Eatough, & Ford, 2018). Thus,

Hypothesis 4: Job demands in the morning relate indirectly and negatively with next-day goal attainment through rumination in the evening and negative affect during the next morning.

Positive work-home interactions

In addition to the interference between the work and home domains, the work-home resources model (ten Brummelhuis & Bakker, 2012a) describes the enrichment between both domains as a process whereby contextual resources in one domain develop personal resources (i.e., volatile physical, emotional, and cognitive resources) and increase functioning in the other domain. Our study aims to investigate how job resources in the work domain may generate personal resources and enrich the home domain, which may further facilitate the functioning in

the work domain. Previous research on PhD candidates suggests that the relationships with supervisors and peers are essential for doctoral study experiences (Appel & Dahlgren, 2003; Kurtz-Costes, Andrews Helmke, Ülkü-Steiner, 2006). Our study focuses on feedback and social support as contextual resources in the work domain and discusses that these job resources trigger the enrichment process.

Over and above job demands inducing rumination and hindering recovery, the facilitators that may help PhDs foster recovery in the evening are also important. Recovery has been defined as “a process of psychophysiological unwinding after effort expenditure” (Geurts & Sonnentag, 2006, p. 485). Larsen and Christenfeld (2011) argue, “it is possible that recovery is delayed until we engage in behaviours that confirm the event has been dealt with” (p. 147). Job resources are functional in achieving work goals and stimulate personal growth, learning, and development (Bakker, Demerouti, & Sanz-Vergel, 2014). Feedback and social support provided by supervisors and peers can help PhDs better understand how to execute complex academic tasks, including statistical analyses, writing theoretical introductions, and dealing with reviewer comments. When PhDs perceive that they have figured out the problems and performed job-related activities to deal with these problems during the day, they will be better able to relax in the evening (Rodríguez-Muñoz, Sanz-Vergel, Antino, Demerouti, & Bakker, 2017). However, it may still be difficult for PhDs to be no longer occupied with unfinished tasks, unless they have completed all the work and brought work matters to a cognitive closure (Sonnentag & Fritz, 2015; Syrek & Antoni, 2014). Bennett, Bakker, and Field’s (2018) meta-analysis also shows that job resources have a significant positive relationship with relaxation, but not with psychological detachment. Hence,

Hypothesis 5: Job resources in the morning are positively related to relaxation in the evening.

Relaxation refers to a state of low activation and increased positive feeling that results from leisure activities such as muscle relaxation, taking a walk, or listening to music (Sonnentag & Fritz, 2007). The main feature of these activities is that limited effort is required (Tinsley & Eldredge, 1995). In addition to stopping the process of resource loss, recovery can rebuild resources (e.g., energy, positive mood) lost during work time, which makes individuals feel refreshed and recovered the following morning (Binnewies, Sonnentag, & Mojza, 2010). Research has found that relaxation is related to increased positive affective states (Sonnentag, Binnewies, & Mojza, 2008), and these positive affective states prolong to the following morning (ten Brummelhuis & Bakker, 2012b).

Hypothesis 6: Relaxation in the evening is positively related to positive affect during the next morning.

Individuals who start the day feeling positive and recovered from the previous day will perceive the availability of personal resources that enable them to be productive in their work throughout the day (Sonnentag, Mojza, Demerouti, & Bakker, 2012). As Fredrickson’s (2001) broaden-and-build theory proposes, positive emotions broaden individual’s cognitions and the scope of attention, which fosters thoughts and actions that may contribute to goal attainment. Research has found that positive emotions make individuals more explorative (Fredrickson & Losada, 2005), and generate solutions that require thinking beyond the immediate setting

(Gable & Harmon-Jones, 2010). This may be particularly useful in PhDs' work. Therefore, we hypothesize that:

Hypothesis 7: Positive affect in the morning is positively related to daily goal attainment.

Taking Hypotheses 5–7 together, we examine the complete sequential mediation of PhDs' positive work-home interactions across days. In line with the work-home resources model (ten Brummelhuis & Bakker, 2012a), we predict that when PhDs receive feedback and social support in the morning, they are likely to have a better understanding of the tasks and will engage in dealing with the problems. This may facilitate their relaxation experience in the evening, which will generate positive affect the next morning, and eventually help PhDs achieve their work-related goals the next day. Ten Brummelhuis and Bakker (2012b) found that leisure activities increased next morning vigour through enhanced relaxation. They also found that recovery not only enhances vigour in the morning, but also helps employees to stay engaged during the next workday. Thus, our final hypothesis is:

Hypothesis 8: Job resources in the morning relate indirectly and positively with next-day goal attainment through relaxation in the evening and positive affect during the next morning.

Method

Participants and procedure

We conducted our study among a sample of PhD candidates in the Netherlands. In this country, PhD candidates have a formal employment agreement with the university and thus they can be seen as highly educated employees. Convenience sampling was used to recruit participants by sending recruitment messages and flyers to personal and professional networks of the researchers. There were two stages of data collection. First, participants completed a one-time survey that assessed the demographics variables. Then, participants were asked to respond to short diary questionnaires three times per day for five consecutive working days. On each workday, participants completed their morning survey in the mid-day of their work (assessment window from 11:00 a.m. to 1:00 p.m.), the afternoon survey immediately after finishing their work (from 4:00 p.m. to 7:00 p.m.), and the evening survey before going to bed (from 9:00 p.m. to 0:00 a.m.). All surveys were programmed using a web-based survey platform and the links of surveys were sent to participants through e-mails.

In total, 85 PhDs filled out the background questionnaire and completed 374 daily surveys out of total possible 425 daily surveys (85 participants * 5 days), resulting in an 88.0% daily response rate. Because our model hypothesized relationships among (a) job demands and resources (measured with Day t 's morning survey) and (b) rumination and relaxation (measured with Day t 's evening survey) on one day, and (c) negative and positive affect (measured with Day $t+1$'s morning survey) and (d) goal attainment (measured with Day $t+1$'s afternoon survey) on the next day, the maximum number of useful daily observations provided by each participant was four (morning and evening surveys from Days 1-4 were matched up with morning and afternoon surveys from Days 2-5). This resulted in 283 usable daily surveys for our analyses.

Our sample of PhDs was predominantly female (71.1%), and the mean age of the PhDs was 27.14 ($SD = 2.21$). Further, 68.2% of the participants were single, and 84.3% of the PhDs had formal employment agreements with the universities and worked full-time. The

departments where the participants worked included Psychology, Education and Child Studies (32.9%), Economics (20.8%), Law (10.3%), and other departments such as Public Administration, Medical, Chemistry, and Engineering, etc. (36.0%). The average length of time of pursuing a PhD was 26.21 months ($SD = 13.77$); and the average work hours per week was 39.26 hours ($SD = 9.74$). The average number of chapters / papers participants had already written was 2.16 ($SD = 3.63$).

Measures

All items were in English and rephrased to day-level measurement. Participants provided their responses on seven-point Likert scales. The response format for all items was 1 = *I fully disagree*; 7 = *I fully agree*.

Daily morning survey

Job demands in the morning. We measured job demands with Karasek's (1985) Job Content Instrument using three items to assess workload and three items to assess time pressure. Example items are, "This morning, I had too much work to do" (workload), and "This morning, I had to work hard to reach a deadline" (time pressure). We tested a second-order model, where workload and time pressure are indicators of one latent "job demands" factor. The results showed that the second-order model fits the data well ($\chi^2(7) = 25.75$, CFI = .96, TLI = .91, SRMR = .05, RMSEA = .06), which supports the representation of workload and time pressure in one general latent factor. Cronbach's alpha of the morning job demands scale ranged between .88 and .95 ($M = .91$) across days.

Job resources in the morning. We measured job resources using three items to assess feedback and three items to assess social support. The feedback scale was developed by Karasek (1985), and included items such as, "This morning, I received sufficient information about the results of my work". The social support scale was developed by Van Veldhoven, de Jonge, Broersen, Kompier, and Meijman (2002); an example item is, "This morning, I could ask my colleagues for help when necessary". Again, we tested a second-order model, where feedback and social support are indicators of one latent "job resources" factor. The results showed that the second-order model fits the data well ($\chi^2(7) = 13.77$, CFI = .99, TLI = .98, SRMR = .03, RMSEA = .05), which supports the representation of feedback and social support in one general latent factor. Cronbach's alpha of the morning job resources scale ranged between .79 and .89 ($M = .85$) across days.

Negative affect in the morning. We used the Positive and Negative Affect Schedule (Mackinnon et al., 1999) with five items for negative affect (upset, afraid, nervous, scared, and distressed) in the morning survey. An example item is, "This morning, I felt upset". Cronbach's alpha of the morning negative affect scale ranged between .88 and .96 ($M = .90$) across days.

Positive affect in the morning. We measured positive affect using the same instrument (Mackinnon et al., 1999) as used for assessing negative affect. In this case, we used five items (inspired, excited, active, alert, and interested) to measure positive affect in the morning. An example item is, "This morning, I felt inspired". Cronbach's alpha of the morning positive affect scale ranged between .84 and .92 ($M = .88$) across days.

Daily afternoon survey

Daily goal attainment. We measured daily goal attainment with four items using the scale developed by Greguras and Diefendorff (2010). An example item is, “Today, I accomplished what I set out to do with my daily work goals”. Cronbach’s alpha of the daily goal attainment scale ranged between .91 and .96 ($M = .93$) across days.

Daily evening survey

Rumination in the evening. The eight-item shortened version (Du, Derks, & Bakker, 2018a) of McIntosh and Martin’s (1992) Rumination Inventory was used to measure PhDs’ evening rumination. An example item is, “This evening, I wasn’t able to stop thinking about work issues”. Cronbach’s alpha of the evening rumination scale ranged between .91 and .94 ($M = .92$) across days.

Relaxation in the evening. We measured evening relaxation with four items from the Recovery Experience Questionnaire (Sonnentag & Fritz, 2007). An example item is, “This evening, I kicked back and relaxed”. Cronbach’s alpha of the evening relaxation scale ranged between .93 and .95 ($M = .95$) across days.

Strategy of Analysis

Our repeated measures data can be viewed as multilevel data, with daily measurements nested within individuals. This leads to a two-level model with days at the first-level ($N = 283$ occasions) and individual participants at the second level ($N = 85$ participants). We conducted multilevel structural equation modelling using Mplus 7 (Muthén & Muthén, 2012) to analyse the data. To test within-person main effects and mediation effects, we estimated the multilevel mediation model (i.e., lower level mediation; Bauer, Preacher, & Gil, 2006, p. 143) including both negative and positive processes. Daily goal attainment was modelled as a control for next-day goal attainment to isolate the unique effects of evening rumination and relaxation taking place in the home domain.

We tested the significance of the indirect effects of (a) Day t morning job demands on Day $t+1$ goal attainment through Day t evening rumination and Day $t+1$ morning negative affect (i.e., Hypothesis 4); as well as (b) Day t morning job resources on Day $t+1$ goal attainment through Day t evening relaxation and Day $t+1$ morning positive affect (i.e., Hypothesis 8) by using the Monte Carlo simulation procedure (Bauer et al., 2006). For the indirect effect of job demands on goal attainment, we used (a) the estimate of Day t morning job demands in the work domain predicting Day t evening rumination in the home domain, (b) the estimate of Day t evening rumination predicting Day $t+1$ morning negative affect, (c) the estimate of Day $t+1$ morning negative affect predicting Day $t+1$ goal attainment, and (d) variances and covariances among these parameter estimates to calculate the simulation distribution of the indirect effect. Similarly, the simulation distribution of the indirect effect of job resources on goal attainment was calculated by using the estimates of relationships among Day t morning job resources, Day t evening relaxation, Day $t+1$ morning positive affect, and Day $t+1$ goal attainment, as well as their variances and covariances. The resulting simulation distribution of each indirect effect is used to obtain the 95% confidence interval around the observed indirect effects. When the 95%

confidence interval of the indirect effects lies above or below zero, Day t evening rumination or relaxation and Day $t+1$ morning negative or positive affect are significant mediators in the relationships of Day t morning job demands or job resources with Day $t+1$ goal attainment.

Results

Descriptive statistics

Table 1 shows the means, standard deviations, reliabilities, intra-class correlations (ICC1), and correlations among the study variables at the within-person and between-person levels of analysis. The value of 1-ICC1 indicates the within-person variance in the daily measured variables. The results showed that 41% of the variance in morning job demands, 48% in morning job resources, 46% in evening rumination, 75% in evening relaxation, 48% in morning negative affect, 74% in morning positive affect, and 70% of the variance in goal attainment was explained by within-person differences, justifying our multilevel approach.

Measurement model

Multilevel confirmatory factor analysis was conducted using Mplus 7 (Muthén & Muthén, 2012) to examine the construct validity of all studied variables. The proposed model included the eight within-person model variables (i.e., Day t morning job demands, Day t morning job resources, Day t evening rumination, Day t evening relaxation, Day t goal attainment, Day $t+1$ morning negative affect, Day $t+1$ morning positive affect, and Day $t+1$ goal attainment). Results showed that the proposed model comprising eight distinct factors fit well to the data, χ^2 (710) = 1187.04, CFI = .93, TFI = .93, RMSEA = .04, SRMR = .06. Moreover, the proposed eight-factor model showed a better fit compared to all possible alternative seven-factor models or models with fewer factors, $\Delta\chi^2$ (7) \geq 506.62, $p < .001$.

Hypotheses testing

We continued by testing the direct and indirect effects proposed by our hypotheses. More specifically, we tested the whole model presented in Figure 1, including both negative and positive work-home interaction processes using multilevel structural equation modelling. This model fit well to the data, χ^2 (724) = 1233.16, CFI = .93, TFI = .92, RMSEA = .04, SRMR = .07. Results showed that morning job demands was indeed positively related to PhDs' rumination in the evening ($\gamma = .457$, $SE = .110$, $p < .001$, 95% CI [.241, .674]). PhDs' evening rumination at home was positively related to next-day morning negative affect at work ($\gamma = .476$, $SE = .077$, $p < .001$, 95% CI [.324, .628]), which in turn reduced their goal attainment on that day ($\gamma = -.272$, $SE = .082$, $p < .01$, 95% CI [-.433, -.111]). These findings support Hypotheses 1 to 3. In addition, the indirect effect of morning job demands on PhDs' next-day goal attainment through PhDs' rumination in the evening and negative affect during the next morning was significant (indirect effect = $-.070$, $SE = .034$, $p < .05$, 95% CI [-.004, -.135]), thereby supporting Hypothesis 4.

Table 1. Descriptive statistics, within-person and between-person correlations among variables

	<i>M</i>	<i>SD</i>	ICC1	1	2	3	4	5	6	7	8
1. Day <i>t</i> morning job demands	3.56	.70	.59	(.91)	-.13*	.05	.28**	.03	.02	-.11	.11
2. Day <i>t</i> morning job resources	4.65	.74	.52	-.23**	(.85)	.25**	-.05	.20**	.01	-.12	-.11
3. Day <i>t</i> goal attainment	4.35	.90	.29	-.27**	.29**	(.93)	-.05	.10	-.09	.08	-.10
4. Day <i>t</i> evening rumination	3.18	.72	.54	.61**	-.33**	-.41**	(.92)	-.40**	.34**	-.10	-.12
5. Day <i>t</i> evening relaxation	4.98	1.09	.25	-.29**	.25**	.18**	-.34**	(.95)	-.08	.11	.06
6. Day <i>t</i> +1 morning negative affect	2.86	.73	.52	.69**	-.39**	-.35**	.66**	-.15**	(.90)	-.30**	-.21**
7. Day <i>t</i> +1 morning positive affect	4.62	.77	.26	-.37**	.34**	.32**	-.33**	.09	-.48**	(.88)	.30**
8. Day <i>t</i> +1 goal attainment	4.38	.92	.30	-.36**	.32**	.96**	-.44**	.23**	-.41**	.39**	(.93)

Note. Correlations below the diagonal are based on between-person averages ($N=85$), while correlations above the diagonal are based on within-person data ($n = 283$)

* $p < .05$, ** $p < .01$.

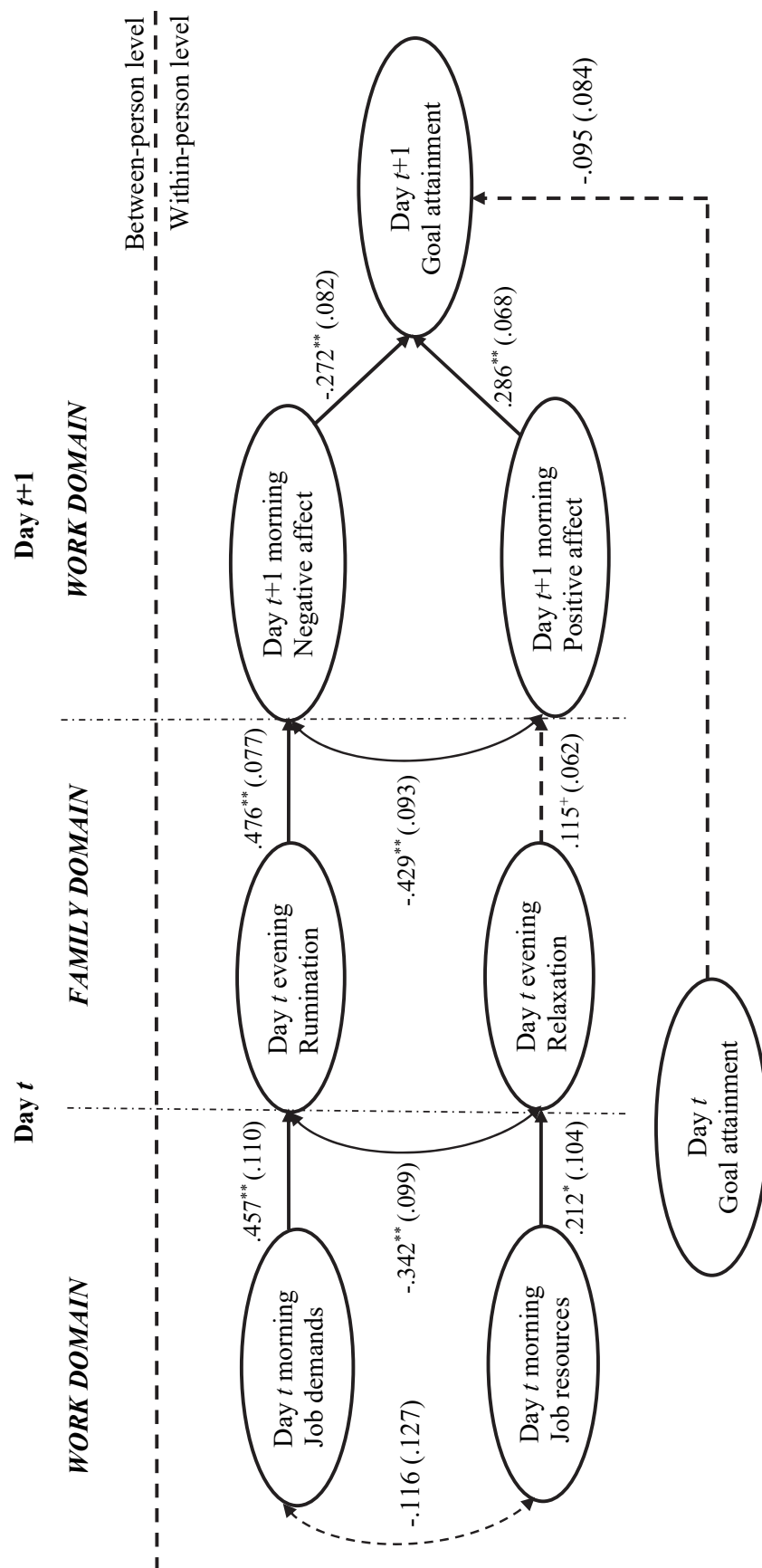


Figure 1. Unstandardized estimates of the path coefficients (standard errors are in parentheses). Solid lines are statistically significant,

whereas dashed lines are not.

⁺ $p < .10$, $^*p < .05$, $^{**}p < .01$.

As for the positive work-home interaction process, the results showed that morning job resources was positive related to PhDs' relaxation in the evening ($\gamma = .212$, $SE = .104$, $p < .05$, 95% CI [.005, .419]). PhDs' evening relaxation at home was only marginally related to next-day morning positive affect at work ($\gamma = .115$, $SE = .062$, $p = .062$, 90% CI [.014, .217]), which, in turn, increased their goal attainment on that day ($\gamma = .286$, $SE = .068$, $p < .001$, 95% CI [.153, .419]). These findings support Hypotheses 5 and 7, but do not support Hypothesis 6. Consistent with these findings, the indirect effect of morning job resources on PhDs' next-day goal attainment through relaxation in the evening and positive affect next morning was not significant (indirect effect = .012, $SE = .009$, $p = .191$, 95% CI [-.006, .029]). Thus, Hypothesis 8 was not supported.

Discussion

In the current study, we used a within-person approach to examine both positive and negative processes underlying work-home interactions of PhD candidates. Specifically, we investigated whether job demands may trigger rumination and negative emotions (negative path), and whether job resources may lead to relaxation and positive emotions (positive path), which may ultimately influence goal attainment in the work domain. Overall, we found support for the negative path since morning job demands and next-day goal attainment were indirectly related through rumination in the evening and negative affect during the next morning. With regard to the positive path, we found that morning job resources increased evening relaxation and marginally increased next morning positive affect, which facilitated next day goal attainment. In line with the work-home resources model (ten Brummelhuis & Bakker, 2012a), our results suggest that job demands and resources in the work domain influence experiences in the home domain and volatile personal cognitive and emotional resources, which in turn further influence the outcomes in the work domain.

Theoretical implications

First, our study applied the process view of the work-home resources model (ten Brummelhuis & Bakker, 2012a) to test both positive and negative work-to-home and home-to-work interactions of PhD candidates. We investigated the underlying processes explaining how job demands and resources influence experiences at home, emotions, and subsequent goal attainment at work. Our approach avoids possible biases in the reports of work-home interference and enrichment, which is an important problem in the current work-home interface literature. Most of the research on work-home interactions has used an approach in which researchers ask participants to directly self-report the amount of interference or enrichment (Amstad, Meier, Fasel, Elfering, & Semmer, 2011). Such a procedure is suboptimal from a methodological perspective, because in this way researchers are asking their participants to report a complex process. For example, it is conceivable that people overestimate the negative impact of work on family when they are tired, and overestimate the positive impact of work on family when they have been successful (Chen & Powell, 2012). Instead of using such direct measurements that are susceptible to subjectivity bias, our study tested the sequential relationships of job demands and resources in the work domain, rumination and relaxation

experiences at home, as well as emotions and goal attainment at work, to represent the interference and enrichment between the work and home domains. Our process view of PhDs' work-home interactions also expands the findings by Levecque et al. (2017), who used a cross-sectional survey design. Our research provides a more precise investigation of the impact of academic working conditions on PhDs' home domain and work outcomes. Moreover, our research contributes to the work-home interface literature by testing four types of work-home interactions (i.e. negative work-home interaction, negative home-work interaction, positive work-home interaction, and positive home-work interaction) within the same study, which provides a complete picture of the various work-home interactions experienced by PhD candidates.

Second, the work-home resources model (ten Brummelhuis & Bakker, 2012a) acknowledges the role of time in work-home interactions and explains how interference and enrichment processes develop over time. In accordance with this model, our study used a daily diary design to test cross-day work-to-home and home-to-work interference and enrichment effects. The results of our study indicate that job demands at work may induce ruminative thoughts about work during the evening at home, which may increase next-day negative emotions and undermine next-day goal attainment at work. We found that cross-day interference occurs when volatile contextual demands from the work domain induce a depletion process of volatile personal resources. This leaves insufficient personal resources for individuals to be fully functioning when they are back at work, and ultimately attenuates their goal attainment in the work domain. In addition, the cross-day enrichment process occurs when volatile contextual resources from the work domain induce a developmental process of volatile personal resources in the home domain, which further facilitates individuals' functioning in the work domain. We did find that morning job resources in the work domain facilitated evening relaxation experiences in the home domain, however, relaxation during the evening at home was only marginally and nonsignificantly related to next morning positive affect at work. A possible reason for this may be the differentiations of different types of positive emotions. Russell's (1980, 2003) circumplex model proposes that each emotion can be understood as a linear combination of two dimensions indicating varying degrees of both pleasure and activation. The degree of activation while experiencing pleasurable emotions varies considerably (Bakker & Oerlemans, 2011). For example, feeling calm and content implies a lower level of activation compared to feeling excited or enthusiastic. Sonnentag and colleagues' (2008) study found that relaxation experiences during the evening predicted serenity. Serenity describes a state of being calm, relaxed, and at ease. Similar to positive affect, it is a state characterized by pleasure but with a lower level of arousal (Russell, 1980). Therefore, relaxation experiences may be more salient to positive emotions that are low in activation.

Third, we investigated PhD candidates' daily goal pursuit from the perspective of work-home interactions. By including the home domain experiences in the process of goal-pursuit, we could test how the interactions between the work and home domains are related to goal attainment across days. Our findings that job demands undermined next-day goal attainment through rumination in the evening and negative affect during the next morning are in line with the work-home resources model, but also with job demands-resources theory (Bakker &

Demerouti, 2017). It proposes that job demands exhaust individuals' mental and physical resources and may therefore undermine performance. Additionally, the present findings provide support for cognitive theories of rumination stating that maladaptive cognitive information processing generates and prolongs negative affect even though rumination may be perceived by individuals to be functional in terms of reflecting how things went wrong (Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008). We also found that job resources increased relaxation experiences in the evening, which may shed light on the factors that can facilitate the recovery process (Bennett et al., 2018). Taken together, the work-home interactions integrating work characteristics, home experiences, and personal emotional resources advance our understanding regarding the everyday goal attainment of PhD candidates.

Limitations and future research

Our study is not without limitations. All the variables examined in our study were measured by self-reports and the results may thus be contaminated by common method variance. However, following the suggestions by Podsakoff, MacKenzie, Lee, and Podsakoff (2003), we separated the assessment of the predictor (i.e., job demands and job resources were measured in the daily morning survey), mediators (i.e., rumination and relaxation were measured in the daily evening survey; negative affect and positive affect were measured in the next-day morning survey), and outcome (i.e., goal attainment was measured in the daily afternoon survey) in time. Therefore, it is less likely that the relationships found in the current study were affected by common method bias. Nevertheless, future studies may also use other-reports or objective measures (e.g., performance) to replicate the current findings. In addition, the generalizability of the current findings may be somewhat limited by the sample used. PhD candidates represent a rather specific population, which may have introduced a sample bias. However, Dutch PhD candidates have a formal employment agreement with the university and their payment provides them with a financial situation that is competitive with their counterparts, such as employees from consulting firms, on the job market (Levecque et al., 2017). Most of our participants have full-time working schedules, which makes them comparable to highly educated employees from other professions. Nevertheless, future studies would preferably survey more diverse samples from different organizations to replicate our findings.

There is still room for improvement in the research design since we only tested the within-level processes of work-home interactions. The work-home resources model (ten Brummelhuis & Bakker, 2012a) proposes that conditional factors such as characteristics of the person (called 'key resources') and the context in which individuals are living ('macro resources') can prevent the interference and facilitate the enrichment between the home and work domains. Future studies may investigate individual differences (e.g., goal orientation) and general social conditions (e.g., supervisor expectations and colleagues norms) as cross-level moderators that may influence processes underlying the interactions between both life domains. Moreover, our study tested the main effects of daily job demands and resources on negative and positive work-home interactions. In addition to these main effects, job demands-resources theory (Bakker & Demerouti, 2017) proposes that the combination or statistical interaction between job demands

and job resources is important for the development of well-being as well. Future studies may take a closer look at these combined effects that are notoriously difficult to find using large samples; and examine how these effects may further influence the experiences at home and next-day work outcomes.

Practical implications

Our findings show that morning job demands may induce rumination during the evening, which may increase next-morning negative affect and undermine goal attainment at work. This finding highlights the need for reducing ruminative thoughts for PhD candidates, so the negative affect will not prolong to the next day at work. It may be beneficial for PhDs to engage in mindfulness meditation at home, which has been shown to have unique effects on decreasing rumination (Chambers, Lo, & Allen, 2008). Blocking ruminative thoughts may be an important step to prevent the negative emotional experiences and increase the willingness to engage in pleasant activities that could improve evening recovery experiences. Other ways to reduce the ruminative thoughts about work during the evening may be situation-based methods, for example, supervisors should try to avoid expressing unrealistic expectations towards PhD candidates. Without overly high workloads and unrealistic deadlines, PhDs may be less likely to think repetitively and negatively about work during the evening. Our findings also suggest that job resources, such as feedback and social support, may increase relaxation experiences in the evening. Therefore, supervisors should consider being supportive, and provide feedback to PhD candidates more often. In addition, PhD candidates may also initiate relational job crafting behaviours in the workplace, such as seeking more feedback and social support at work (Tims & Bakker, 2010). These proactive behaviours may increase the job resources in the workplace and help PhDs better deal with their complex work. This may increase the possibility for PhDs to relax during the evening and help them achieve work goals in a sustainable way.

Conclusion

Drawing on the work-home resources model, our study indicates that job demands induce ruminative thoughts over work in the evening and increase negative affect during the next morning, which ultimately decreases goal attainment on that day. In contrast, job resources facilitate relaxation experience in the evening, but neither increased positive affect during the next morning, nor increased goal attainment on that day. We hope that our findings can help PhD candidates to find a sustainable way to pursue their work goals on a daily basis.

CHAPTER 8

Summary and General Discussion

The studies included in this dissertation were conducted to answer the research question: When, how, for whom and to what extent will the home domain influence the work domain? We adopted the process view of the work-home resources (W-HR) model (ten Brummelhuis & Bakker, 2012a) to investigate both interference and enrichment experiences from the home to the work domain. Instead of using explicit home-to-work interference or enrichment measurements, this dissertation contributes to the work-family literature by zooming in on the specific trigger antecedents, the mechanisms, and conditional factors of the home-to-work processes. Furthermore, following the work-home resources model, we investigated short-term development processes of interference and enrichment over days and weeks. By capturing fluctuations in home-to-work experiences, this dissertation provides insights into the temporal character and the dynamic nature of the home-work interface. Finally, instead of investigating the direct effects of home-domain trigger events on work outcomes, this dissertation expands the work-home resources model by exploring the influence of trigger events in the home domain on how work processes unfold in the work domain.

In this last chapter, we will start with a summary of the main findings. Subsequently, implications for the literature, limitations of the studies, and directions for future research are discussed. We will end this chapter with a discussion on the practical implications of our findings and a general conclusion.

Summary of main findings

Our studies have focused particularly on the home-to-work direction of the work-home interface, and investigated both interference and enrichment processes. We summarize the main findings of each chapter under the processes of home-to-work interference and home-to-work enrichment.

Home-to-work interference

The W-HR model proposes that home-to-work interference occurs when contextual demands in the home domain consume personal resources, and diminish outcomes in the work domain. In our studies, we have tested the W-HR model and found indications that negative trigger events in the home domain, such as family hassles and major life events, influence the process of using resources in the work domain through the depletion of personal resources, including cognitive and affective personal resources.

Chapter 2 showed that employees who encountered high levels of family hassles during the previous day had difficulties using available job resources at work. We found that when employees experienced negative events at home, they were likely to generate ruminative thoughts over these issues at work. Employees who ruminated about family issues in the workplace consumed their cognitive resources, so they were unable to process the feedback, use the autonomy, and deal with complex and multiple skill-using tasks. This study revealed that family hassles interfere with the effective use of job resources, and ultimately influence employees' functioning in the work domain across days through ruminative thoughts over these family hassles (i.e., depletion of cognitive resources).

In addition to family hassles, leaving home and adapting to a new environment can be seen as trigger events in the home domain. Therefore, **Chapter 3** investigated how homesickness interferes with the work process for employees who work far away from their home locations. By using between- and within-person approaches among samples of manufacturing migrant workers and military driving trainees, we found both a long-term time-lagged effect, and a short-term daily effect of the interference of homesickness with the effective use of feedback and social support provided by colleagues and the supervisor. In addition, we found that employees who were emotionally stable and open to new experiences were less vulnerable to the negative interference of homesickness with the work process.

Chapter 4 used a weekly diary design to investigate the influence of negative major life events in the home domain on the work domain. We found that on a weekly basis, employees' ruminative thoughts over the major life event undermined the use of self-efficacy for work engagement and job performance. In contrast, psychological detachment from the major life event helped employees to effectively use their psychological resources for work. Employees who give work a central place in their life were better able to psychologically detach from the major life event, and consequently were able to fully use their self-efficacy to become engaged and perform well. However, work role centrality did not buffer the impact of ruminative thoughts about the negative major life event on the work process.

Chapter 7 investigated both directions of interference between life domains and examined how contextual demands in the work domain induce rumination and deplete emotional resources in the home domain, which impairs goal attainment in the work domain (work → home → work). We found that morning job demands increased ruminative thoughts about work in the evening, which increased next-morning negative affect and undermined goal attainment at work on that day. This reveals the dynamic development process of interference between the work and home domains across days.

Taken together, these findings suggest that not only negative major life events like death of a family member or traffic accidents may undermine the use of available resources in the work domain. Rather, small negative daily events in the home domain (e.g., arguments with the partner, the need to repair the car) may also influence the work process – from day to day. Moreover, these negative trigger events in the home domain may induce ruminative thoughts and negative feelings, which presumably consume employees' cognitive and emotional resources, thereby attenuating the effective use of job resources at work. Personality traits like emotional stability and openness, however, may serve as key resources and help employees prevent the negative interference of the home domain with the work domain.

Home-to-work enrichment

The W-HR model proposes that home-to-work enrichment occurs when contextual resources in the home domain develop personal resources, and facilitate outcomes in the work domain. Our studies have tested this positive process proposed by the W-HR model and indicate that positive trigger events in the home domain, including positive personal events and positive child-related events, increase functioning in the work domain and facilitate positive behaviors in the workplace through behavioral and affective mechanisms.

Chapter 5 showed that positive child-related events triggered a positive spillover process and facilitated employees' functioning in dealing with job demands at work. We found that social sharing of positive child-related events with family members and friends at home transferred positive experiences in the home domain to the work domain. This study revealed that positive child-related events facilitated the work process through the sharing of these positive experiences at home – a process that we labelled as capitalization.

In **Chapter 6**, we further generalized positive child-related events to other positive personal events and continued investigating the social sharing of positive home-domain events as the linking pin between the home and work domains. We found that previous day positive personal events facilitated the daily crafting of social job resources and daily organizational citizenship behavior towards other individuals (OCBI) at work through social sharing of positive personal events with family members and friends during the previous evening. Moreover, we found that optimistic individuals benefited more from sharing behaviors at home in terms of facilitating proactive behaviors at work, indicating that they experienced more home-to-work enrichment.

Chapter 7 investigated both work-to-home and home-to-work enrichment across days and examined how contextual resources in the work domain facilitate relaxation and positive emotions in the home domain, which in turn benefits goal attainment in the work domain (work → home → work). We found that morning job resources facilitated relaxation in the evening, which marginally increased next morning positive affect. This ultimately increased goal attainment on that day. These results revealed the dynamic development process of enrichment between the work and home domains across days.

The findings regarding the home-to-work enrichment process suggest that small things matter in shaping everyday work life. Positive events in the home domain may facilitate employees' functioning by helping them to deal with job demands and increase their positive work behaviors (i.e., OCBI). Moreover, capitalizing on these positive events with significant others in the evening at home may prolong the positive feelings and generate personal resources for employees to better deal with job demands and show more positive behaviors at work. In addition, personality traits, such as optimism, serve as key resources and facilitate the daily home-to-work enrichment process.

Theoretical implications

Our research contributes to the conceptualization of interference and enrichment processes between the home and work domains. First of all, we adopted the process view of the W-HR model (ten Brummelhuis & Bakker, 2012a) to investigate home-to-work interference and enrichment, instead of using explicit self-report measurements of home-to-work experiences. Asking participants to report a complex process such as “My involvement in my work provides me with a sense of accomplishment and this helps me be a better family member” (Carlson, Kacmar, Wayne, & Grzywacz, 2006) is suboptimal from a methodological perspective, because such direct measurements are susceptible to subjectivity bias. The W-HR model conceptualizes home-to-work interference as the process whereby contextual demands in the home domain impair work processes through the depletion of personal resources. Home-

to work enrichment is described as the process whereby contextual resources in the home domain facilitate work processes and outcomes through the development of personal resources. Through the lens of W-HR model, we were able to identify specific antecedents, outcomes, mechanisms, and conditional factors of home-to-work spillover experiences. We found that negative major life events and family hassles attenuate the effective use of job resources through ruminative thoughts about home-domain issues and negative affect. On the other hand, small uplifts like positive child-related events and positive personal events facilitate employee functioning. Such events evoke positive affect that can be used to deal with daily job demands, and this process is carried over to the work domain through the behavioral action of capitalization with significant others.

Our research illustrates what specific trigger events cause the interference or enrichment from home to work, specifies the underlying mechanisms of how home-domain events influence work-domain outcomes, and identifies conditional factors that describe when home-to-work interference or enrichment is most likely to occur. These findings contribute to the work-family literature by providing a clearer picture of the causal interrelationships between home and work domains. In addition, favorable personality traits like emotional stability, openness, and optimism prevent interference and facilitate enrichment between the home and work domains. These findings are in line with and expand meta-analytical research showing that neuroticism (the opposite of emotional stability) is positively associated with home-work interference, and openness is negatively associated with home-work interference (Allen et al., 2012). Instead of investigating direct relationships between personality traits and explicit work-family variables, our research contributes to the work-family literature by showing how individual differences influence day-to-day home-to work spillover processes. Therefore, our research provides a more precise and fine-grained picture of home-to-work interference and enrichment.

Second, we took a dynamic perspective and investigated the daily fluctuations of home-to-work interference and enrichment. The majority of studies in the work-family literature has used a cross-sectional research design (Butler, Song, & Ilies, 2013). Measuring work-family constructs at a single point in time from a single source (i.e., self-report) introduces retrospective bias and constrains our understanding of work-family experiences. The W-HR model (ten Brummelhuis & Bakker, 2012a) acknowledges the role of time in the work-family process and explains how interference and enrichment processes develop over time. Our research used daily or weekly diary designs to test short-term processes of home-to-work interference and enrichment, which provides a more representative and ecologically valid view of home-work experiences. As Roe (2008) acknowledged, time is a salient facet of everyday life, which needs to be incorporated in theory building and study designs in organizational research. The W-HR model has included the factor time by providing a theoretical framework that considers the temporal character of work-home interactions. Our studies followed the W-HR framework and examined home-to-work experiences over days, which answers the calls for greater attention to time issues in organizational research (e.g., Sonnentag, 2012).

In addition, most studies investigating daily processes between domains only focus on work-to-home interferences within the time frame of one day. Our research asked participants

to report their experiences in the home and work domains three times a day and investigated the overnight effects of home-to-work interference and enrichment across days. By separating trigger events, underlying mechanisms, and outcomes with time intervals, our research improves the understanding of causal processes in the relationship between the home and work domains. We found that cross-day home-to-work interference occurs when volatile contextual demands from the home domain induce a depletion process of volatile personal resources. This leaves insufficient personal resources for employees to fully use the contextual resources in the work domain, which ultimately attenuates employees' performance at work in the next day. The cross-day home-to-work enrichment occurs when volatile contextual resources from the home domain induce a developmental process of volatile personal resources, which ultimately facilitates employees' functioning in the work domain. Although there has been research on recovery that looked into overnight effects of previous evening recovery experiences on next morning affect and vigor (Sonnentag, Binnewies, & Mojza, 2008; ten Brummelhuis and Bakker, 2012b), our findings further expand previous research by investigating overnight influences of home-domain events on more distal work outcomes and work processes.

Third, our research extends the W-HR model and used work processes instead of simply using work outcomes to represent the work domain. We investigated how trigger events in the home domain may influence processes of using job resources or dealing with job demands in the work domain. Specifically, we used the moderating effects of home-domain events on job resources- or job demands-performance relationships to represent home-to-work interference or enrichment. The undermining effects of negative events in the home domain on the effective use of job resources for performance clearly and elegantly indicate how the home domain interferes with the work domain. On the other hand, the facilitating effects of positive events in the home domain on dealing with job demands indicate how the home domain enriches the work domain. The trigger events of home-to-work interference or enrichment, namely major life events, hassles, and uplifts, also play a prominent role in the stress literature (Lazarus, 1984). Our findings are in line with previous stress research that life events and hassles interfere with work functioning (Haun, Steinmetz, & Dormann, 2011; Mather, Blom, & Svedberg, 2014), where daily uplifts are positively associated with performance (Junça-Silva, Caetano, & Lopes, 2017). Our research further expands the stress literature by investigating how major life events impact the micro processes in the work domain on a weekly basis.

In addition, by using mediated moderation models, we investigated mechanisms underlying the moderating effects of home-domain trigger events on work processes. We found that ruminative thoughts about negative events in the home domain carry the moderating effect of negative events and attenuate the effective use of resources at work. This is in line with Greenhaus and Beutell's (1985) concept of time-based home-work interference that not only the result of the time spent in the home domain, but also preoccupation with home while physically present in the work domain may cause interference from home to work. In addition, we found that capitalizing on positive events in the home domain carried the moderating effect of positive events and facilitated employees' dealing with job demands. This is in line with Steenbergen and colleagues' (2007) proposal that behavior required or learned in one role makes it easier to fulfill the requirements of another role (i.e., behavioral home-work

enrichment). Our results also show that capitalization with significant others at home increased job crafting of social resources at work. This contributes to the job crafting literature (Demerouti & Bakker, 2014; Tims, Bakker & Derks, 2015) by showing that social interactions at home increases the likelihood of expressing proactive social interactions at work, which may facilitate employees' job crafting behaviors in the form of increasing social resources.

Moreover, by using cross-level interaction effects of favorable personality traits on interference and enrichment processes, our research illuminated the role of key resources in the W-HR model (ten Brummelhuis & Bakker, 2012a). The findings support conservation of resources (COR) theory (Hobfoll, 2002) in a sense that people who possess more resources are better equipped to deal with stressful situations, and are more likely to invest in gaining more resources. Our research suggests that individuals' stable personality traits interact with day-to-day processes between the home and work domains. Bem and Funder (1978) described this interaction in terms of "template matching" (p. 488). Accordingly, individuals respond to situations to the extent that its features match important dispositional templates. For example, Oerlemans and Bakker (2014) found that extraversion moderated within-person processes of time spent on off-job activities and momentary happiness. Specifically, extraverts (vs. introverts) experienced a higher boost in momentary happiness when spending time on rewarding activities that were executed with others. Our results indicate that personality traits at the general level may buffer the day-level interference of negative events in the home domain with the work process, and may boost the enriching effects of positive events in the home domain in the work process on a daily basis. Therefore, these findings also contribute to the personality literature by using cross-level interaction effects of personality characteristics on micro daily processes to show how individuals may react differently in specific situations depending on their personality traits.

Directions for future research

The W-HR model is still under-researched and more research is needed to further identify the specific antecedents and outcomes in both work and home domains, the specific mechanisms underlying the interference and enrichment processes, as well as conditional factors of work-home processes. Our research focused on home-to-work processes and identified negative major life events, family hassles, positive child-related events, and positive personal events as trigger events of home-work interference and enrichment. Future studies may adopt the process view of the W-HR model to investigate possible *work-to-home* processes. There have been some specific work-related events identified as triggers of work-to-home interference. For example, Sanz-Vergel, Rodríguez-Muñoz, Bakker, and Demerouti (2012) found that individuals' surface acting at work spilled over to the home domain, and that surface acting at home, in turn, reduced individuals' levels of well-being. Liu and colleagues (2015) found that workplace interpersonal conflict increased employees' work-to-family conflict and emotional exhaustion. In addition to identifying triggers of negative work-to-home spillover, identifying specific positive work-related events and investigating work-home enrichment needs more research attention. For instance, positive interpersonal interactions in

the workplace may trigger work-to-home enrichment process through increased positive emotions and personal resources.

Moreover, our research investigated cognitive and affective personal resources, as well as behavioral actions as linking mechanisms of home-to-work processes. Future research may examine other types of mechanisms between work and home domains, such as physical energy or physiology. For example, Repetti, Wang, and Saxbe (2009) reported that elevated cortisol after stressful events acted as a physiological spillover mechanism across domains. Bono and colleagues (2013) found associations between positive work events and reduced blood pressure and enhanced ability to detach in the evening. Physical and biological measures will provide accurate and objective assessments of within-person biological variations at different time points (e.g., morning, afternoon, and evening) and in different contexts (e.g., family and workplace). This may help researchers to track the consequences of trigger events, which advances the understanding of interference and enrichment processes between work, family, and health.

Second, this dissertation only focused on the role of key resources (e.g., emotional stability, openness, and optimism) in home-work processes. The W-HR model proposes that macro resources, such as economic situations, culture values, and public policies, are conditional factors of home-to-work and work-to-home spillover. Individuals and families are embedded within larger structures of the society. The dynamics between the work and home domain are influenced by macro-level factors in organizations, communities, ethnics, and nations. For example, on the organizational level, an organizational culture that allows employees to increase schedule flexibility has been shown to be associated with work-family enrichment (Hunter, Perry, Carlson, & Smith, 2010). On the societal level, Conger and Martin (2010) indicated that economic downturns generate economic pressure, which produces relationship hostility, conflict and withdrawal within couples. On the cultural level, Spector and colleagues (2004) found that employees in collectivistic countries perceive long work hours less as a stressor resulting in negative work-home experiences, because it is considered as a means to maintain the family. Greenstein (2009) found that women who lived in countries that were less supportive of gender equity were more likely to see unequal divisions of labor at home as fair and less likely to lead to negative home-work experiences. These macro-level factors determine to what extent these resources are directly in individuals' reach and how other resources can be used effectively. Macro resources could play a moderating role in the relationship between the work and home domains, similar as key resources in the W-HR model, which may prevent the daily process of interference and facilitate the daily enrichment between domains.

In **Chapter 5** and **6**, we conducted studies about home-work enrichment in both Dutch and Chinese samples. In both studies, we found that capitalizing on positive events with significant others at home mediated the beneficial effects of positive home-domain events on the work domain. Future studies may examine whether there are differences in sharing negative experiences with significant others or in sharing home-domain events at work in different cultures. For example, Western individualistic societies value family and personal time more strongly than Eastern collectivistic societies. Employees from collectivistic societies tend to

view work and family as integrated, while those from individualistic societies tend to view work and family as segmented (Ashforth et al., 2000). Individualism may therefore attenuate the relationship between daily family events and social sharing of family issues at work, and show buffering effect on the interference process between home and work domains.

Third, this dissertation only focused on within-person spillover processes across domains. Future studies may consider collecting other-report data and investigating possible crossover effects. Crossover involves transmission of experiences across individuals (Westman, 2001). For example, Westman, Etzion, and Danon (2001) found that frequent exposure to a burned-out partner may increase one's own level of burnout. There are also studies that have detected the crossover of positive experiences, such as work engagement (Bakker & Demerouti, 2009) and life satisfaction (Demerouti, Bakker, & Schaufeli, 2005). Bakker and Demerouti (2013) proposed a spillover-crossover model integrating both spillover and crossover literatures. The spillover-crossover model departs from the work domain and indicates that work-related experiences first spill over to the home domain, and then cross over to the partner through social interaction. For example, Demerouti (2012) found that job resources of one partner spilled over to their individual energy, i.e., reduced fatigue and increased motivation. Consequently, individual energy influenced the partner's family resources (i.e. autonomy, social support and developmental possibilities at home), which eventually influenced the partner's level of individual energy. This model may also apply to the direction from the home domain to the work domain. Within the theoretical framework of the W-HR model, contextual demands or resources from the home domain may cross over to closely related persons in the work domain through changes in focal individuals' personal resources. For instance, major life events encountered in the home domain may distract employees' attention from work and indirectly increase colleagues' workload.

Practical implications

This dissertation has provided insights of how the home domain influences the work domain. In general, we suggest that employees should avoid ruminative thoughts over family issues at work and may share positive home-domain events with significant others at home. Our research shows that when negative events happen in the home domain, employees tend to ruminate about these events, which undermines the effective use of job resources. Organizations can consider implementing intervention programs to help employees improve concentration skills, such as mindfulness training to decrease rumination (Chambers, Lo, & Allen, 2008). **Chapter 4** suggests that psychological detachment from the major life event may be an effective mechanism to stop the depletion of cognitive resources on the event. Hahn and colleagues (2011) found that segmentation tactics could be taught in recovery training to help employees to detach from work during off-job time. Organizations may implement customized recovery training programs to facilitate employees' psychological detachment from family issues during worktime. In addition, work-family-specific support is a useful situational-based resource for employees to manage work-family situations (Kossek et al., 2011). Emotional support provided by supervisors and supportive organizational policies, such as flexible work

time arrangements, may help employees better manage family issues without ruminating these issues at work.

Our research shows that sharing positive home-domain events with family members and friends facilitates the functioning in dealing with job demands and initiates more positive social interactions at work. Capitalization at home is a technique that employees can easily and effortlessly implement in their lives to add to the benefits of positive events in the home domain (Ilies et al., 2017). In order to increase opportunities for employees to have positive experiences at home and share with significant others, organizations may provide family-friendly policies and promote employee's work-life balance. For example, organizations may set limits on working overtime and using e-mail for work during off-job hours, so that employees will have time to experience positive events in the home domain and interact with significant others at home.

In addition, individuals with favorable personality traits may prevent the interference and facilitate the enrichment from the home domain to the work domain. Although personality tends to be stable, organizations can still provide interventions to encourage employees to think positively, be open to new experiences, and learn emotional regulation strategies. It would be beneficial for organizations to help employees to develop a higher level of optimism, openness, and emotional stability, so that employees can fully use the available resources in the workplace and perform well.

Conclusion

Based on the work-home resources model (ten Brummelhuis & Bakker, 2012a), the studies in this dissertation investigated short-term processes of home-to-work interference and enrichment. Our findings show that trigger events in the home domain influence processes of using job resources and dealing with job demands in the work domain through changes in personal resources on a daily and weekly basis. Not only major life events but also minor hassles and uplifts in the home domain influence the work process across days. Negative trigger events in the home domain induce employees' ruminative thoughts over these issues and negative affect, which deplete cognitive and emotional personal resources and attenuate the effective use of job resources. When employees psychologically detach from the negative major life event or capitalize on positive home-domain events with significant others, they are more likely to develop personal resources and function well in the work domain. Moreover, employees who are emotionally stable, open, optimistic, and who value work as central in their life are better able to attenuate the interference and facilitate the enrichment from home to work. The present work provides a better understanding of home-to-work experiences. We hope that our work will inspire new research on work-family experiences that contributes to a better understanding of interactions between the work and home domains so that we can improve individuals' work and family lives.

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Nederlandse Samenvatting

(Dutch Summary)

Werkgevers, werknemers, en de maatschappij als geheel zijn de afgelopen decennia steeds meer gaan beseffen dat het werk- en gezinsleven van werknemers met elkaar verweven zijn en elkaar doorlopend beïnvloeden (Allen, Cho, & Meier, 2014). Maatschappelijke trends, zoals de toename van de participatie van vrouwen in de beroepsbevolking; de toename van het aantal tweeverdienersgezinnen; veranderende opvattingen over geslachtsrollen; en de toenemende acceptatie van nieuwe manieren van werken, heeft geresulteerd in flexibelere en meer doorlaatbare grenzen tussen werk en familie domeinen (Kossek, 2006). In de Verenigde Staten meldt meer dan 85% van de werknemers dat zij—op zijn minst in enige mate—dagelijkse verantwoordelijkheid dragen voor hun familie (Eby, Casper, Lockwood, Bordeaux, & Brinley, 2005), terwijl China het hoogste percentage (meer dan 90%) van tweeverdieners ter wereld heeft (Lu, Lu, Du, & Brough, 2016). Bovendien hebben technologische hulpmiddelen zoals e-mail, piepers, laptops, smartphones en het feit dat we 24/7 bereikbaar kunnen zijn, ervoor gezorgd dat het werk voortdurend beschikbaar is voor werknemers. Dezelfde technologieën maken het ook mogelijk om contact te hebben met familieleden tijdens werktijd, hetgeen werknemers in staat stelt hun familie- en werkrollen te integreren.

Verreweg de meeste studies op het terrein van de interface tussen werk- en privéleven hebben zich de afgelopen decennia gericht op de invloed van het werkdomein op de werknemer en de gevolgen hiervan voor het familie domein. Er is echter minder aandacht besteed aan de invloed van het familie- of thuisdomein op het werkdomein (Amstad, Meier, Fasel, Elfering, & Semmer, 2011). Bovendien is gedurende lange tijd aangenomen dat werknemers zich volledig toewijden aan het werk en altijd beschikbaar zijn voor werk, alsof er geen familieleven is wat ook aandacht vraagt tijdens werktijd (Dumas & Sanchez-Burks, 2015). Als een direct gevolg daarvan zien organisaties het persoonlijk levensdomein niet als een bron van ondersteuning die bijdraagt aan wat werknemers investeren in hun werk, maar beschouwen ze de ervaringen buiten het werk vooral als afleiding van het werkdomein (Allen, Cho, & Meier, 2014). Slechts in een paar studies is nagegaan hoe het privéleven het werk juist kan verrijken, hoewel steun en andere bronnen opgedaan in het familiedomein in theorie ook de kwaliteit van leven op het werk kunnen verbeteren (Lapierre et al., 2018; Zhang, Xu, Jin, & Ford, 2018).

Onze studies hebben zich met name gericht op de thuis-werk richting van de werk-thuis interface en hebben zowel interferentie- als verrijkingsprocessen onderzocht. Een belangrijke onderzoeksvraag die dit proefschrift beoogt te beantwoorden, is: wanneer, hoe, voor wie, en in welke mate zal het thuisdomein het werkdomein beïnvloeden? We hebben de procesvisie van het *work-home resources* (W-HR) model (ten Brummelhuis & Bakker, 2012a) overgenomen om zowel interferentie als verrijkingsservaringen te onderzoeken, in de richting van het thuisdomein naar het werkdomein. We vatten de belangrijkste bevindingen van elk hoofdstuk samen, onderverdeeld in de processen van thuis-werk interferentie en thuis-werk verrijking.

Thuis-werk interferentie

Het W-HR-model stelt dat werk-thuis interferentie plaatsvindt als contextuele eisen in het thuisdomein persoonlijke hulpbronnen verbruiken en een negatieve invloed hebben op het functioneren in het werkdomein. In onze studies hebben we het W-HR-model getoetst en aanwijzingen gevonden dat negatieve gebeurtenissen in het thuisdomein (zgn. *trigger*

gebeurtenissen)—zoals familieproblemen en majeure levensgebeurtenissen—invloed hebben op het proces van het gebruik van hulpbronnen in het werkdomein vanwege de uitputting van (cognitieve en affectieve) persoonlijke hulpbronnen.

Hoofdstuk 2 laat zien dat medewerkers die de vorige dag te maken hebben gehad met veel familieproblemen, moeite hebben met het gebruiken van de beschikbare hulpbronnen op het werk. We vonden dat wanneer werknemers thuis negatieve gebeurtenissen meemaakten, ze op het werk eerder geneigd waren ruminerende gedachten over deze problemen te genereren. Medewerkers die rumineerden over familieproblemen op het werk verbruikten daarmee hun cognitieve hulpbronnen, zodat ze niet in staat waren om prestatiefeedback te verwerken, autonomie over de aanpak van het werk te gebruiken, en niet in staat waren om te gaan met complexe taken die meerdere vaardigheden vereisen. Deze studie toonde aan dat familieproblemen het effectieve gebruik van hulpbronnen verstoort, en uiteindelijk het functioneren van werknemers in het werkdomein over verschillende dagen beïnvloedt door het rumineren over deze familieproblemen (d.w.z. uitputting van cognitieve bronnen).

Naast familieproblemen, kan ook je huis verlaten en je moeten aanpassen aan een nieuwe omgeving worden gezien als een *trigger* gebeurtenis in het thuisdomein. Daarom onderzocht **Hoofdstuk 3** hoe heimwee het werkproces verstoort voor werknemers die ver van huis werken. Door gebruik te maken van zowel tussen- als binnen-persoon benaderingen, in steekproeven bestaande uit industriële migrantenarbeiders en militairen die rijles hadden, vonden we dat heimwee zowel op de lange termijn als op de korte termijn interfereert met het effectieve gebruik van feedback en sociale ondersteuning door collega's en de leidinggevende. Verder vonden we dat werknemers met een sterke persoonlijkheid (emotioneel stabiel en open voor nieuwe ervaringen) minder kwetsbaar waren voor negatieve interferentie van heimwee met het werkproces.

Hoofdstuk 4 rapporteert een weekboek studie om de invloed van negatieve majeure levensgebeurtenissen in het thuisdomein op het werkdomein te onderzoeken. We vonden dat de ruminerende gedachten van medewerkers over een majeure levensgebeurtenis op wekelijkse basis de inzet van eigen-effectiviteit voor bevlogenheid en werkprestatie ondermijnde. Psychologische loskoppeling van de majeure levensgebeurtenis daarentegen hielp werknemers juist om hun psychologische hulpbronnen effectief aan te wenden voor werk. Medewerkers die werk een centrale plek in hun leven geven, bleken voorts beter in staat zich psychologisch los te maken van de majeure levensgebeurtenis en konden daardoor hun eigen-effectiviteit volledig gebruiken ten voordele van hun bevlogenheid en prestaties. Echter, hoe centraal werk in je leven staat speelde geen rol in de invloed van ruminerende gedachten over de negatieve majeure levensgebeurtenis op het werkproces.

Hoofdstuk 7 nam beide richtingen van interferentie tussen levensdomeinen onder de loep en onderzocht hoe contextuele eisen in het werkdomein ruminatie opwekken en emotionele bronnen in het thuisdomein uitputten, wat vervolgens het bereiken van doelen in het werkdomein belemmert (werk → thuis → werk). We vonden dat taakeisen in de ochtend zorgden voor een toename van ruminerende gedachten over het werk in de avond, waardoor er meer negatief affect in de ochtend ervaren werd wat weer zijn weerslag had op het bereiken van

doelen op het werk. Dit illustreert het dynamische ontwikkelingsproces van interferentie tussen werk- en thuisdomeinen over de dagen heen.

Samenvattend suggereren deze bevindingen dat niet alleen negatieve majeure levensgebeurtenissen, zoals de dood van een familielid of een verkeersongeval, het gebruik van beschikbare bronnen in het werkdomein kunnen ondermijnen. Integendeel, ook op dagelijkse basis kunnen kleine negatieve gebeurtenissen in het thuisdomein (bijvoorbeeld ruzie met de partner of een onverwachte autoreparatie) het werkproces beïnvloeden. Bovendien kunnen deze negatieve *trigger* gebeurtenissen in het thuisdomein ruminerende gedachten en negatieve gevoelens opwekken, die waarschijnlijk cognitieve en emotionele bronnen van werknemers verbruiken, hetgeen ten koste gaat van het effectieve gebruik van aanwezige hulpbronnen op het werk. Persoonlijkheidskenmerken zoals emotionele stabiliteit en openheid kunnen echter als essentiële hulpbronnen (*key resources*) fungeren en werknemers helpen om negatieve interferentie van het thuisdomein met het werkdomein te voorkomen.

Thuis-werk verrijking

Het W-HR-model stelt dat thuis-werk verrijking plaatsvindt wanneer contextuele bronnen in het thuisdomein persoonlijke hulpbronnen ontwikkelen die het functioneren in het werkdomein faciliteren. In onze studies hebben we ook dit positieve proces dat door het W-HR-model wordt voorgesteld, getoetst. De resultaten laten zien dat positieve *trigger* gebeurtenissen in het thuisdomein—waaronder positieve persoonlijke gebeurtenissen en positieve kind-gerelateerde activiteiten—het functioneren in het werkdomein bevordert en positief gedrag op het werk faciliteert, via gedragsmatige en affectieve processen.

Hoofdstuk 5 laat zien dat positieve kind-gerelateerde activiteiten een positief *spillover*-proces teweegbrengen en het functioneren van werknemers in het omgaan met taakeisen kan faciliteren. We vonden dat het delen van verhalen over positieve kind-gerelateerde activiteiten met familieleden en vrienden thuis, positieve ervaringen overdroeg van het thuisdomein naar het werkdomein. Deze studie toonde aan dat positieve kind-gerelateerde activiteiten het werkproces faciliteerde door het thuis praten over deze positieve ervaringen—een proces dat we *capitalization* noemen.

In **Hoofdstuk 6** hebben we positieve kind-gerelateerde activiteiten verder gegeneraliseerd naar andere positieve persoonlijke activiteiten om verder te onderzoeken of het sociaal delen van positieve gebeurtenissen in het thuisdomein een verbindende factor is tussen het thuis- en werkdomein. We vonden dat positieve persoonlijke activiteiten van de vorige dag—via het proces van sociaal delen met familieleden en vrienden in de avond—een positieve relatie had met proactief werkgedrag in de vorm van job crafting en extra-rol gedrag (OCB) gedurende de volgende dag op het werk. Daarnaast vonden we dat het sociaal delen van activiteiten in het thuisdomein een sterker faciliterend effect had op proactief gedrag op het werk voor optimistische werknemers, wat een indicatie is dat ze meer thuis-werk verrijking ervaren.

In **Hoofdstuk 7** onderzochten we zowel werk-thuis als thuis-werk verrijking over de dagen heen en gingen we na hoe contextuele bronnen in het werkdomein ontspanning en positieve emoties in het thuisdomein kunnen faciliteren, wat vervolgens ten goede komt aan het

bereiken van werkdoelen (werk → thuis → werk). We vonden dat hulpbronnen in de ochtend ontspanning in de avond vergemakkelijkten en het positief affect in de volgende ochtend marginaal verhoogde. Dit droeg uiteindelijk bij aan het bereiken van werkdoelen op die dag. Deze resultaten illustreren het dynamische ontwikkelingsproces van verrijking tussen werk- en thuisdomeinen over meerdere dagen heen.

De bevindingen met betrekking tot het verrijgingsproces van thuis naar werk suggereren dat kleine dingen ertoe doen in het vormgeven van het dagelijkse werkleven. Positieve gebeurtenissen in het thuisdomein kunnen het functioneren van werknemers faciliteren door hen beter te leren omgaan met taakeisen en hun positieve werkgedrag (d.w.z. extra-rol gedrag) te bevorderen. Bovendien kan het sociaal delen van deze positieve gebeurtenissen met betekenisvolle anderen (*capitalization*) thuis in de avond ervoor zorgen dat het positieve gevoel langer aanhoudt. Dit genereert vervolgens persoonlijke bronnen die werknemers kunnen inzetten om beter om te gaan met hun taakeisen en meer positief gedrag te vertonen op het werk. Hier komt nog bij dat persoonlijkheidskenmerken, zoals optimisme, dienen als essentiële hulpbronnen (*key resources*) die het dagelijkse proces van thuis-werk verrijking faciliteren.

Conclusie

Op basis van het *work-home resources* model (ten Brummelhuis & Bakker, 2012a), is in dit proefschrift onderzoek gedaan naar de korte termijn processen van interferentie en verrijking van thuis naar werk. Onze bevindingen tonen aan dat *trigger* gebeurtenissen in het thuisdomein processen beïnvloeden met betrekking tot het gebruik van hulpbronnen en het omgaan met taakeisen in het werkdomein – gestuurd door veranderingen in persoonlijke hulpbronnen op dagelijkse en wekelijkse basis. Niet alleen majeure levensgebeurtenissen, maar ook kleine problemen en positieve puntjes in het thuisdomein beïnvloeden het werkproces over een tijdsbestek van meerdere dagen. Negatieve *trigger* gebeurtenissen in het thuisdomein wekken ruminerende gedachten en negatieve gevoelens op, die cognitieve en emotionele persoonlijke hulpbronnen uitputten en het effectieve gebruik van die hulpbronnen ondermijnen.

Wanneer werknemers zich psychologisch loskoppelen van de negatieve majeure levensgebeurtenissen of positieve gebeurtenissen in het thuisdomein juist sociaal delen met betekenisvolle anderen (*capitalization*), is de kans groter dat ze persoonlijke bronnen ontwikkelen en goed functioneren in het werk domein. Bovendien zijn werknemers die emotioneel stabiel, open en optimistisch zijn en werk centraal stellen in hun leven beter in staat om thuis-werk interferentie te verminderen en thuis-werk verrijking te bevorderen. Deze dissertatie draagt bij aan het begrip over de interactie tussen thuis en werk domeinen. We hopen met ons werk nieuw onderzoek te inspireren naar de interactie tussen werk en privéleven om zo bij te dragen aan een beter begrip hierover met als doel om zowel het werk als het familieleven te optimaliseren.

概要

(Chinese Summary)

过去几十年来，整个社会、组织和个人都逐渐认识到工作和家庭生活之间是相互影响、紧密相连的（Allen, Cho, & Meier, 2014）。随着社会趋势的变化，例如，女性劳动力的增长、双职工家庭的增多、对性别角色看法的改变、以及对新工作方式的逐渐接受，工作和家庭生活领域之间的边界也越来越灵活和模糊（Kossek, 2006）。在美国，超过 85% 的员工报告每天都需要承担一些家庭责任（Eby, Casper, Lockwood, Bordeaux, & Brinley, 2005），而中国的双职工家庭占比在全世界是最高的，达到 90% 以上（Lu, Lu, Du, & Brough, 2016）。

现有的大多数研究都关注工作领域如何影响员工的家庭领域，而对家庭领域如何影响工作领域关注较少（Amstad, Meier, Fasel, Elfering, & Semmer, 2011）。实践中也常常反映出组织期望员工完全投身于工作、随叫随到，丝毫不考虑员工的家庭生活

（Dumas & Sanchez-Burks, 2015）。组织也不会把员工的家庭和个人生活看作是他们能用在工作的支持来源，而是认为员工工作以外的生活都会使其在工作中分心（Allen, Cho, & Meier, 2014）。尽管理论上从个体的家庭角色里获得的支持和资源也能够提升工作生活质量，但很少有实证研究关注家庭对工作的促进作用（Lapierre et al., 2018; Zhang, Xu, Jin, & Ford, 2018）。

本研究主要关注家庭领域对工作领域的交互，并同时考察家庭对工作的干扰和促进过程。本研究旨在回答的研究问题是：家庭领域会在什么时候、如何、对谁、在多大程度上影响工作领域？本研究基于工作-家庭资源模型（Work-Home Resources Model, ten Brummelhuis & Bakker, 2012a）探讨家庭对工作的干扰和促进作用。我们将分别以家庭-工作冲突过程和家庭-工作增益过程总结各章内容。

家庭-工作冲突

工作-家庭资源模型（Work-Home Resources Model）提出当家庭需求消耗个体资源而减少工作成果时，家庭-工作冲突就此产生。本研究检验了工作-家庭资源模型，并发现家庭生活的消极事件，例如，家庭琐事和重大生活事件，会通过消耗个体的认知和情感资源影响工作领域的资源运用。

第二章 研究表明前一天家庭琐事（hassles）比较多的员工在第二天很难有效运用工作资源。我们调查了双职工家庭，发现员工在家经历了消极事件之后，在工作时更容易产生对这些家庭事件的思维反刍（rumination），消耗了他们的认知资源，因而无法处理好工作反馈、难以发挥自主性、无法解决需要用到多种技能的复杂工作。这项研究揭示了家庭琐事会引发员工在工作中的不断回想，消耗认知资源，因而干扰了工作资源的有效使用，最终影响员工在工作领域完成自己的职责。

除了家庭琐事，远离家乡适应新环境也可以看作是家庭领域里会对工作产生干扰的触发事件。因此，**第三章** 探讨了想家（homesickness）是如何干扰家在外地员工的工作进程的。通过采用纵向研究和日记法跟踪研究，我们调查了工厂农民工和军队驾驶培训队员，发现想家干扰了个体在工作中有效运用同事和上级提供的反馈和社会支持。另外，我们发现情绪稳定和对新经验持有开放态度的员工更不容易受到想家对工作进程的消极影响。

第四章通过每周日记跟踪调查，探讨了家庭领域中消极的重大生活事件（major life events）对工作领域的影响。我们发现每周员工反复思索（ruminate）重大生活事件会削弱自我效能感对工作投入和工作绩效的作用。相反，心理脱离（psychologically detach）重大生活事件能帮助员工在工作中更好地利用自己的心理资源。并且，把工作作为生活中心的员工能够更好地从重大生活事件里脱离出来，从而能够完全利用自我效能感在工作中更投入、表现更好。不过，个体的工作中心性（work role centrality）并没能缓解反复思索重大生活事件对工作进程的消极影响。

第七章探讨了从工作到家庭、从家庭到工作两个方向上的干扰作用，考察了工作需求引发思维反刍（rumination），在家庭领域消耗认知和情绪资源，最终妨碍到第二天工作目标的达成（工作→家庭→工作）。我们发现上午的工作要求会引起员工晚上反复思索工作，从而使第二天早上的消极情绪上升，进而影响了当天工作目标的达成。该研究揭示了工作和家庭领域互相干扰的发展过程。

以上研究结果表明，不仅消极的重大生活事件，例如家庭成员的去世、生病、受伤等，会削弱员工在工作领域有效运用工作资源；消极的日常生活琐事，例如和伴侣争执、需要修车等，都会影响每天的工作进程。这些家庭领域消极的触发事件会引发员工反复思索这些事情，带来消极的感受，消耗他们的认知和情感资源，进而降低了对工作资源的有效使用。然而，情绪稳定和开放性等人格特征则可以作为核心资源（key resources）帮助员工防止家庭领域对工作领域的干扰。

家庭-工作增益

工作-家庭资源模型（Work-Home Resources Model）提出当家庭资源提升个体资源进而促进工作成果时，家庭-工作增益就此产生。本研究检验了工作-家庭资源模型中的积极过程，并发现家庭生活的积极事件，包括积极的个人事件和孩子相关的事件，会通过行为和情感机制提升员工在工作领域的积极行为和工作能力。

第五章研究表明和孩子相关的积极事件能够触发家庭到工作的正向溢出（spillover），促进员工更好地完成工作要求。我们发现跟家庭成员和朋友分享与孩子有关的积极事件能够把家庭领域的积极体验传递到工作中去。该研究揭示了与孩子相关的积极事件能够促进第二天的工作是通过员工在家分享这些积极体验的过程——我们称之为“获益”（capitalization）。

第六章将与孩子相关的积极事件拓展到其他积极个人事件，继续考察分享家庭领域积极事件在连接家庭和工作这两个领域中的作用。我们发现员工的积极个人事件通过晚上和家人朋友分享这些积极体验，能够促进第二天对社会性工作资源的重塑（crafting social job resources）和对他人的组织公民行为（OCBI）。并且，我们发现个性乐观的员工更能从社会分享中获益，促进工作中的主动行为，体验到更多的家庭-工作增益。

第七章考察了从工作到家庭再到工作的促进作用，检验了工作资源如何提升员工在家庭领域的放松（relaxation）水平和积极情绪，进而有利于工作目标完成（工作→家庭→工作）。我们发现上午的工作资源有利于员工晚上放松，对第二天早上的积极

情绪有所提升，最终促进了当天的工作目标完成。这些结果揭示了工作家庭领域之间相互促进的动态发展过程。

家庭-工作增益过程的研究结果表明生活中的小事对塑造每天的工作生活都很重要。在家庭领域的积极事件会促进员工工作过程，帮助他们更好地处理工作要求，提升积极工作行为，例如对他人的组织公民行为。并且，跟家人朋友等重要他人分享这些积极事件能够延长积极感受、生成个体资源，帮助员工更好地处理工作要求、表现出更多积极工作行为。此外，个人特质，例如乐观性，作为核心资源（key resources）能够促进每天的家庭-工作增益过程。

结论

基于工作-家庭资源模型（Work-Home Resources Model, ten Brummelhuis & Bakker, 2012a），本研究考察了家庭-工作冲突和增益的短期过程。研究表明，每周/每天家庭领域里的触发事件会通过改变员工的个体资源水平，影响他们在工作中有效使用工作资源和处理工作要求。不仅是重大生活事件，家庭领域里小事、麻烦事或有好事发生都会对第二天的工作进程产生影响。家庭领域中消极的触发事件会引发员工对这些事情的反复思索，产生消极情绪，消耗了他们的认知和情绪个体资源，进而削弱了工作中对工作资源的有效使用。当员工能从消极的重大生活事件中心理脱离，或者跟家人朋友等分享家庭领域的积极事件，他们就更有可能会发展自己的个体资源，并在工作领域中发挥作用。此外，情绪稳定、开放、乐观、把工作作为生活中心的员工能够更好的减少家庭对工作的干扰、促进家庭对工作的增益。本研究提供了对家庭-工作冲突和增益更好的理解。我们希望本研究能够启发更多关于工作-家庭经验的新研究，为更好地理解工作家庭领域之间的互动做出贡献，以改善每个人的工作和家庭生活。

Curriculum Vitae

Danyang Du was born on July 14, 1990 in Shanxi, China. From 2007 to 2011, she studied Psychology and obtained Bachelor degree at Jilin University. From 2011 to 2014, she studied Industrial and Organizational Psychology and obtained Master degree at Peking University. In September 2014, she started her PhD research at the department of Work and Organizational Psychology at Erasmus University Rotterdam. The studies presented in this dissertation focused on work-home interface, and more specifically, her research investigates when, how, for whom and to what extent the home domain influences the work domain. In her final year, she was awarded the “Graduate school award for PhD excellence: Best article 2017” for her paper on how homesickness undermines the potential of job resources. In December 2018, she will start work as an Assistant Professor at Tongji University in Shanghai, China.

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Acknowledgements

Acknowledgements

We all live with heavy burdens. When you feel life is easy, there is someone else carries weight for you. My PhD life could not go smoothly if I had not got all the help and support from the people I thank below.

Arnold, thank you for giving me this precious opportunity to learn from you. Your fantastic ideas, sharp mind, and quick responses provide me great learning experiences and enable me to develop as an independent researcher. All the meetings with you are full of enthusiasm and inspirations, you help me to be confident and believe in my own research. Daantje, thank you for agreeing to be my daily supervisor. You always have my best interest at heart and provide unconditional and unlimited support to me. You have seen all my struggles and have been tolerant to my weakness and complaints. Weekly meetings with you provide me continuous support and insightful guidance for my research as well as my life. I could not imagine a better supervising team. I really appreciate all the time, help, and patience from you. I am looking forward to collaborating with you on more projects in the future.

I am grateful to my teacher Changqin Lu from Peking University, who supervised me during my master studies and stimulated me to start a PhD. Thank you for helping me collect valuable datasets for my first paper and providing me a good start of my PhD. I am lucky to have someone familiar in a completely new environment. Haijiang, who was from the same lab as me also studied in the Netherlands one-year earlier than me. Thank you for your insightful experiences, suggestions, and kind recommendations, I am able to adapt to academic and daily life in the Netherlands.

Ana Sanz-Vergel, Maria Peeters, Marise Born, Laura den Dulk, and Sara De Gieter, thank you for taking the time to read and evaluate my thesis. It is a true honor to have you as members of my committee.

I am fortunate to work with colleagues who are also my friends. Andrea, thank you for your warmth which helped me soft landing in a brand new work environment. Your enthusiasm and encouragement enabled me to find my place and integrate in the working group. Your optimism and braveness encourage me to face uncertain situations. Julia, thank you for being so considerate and always there to help. You are my safety net whenever I encounter difficulties and ask for your support. The trip to your home and the time spent with your mom is unforgettable. On T13 floor, it was exceptional for us who have the same promoter and daily supervisor stay in the same office. Thank you Daantje for inviting candidates you supervised to have dinner with your family. I really enjoyed playing game with Hugo and building up friendship with Anique by simply listening to her. Gloria, thank you for your accompany for four years from the first day I came to work here. Since we become office roommates, I've never worked alone in the late evening and on Saturdays. I also appreciate the holidays we travelling together to Paris, Germany, and Greece. Anniek, I learned from you to be more determined and brave to raise my voice. Thank you for helping me making up my mind to communicate more directly and always being patient to answer my Dutch language questions. I really enjoyed sharing an office with you all. Our discussions about work, conversations about news and culture issues, chatting about daily life, laughing about pronunciations, birthday and festival paintings on the white board, and so many lovely roomies dinners together, are precious memories I will always cherish.

I am very grateful to work in a supportive group. Thank you Arnold for organizing the lab meeting every week. I really appreciate the opportunity to ask questions and brainstorm solutions with our group. Thank you Dimitri, Annemarie, Marjan, Heleen, Kimberley, Paris, Juriena, Joran, and Manuela for all your patience and help when I have difficulties in my research. Andrea, Jason, Jesper, Keri, Denis, Emma, Dirk, Marijntje, Julia, Odette, Gloria, Hannah, Anniek, Yuri, Dewi, Wei, Roger, thank you for all your ideas and suggestions. I have learned a lot from you. The last phase of PhD life is full of difficulties, urgency, and anxiety. Thanks to Marloes, Jason, Andrea, and Nouran, I'm able to share the feelings with people who are going through the same phase. The understanding and support I received from you enable me to survive the final year. I had a good time working in the psychology department. Jacqueline, Tina, Jianan, Mannan, Shirong, and Jin, thank you for taking the time to have a cup of tea while I have my late lunch. Your patient listening and accompany make me enjoy the time of relaxing in the workplace. Novika, Sabrina, Dave, Dirk, Iris, Marieke, Lara, Ilse, Rob, Lois, Isil, and Eke, thank you for your kindness and support whenever I needed help. Special thanks go to Gloria and Jianan for accepting the paranymph duties.

In addition to the support I've got from the workplace, many friends supported me in my PhD life. Yuhan, as a roommate for three and half years, thank you for taking care of me in both personal and work life. I was not able to adapt to the Netherlands without your support and help in providing advices, listening to my experiences of work life, and even helping me with data collection and presentations. Qianyun, thank you for sharing the experiences with me. Your independence and determines help me making decisions and dealing with difficult situations. I'd like to thank Ruyi, Yayi, Ling Jin, and Qiaomei for your accompany and sharing delicious food with me. Thank you Mrs. Chen for providing me a place to short stay and taking good care of me. As for my love who hasn't shown up for all these years, thank you for allowing me to spend more time on work, enables me to finish this thesis on time. I'm looking forward to seeing you soon. Time spent with friends is always time well spent. I thank Qiong, Ziyu, Guannan, Xiaomin, Lu Shen, Min Cai, Yi Hu, Sha Zhu, Lei Yang, Fan Jia, Hodar, Shuai Yuan, and Jing Sun for the chats, dinners, and trips together. I really enjoyed the time with you. Special thanks to Xi Xu for doing such a great job in designing the cover for this thesis.

I would also like to take this opportunity to thank all the people who were willing to participate in my demanding surveys and everyone who helped with the data collection. They are the ones who made this research possible. Thank you Daantje for translating questionnaires in Dutch and help me collect data in your networks. Thank you Arnold for introducing me to the collaboration with the Economic School. Thanks to Robbert and Nicole Bijvoets for data collection in the Netherlands, and thanks to my mother, my uncle Wenjun Wang, and my cousin Xiaojing Ren for helping me with data collection in China.

Last but not least, my deepest thanks go to my parents. This thesis is dedicated to my parents for their unlimited love and support. Thank you for listening all my struggles, providing valuable advices, and helping me by all means. Nothing of this thesis could have ever been possible without you.

Rotterdam
September, 2018

