

**A diary study on the role of psychological detachment in the spillover of self-control demands to employees' ego depletion and the crossover to their partner.**

Germeys, Lynn; De Gieter, Sara

*Published in:*  
European Journal of Work and Organizational Psychology

*DOI:*  
[10.1080/1359432X.2017.1417259](https://doi.org/10.1080/1359432X.2017.1417259)

*Publication date:*  
2018

*License:*  
CC BY-NC-ND

*Document Version:*  
Accepted author manuscript

[Link to publication](#)

*Citation for published version (APA):*  
Germeys, L., & De Gieter, S. (2018). A diary study on the role of psychological detachment in the spillover of self-control demands to employees' ego depletion and the crossover to their partner. *European Journal of Work and Organizational Psychology*, 27(1), 140-152. <https://doi.org/10.1080/1359432X.2017.1417259>

**Copyright**

No part of this publication may be reproduced or transmitted in any form, without the prior written permission of the author(s) or other rights holders to whom publication rights have been transferred, unless permitted by a license attached to the publication (a Creative Commons license or other), or unless exceptions to copyright law apply.

**Take down policy**

If you believe that this document infringes your copyright or other rights, please contact [openaccess@vub.be](mailto:openaccess@vub.be), with details of the nature of the infringement. We will investigate the claim and if justified, we will take the appropriate steps.

**A diary study on the role of psychological detachment in the spillover of self-control demands to employees' ego depletion and the crossover to their partner.**

**Abstract**

This study examined whether daily self-control demands at work deplete one's self-control resources (i.e., ego depletion) at work and whether these demands have prolonged effects by spilling over to the home domain via a lack of psychological detachment. Moreover, we investigated the daily crossover of ego depletion at home between partners and its influence on spousal interactions. Results of our dyadic diary study revealed that daily self-control demands at work are positively related to ego depletion experienced at work and at home, and negatively related to psychological detachment. Psychological detachment is directly negatively related to ego depletion experienced at home and mediates the positive relationship between self-control demands at work and ego depletion at home. With regard to crossover mechanisms, we found support for a direct positive crossover of ego depletion of the actor to the ego depletion of the actor's partner. In addition, the ego depletion of the actor's partner related directly negatively to providing spousal support and positively to spousal conflict and moreover mediated the relation between ego depletion of the actor and both spousal interactions. Implications for practice and suggestions for future research are discussed.

**Keywords:** Self-control demands, psychological detachment, ego depletion, spillover, crossover

The strength model of self-control (Baumeister, 2002; Baumeister, Vohs, & Tice, 2007) states that self-control is an employee's limited resource that enables to inhibit, alter and override automatic and spontaneous behaviors, emotions and desires that would otherwise hinder goal-directed behavior or (long-term) goal achievement. Imagine an insulting and derogatory client. To abstain from losing one's temper—and as such harming the client relationship— and to fulfill the client's changing needs an employee draws on his/her self-control. To avoid distraction or a lack of motivation while working on a complex work task, this employee again invests self-control resources. Given the increase in service-oriented jobs, demanding and continuously changing work environments, employees are increasingly exposed to self-control demands at work (Schmidt & Neubach, 2007). Such self-control demands urge an employee to consume one's limited self-control resources. The subsequent state of reduced ability to enact self-control due to the depleted pool of self-control resources is called ego depletion (i.e., a state of depleted self-control resource and feeling exhausted; Baumeister, Bratslavsky, Muraven, & Tice, 1998).

In response to scholars' call for research on possible mechanisms to restore one's self-control resources (Baumeister, 2000; Schmidt & Diestel, 2015), experimental studies found support for the replenishing characteristics of (relaxing) breaks between two self-control demanding tasks (Tyler & Burns, 2008). Consequently, Hagger and Chatzisarantis (2013) formulated the recovery hypothesis stating that drawing upon self-control resources will impair subsequent use of these resources, unless the individual is able to recover in the meanwhile. According to the stressor-detachment model, one important way to recover from work demands is by physically and mentally refraining from work-related tasks, emotions and behaviors (i.e., psychological detachment; Sonnentag & Fritz, 2007; Sonnentag & Fritz, 2015). Yet, to our knowledge, only one between-person study tested the role of psychological detachment in the relation between self-control demands and job strain (e.g., ego depletion; Rivkin, Diestel, &

Schmidt, 2015) so far. Our diary study will shed new light, by examining whether daily self-control demands encountered at work increase an employee's subsequent experience of ego depletion at work as well as at home and whether psychological detachment plays a mediating role in this last daily resource-depleting spillover (i.e., intraindividual transference or spillover of work experiences to the home domain).

Moreover, since more and more employees are part of a dual-earner couple, we will examine whether feeling ego depleted also has (behavioral) consequences for the partner at home. Prior research already found that an employee's psychological strain (e.g., exhaustion, burnout) can be a stressor for the employee's partner (Bakker, Demerouti, & Dollard, 2008; Bakker, Demerouti, & Burke, 2009). Likewise, we will examine whether an employee's experienced ego depletion in the evening will cross over to his/her partner's feelings of ego depletion (i.e., interindividual transference or crossover of an employee's psychological strain to the employee's partner; Bolger, DeLongis, Kessler, & Wethington, 1989; Westman, 2001). On top of this, we will examine whether experiencing a state of depleted self-control resources will relate to detrimental spousal interactions (i.e., initiating more spousal conflict and less spousal support), drawing on the assumption that individuals normally use self-control resources to engage in positive behaviors towards others and to refrain from performing harmful and dysfunctional behaviors (Baumeister, 2002; Baumeister et al., 2007).

This study makes different important contributions to the literature. First, we integrate insights from the strength model of self-control (Baumeister, 2002; Baumeister et al., 2007) and the stressor-detachment model (Sonnentag & Fritz, 2007a). Whereas studies on self-control and ego depletion predominantly focused on the work setting so far (for exceptions see e.g., Rivkin et al., 2015) using cross-sectional and experimental designs (for exceptions see e.g., Prem, Kubicek, Diestel, & Korunka, 2016), we broaden the research scope by examining the daily spillover process from self-control demands at work to ego depletion at home, and

examine the underlying within-person mediating role of psychological detachment in this process. In contrast with many other potential mediators (e.g., chemical brain processes) examined in self-control research so far, psychological detachment is something that can be learned/trained (Hahn, Binnewies, Sonnentag, & Mojza, 2011) and as such an employee can exert control over it him/herself. Second, we will extend the predominant—and to our knowledge exclusive—intraindividual focus on ego depletion and its consequences, by examining its interindividual effects. We will examine the existence of daily crossover effects from an employee's experience of ego depletion at home to his/her partner and how this crossover of ego depletion between partners might influence one's spousal interactions on a daily basis. Moreover, from a methodological perspective, we will contribute by using partner-rated measures to reduce cognitive biases (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

### **Hypothesis development**

**Spillover.** Self-control demands are defined as job stressors that urge employees to engage in self-control as they instigate employees to inhibit habitual or spontaneous reactions, be able to withstand a lack of motivation when encountering unattractive work tasks and resist work distractions (Baumeister, 2002). In contrast with automatic effortless processes, engaging in self-control is a controlled—and as such effortful—process (Shiffrin & Schneider, 1977). Prior research found that individuals who encounter self-control demands, will consume self-control resources to deal with these demands. In other words, self-control demands initiate expending self-control resources and thereby deplete the limited pool of self-control resources, leading to a situation of feeling ego depleted (Baumeister et al., 1998; Muraven, Tice & Baumeister, 1998). However, this period of self-control resource scarcity does not just happen instantly. The depletion does not cease when the employee is no longer exposed to the demand(s) but prolongs over time (Hagger, Wood, Stiff, & Chatzisarantis, 2010). In addition, different self-control demands tax the common limited pool of self-control resources, thereby

impairing subsequent exertion of self-control as these self-control resources remain depleted for some period of time (Cohen & Lieberman, 2010). To that end, we assume that on days when employees encounter more self-control demands during the workday, they will be more likely to feel ego depleted at the end of the workday (i.e., same domain and “immediate effect”) as well as later that day at home (i.e., other domain and “prolonged effect”). As such, we hypothesize that:

*Hypothesis 1: Employees' daily experience of self-control demands at work is positively related to feelings of ego depletion at work.*

*Hypothesis 2: Employees' daily experience of self-control demands at work is positively related to feelings of ego depletion at home.*

Paradoxically, according to the stressor-detachment model, employees who encounter job stressors benefit most from recovery—and psychological detachment in particular—to stay energized, engaged and healthy, yet, the encountered stressful work situations—and specifically the associated levels of negative activation—impair or hinder these employees to detach from work in the evening (Sluiter, De Croon, Meijman, & Frings-Dresen, 2003; Sonnentag et al., 2010). Prior research found that self-control demands increase employees blood pressure, heart rate variability (Segerstrom, Solberg & Nes, 2007), feelings of sympathetic arousal (Robinson & Demaree, 2007) and psychological strain (e.g., fatigue; Muraven et al., 1998). These physiological and psychological responses to occurrences of self-control demands at work mark its stressful nature and reflect the associated high levels of negative activation. Specifically, these feelings of arousal, stress and negative activation impair the ability to redirect attention away from and/or suppression of work-related thoughts (e.g., to stop thinking about an unsolved work-related problem), to override spontaneous emotions (e.g., to not look mad at a rude client) and to ignore (outer/inner) distractions (e.g., to ignore popup notifications of work-related mails on one’s smartphone at home; Anderson & Levy, 2009; Diamond, 2013).

In other words, these negative feelings and activation elicited by encountering self-control demands, increase the likelihood to continuously revive, anticipate to, work on or think about work-related matters, thereby impairing psychological detachment (Bono, Glomb, Shen, Kim, & Koch, 2013). As such, we assume that on days that employees encounter more self-control demands at work, they will be less likely to stop thinking about or actively engaging in work activities at home and hypothesize that:

*Hypothesis 3: Employees' daily experience of self-control demands at work is related to lower psychological detachment from work at home.*

Moreover, recent—between-person—research found that psychological detachment might not only be impaired by high levels of negative activation resulting from job stressors such as self-control demands, but also by the negative well-being outcomes associated with job stressors (Sonnentag, Arbeus, Mahn, & Fritz, 2014). Ego depletion—being one of the possible negative well-being outcomes of self-control demands—represents a lack of self-control resources. Research already showed that a state of lacking resources in itself is often perceived as stressful by employees and hinders employees' purposeful regulation of their thoughts, actions and emotions (Bolton, Harvey, Grawitch, & Barber, 2012). Consequently, ego depleted employees have more difficulties to purposefully avert work-related thoughts (e.g., to stop thinking about unaccomplished work objectives), to regulate actions (e.g., to override lack of motivation) and emotions (e.g., to express an un genuine emotion at work) as they lack the necessary self-control resources to do so. As such, we assume that employees who feel ego depleted at the end of the workday will more likely be unable to disconnect from work afterwards. Consequently, we hypothesize that:

*Hypothesis 4: Employees' daily experience of ego depletion at work is related to lower psychological detachment from work at home.*

In turn, the stressor-detachment model found ample support for the beneficial influence of psychological detachment on well-being outcomes (e.g., fatigue; Korunka, Kubicek, Prem, & Cvitan, 2012; Sonnentag & Fritz, 2007a; Sonnentag & Fritz, 2015). Similarly,—experimental—studies found that recovery from self-control demands, in the form of sleeping or taking breaks, lowered feelings of ego depletion (Christian & Ellis, 2011; Tyler & Burns, 2008). Specifically, engaging in leisure activities—such as reading a book or going for a run (i.e., psychologically detaching)—that do not tax the self-control resources will prevent further loss of depleted self-control resources, conserve remaining and replenish the drained pool of self-control resources. As a consequence of psychological detachment, conserved and/or newly gained self-control resources are made available to use at home (e.g., experience less ego depletion at home). Moreover, individuals might offset negative outcomes due to resource loss by gaining other resources (Hobfoll, 1998). Prior research found that engaging in a nice activity (e.g., psychological detaching by going for dinner with friend) thereby gaining a positive mood, could offset the depletion of self-control resources (Tice, Baumeister, Shmeuli, & Muraven, 2007). Contrarily, when an employee is unable to psychologically detach from work, the taxation of self-control resources will continue and will result in prolonged negative outcomes. Scholars found that in the long term lacking opportunities to recover from ego depletion will lead to burnout (Maslach, Schaufeli & Leiter, 2001). Specifically, working during off-job time on or thinking of an unfinished work task (i.e., not psychologically detaching from work) will hamper recharging of and even further deplete self-control resources, and might increase feelings of ego depletion during the evening. As such, we hypothesize that:

*Hypothesis 5: Employees' daily psychological detachment from work is negatively related to the experience of ego depletion in the evening.*

The stressor-detachment model states that psychological detachment can mediate the daily relationship between job stressors (e.g., self-control demands) and well-being outcomes



(e.g., ego depletion; Sonnentag, 2010; Sonnentag & Fritz, 2007a). Drawing on the abovementioned rationals (i.e., hypotheses 2, 3 and 5), psychological detachment can be considered as a potential (partial) mediator explaining the underlying relationship between self-control demands at work and ego depletion at home. Specifically, self-control demands at work—and especially the associated negative activation—hinder an employee to purposefully redirect his/her attention away from work-related matters, or in other words to psychologically detach (i.e., hypothesis 3). In turn, a lack of psychological detachment fails to prevent further loss of self-control resources initiated by self-control demands at work and to replenish self-control resources, or in other words increases the likelihood to experience ego depletion during the evening (i.e., hypothesis 5). Taken together, one possible way through which the negative spillover from self-control demands encountered at work to ego depletion experienced at home takes place is by a lack of psychological detachment. Consequently, we hypothesize that:

*Hypothesis 6: Employees' daily psychological detachment from work mediates the positive relationship between self-control demands at work and ego depletion at home.*

**Crossover.** Besides spillover mechanisms of self-control demands, this study examines crossover mechanisms of ego depletion. Prior research already found support for the interpersonal process that takes place when one's feelings of stress or strain impact a closely related other's (e.g., intimate partner) feeling of stress or strain (i.e., crossover; Bolger et al., 1989; Westman, 2001). Being in a state of ego depletion or even experiencing a threat of losing to many self-control resources is a stressful experience in itself to employees (Bolton, Harvey, Grawitch, & Barber, 2012; Hobfoll, 1989, Rivkin et al., 2015). Moreover, the strength model of self-control states that ego depleted individuals (i.e., actors) lack the necessary self-control resources to engage in effortful goal directed behavior (e.g., maintaining a long-term relationship with his/her partner; Baumeister, 2002). Consequently, the actor might not be able to carefully listen and pay attention when his/her partner shares worries, to place his/her

partner's need above his/her own or to remain calm when his/her partner acts irritable (Danner-Vlaardingerbroeck, Kluwer, Van Steenbergen, & Van Der Lippe, 2016). In turn—being confronted with this undesired interpersonal behavior—, the actor's partner needs to invest self-control resources him/herself when encountering these lacks of considerations of the actor in an attempt to act congruent with the long-term goal (e.g., maintaining a positive interpersonal relationship) and in an attempt to suppress an incivility spiral (Baumeister, 2002). As such, depleted levels of self-control of an employee are likely to relate to depleted self-control resources of the partner. In other words, we hypothesize that:

*Hypothesis 7: An employee's daily experience of ego depletion is positively related to his/her partner's experience of ego depletion.*

Everyday interpersonal interactions—such as staying polite and pleasant against an impolite individual—rely on an employee's self-control resources (DeBono, Shmueli, & Muraven, 2010). Specifically, individuals need to invest self-control resources in order to display positive interpersonal behaviors (Rawn & Vohs, 2006), to refrain from impulsive or adverse interpersonal interactions (Yam, Fehr, Keng-Highberger, Klotz, & Reynolds, 2016) and to override selfishly motivated behavior grounded in self-interest (DeWall, Baumeister, Gailliot, Maner, 2008). Prior—mainly experimental—research found that ego depleted employees were less likely to perform prosocial behaviors (Xu, Bègue, & Bushman, 2012), cooperate with others (Osgood, & Muraven, 2015), engage in helping behaviors towards their colleagues (Trougakos, Beal, Cheng, Hideg, & Zweig, 2015), and more likely to initiate family conflict (Tangney, Baumeister, & Boone, 2004), to lie, cheat, or be rude to others (DeBono et al., 2010), and to enact intentional harmful and dysfunctional behaviors directed towards individuals in the organization (e.g., bullying a colleague; Wang, Liao, Zhan, & Shi, 2011). These findings align with the propositions of the strength model of self-control stating that (1) providing help and social support as well as prohibiting to engage in negative interpersonal

interactions (further) deplete the initiator's self-control resource pool (e.g., Bass, 1998) and (2) ego depleted individuals will either lack the necessary self-control resources to engage in desirable interpersonal behaviors and/or will conserve their limited remaining self-control resources to prevent further resource loss (Baumeister & Vohs, 2007; Hagger et al., 2010). Consequently, broadening these findings beyond the experimental and work situation, we argue that at home an actor's ego depleted partner will lack the necessary self-control resources to provide spousal support and to refrain from initiating spousal conflict towards the actor. In other words, we hypothesize that:

*Hypothesis 8: The actor's partner's daily experience of ego depletion is negatively related to providing spousal support.*

*Hypothesis 9: The actor's partner's daily experience of ego depletion is positively related to initiating spousal conflict.*

Drawing on the abovementioned rationals (i.e., hypotheses 7, 8 and 9), ego depletion of the actor's partner can be considered as a potential mediator explaining the underlying relationship between ego depletion of the actor at home and less supportive/more conflictive spousal interaction enacted by the actor's partner. Specifically, ego depletion of the actor at home—that is, among others, the lack of self-control resources to engage in loving and understanding behaviors at home—requires the actor's partner to invest self-control resources to withstand unpleasant behaviors and not start a fight, or in other words depletes the actor's partner self-control resources (i.e., hypothesis 7). Although the actor's partner initially invested self-control resources to keep up a supportive home atmosphere, these attempts result in ego depletion and the actor's partner consequently fails to prevent further spousal support and promotes spousal conflict (i.e., hypothesis 8 and 9). Taken together, one possible way through which the negative spillover from ego depletion of the actor to respectively, less spousal support

and more spousal conflict initiated by the actor's partner is through a lack of self-control resources from the actor's partner. Consequently, we hypothesize that:

*Hypothesis 10: The actor's partner's daily experience of ego depletion mediates the negative relation between ego depletion of the actor and spousal support provided by the actor's partner.*

*Hypothesis 11: The actor's partner's daily experience of ego depletion mediates the positive relation between ego depletion of the actor and spousal conflict provided by the actor's partner.*

Figure 1 represents the study hypotheses graphically.

[Insert Figure 1 about here]

## **Method**

### **Procedure**

We contacted individual Belgian employees from different sectors (e.g., healthcare, banking, education) by means of a convenience sampling approach (i.e., using the researchers' personal networks and word-of-mouth communication) and asked them to invite their partner to participate in the study. Respondents had to be part of a dual-earner couple—cohabiting partners in a romantic relationship (either married or unmarried) of which both partners work at least part-time as paid employees—to be able to participate in this study. During a personal conversation with each respondent, we explained the purpose of the study, stressing the discretionary nature of participation, the possibility to withdraw from the study at any time and the confidential treatment of the data. In addition, each respondent received written information about the study and a personal code. This code assured respondents' anonymity and allowed us to match their general and diary surveys afterwards. Each respondent also received an envelope with this personal code, which we individually collected after completion. All respondents indicated their willingness to participate by signing an informed consent. No incentives were

provided for participation in the research. We did not obtain formal ethical committee statements for this study because the research design was deemed noninvasive and harmless by the university's ethical committee.

All surveys were in Dutch. All survey items were translated from English to Dutch by one researcher and were back-translated to English by two colleagues. Inconsistencies between the translation and back-translation were discussed and resolved. We asked our respondents to complete a one-time general survey one week prior to completing two daily surveys for five consecutive working days, starting on Monday until Friday. We instructed our respondents to fill out the first daily survey at the end of each workday and asked them to fill out the second daily survey right before bedtime. Each workday, respondents needed to fill out the same questionnaires assessing the experienced level of each construct during that day. Respondents were not required to fill out the survey on days they did not work. Overall there were 595 observations (out of 690) of the end of the workday surveys (compliance rate = 86,2 %) and 651 of the end of the day surveys (compliance rate = 94,2%).

## **Participants**

A total of 138 Belgian employees (i.e., 69 dual-earner couples) working in different sectors returned their survey booklets. We only included data of employees who completed more than three out of five daily diary surveys in a timely manner according to their self-reported time stamps. As a result, the final analysis was performed on the data of 131 employees comprising 63 complete dual-earner couples and 5 individuals whose partner got removed from the final sample. Half of the respondents were women (49.6%) with an average age of 40.85 years ( $SD = 10.63$ , range: 21-63 years). All respondents obtained at least a secondary school degree. The majority were employed as white-collar workers (76.4%) in the private sector (72.6%). They exerted their current function on average for 9.64 years ( $SD = 8.91$ ) and most of them worked full-time (77.9%). The majority of the respondents had at least one child (81.7%)

that was cohabiting (78.6%). The respondents were on average 16.9 years ( $SD = 9.89$ , range: 1-40 years) in their current relationship.

## Measures

All items were rated on a five-point Likert scale ranging from “*completely disagree*” (1) to “*completely agree*” (5). To capture the daily time frame with the items of our daily surveys, we slightly modified the existing scales by adding “today at work” or “today after work” to the items (for a similar approach see for example Ilies et al., 2007). The internal scale reliability was assessed by estimating the level-specific omega coefficients since single-level estimates of reliability, such as Cronbach alpha coefficients, do not accurately reflect a scale’s actual reliability when variance exists at multiple levels (i.e., within- and between-person variance; Geldhof, Preacher, & Zyphur, 2014).

**General survey.** We used the general survey to collect demographic information (e.g., gender, age, number of children).

**Daily survey (at work).** *Self-control demands* were measured with a shortened version of the self-control demands scale of Neubach and Schmidt (2007) which assesses three facets of self-control (i.e., impulse control, resisting distractions and overcoming inner resistance). In accordance with other within-person studies, we retained three items to lower the burden for the participants (e.g., Prem et al., 2016). To that end, we selected each item based on the highest factor loading for each of the three facets, namely “Today at work, my job required me not to lose my temper.”, “Today at work, my work required me to resist distractions” and “Today at work, some of my tasks were such that, I really needed to force myself to get them done”. We relied on a compound measure of self-control demands as all items assess the taxation of one’s self-control resources (for a similar approach see Schmidt & Diestel, 2015). The omega reliability coefficient of the three-item scale is .76.

*Ego depletion* was measured with five items from the State Self-Control Capacity Scale

of Ciarocco, Twenge, Muraven and Tice (2007). These items had the highest factor loadings in a German validation study (Bertrams, Unger, & Dickhäuser, 2011). Sample items are: “Today at work, my mind felt unfocused.”, “Today at work, my mental energy was running low.” and “Today at work, I felt lazy”. The omega reliability coefficient is .84.

**Daily survey (at home).** *Psychological detachment* was measured with the Dutch translation (Geurts, De Bloom, Kompier, & Sonnentag, 2011) of the four-item Recovery Experience Scale of Sonnentag and Fritz (2007b), including items such as “Today after work, I could distance myself from my work.” The omega reliability coefficient is .97.

*Ego depletion* was measured with five items from the State Self-Control Capacity Scale of Ciarocco and colleagues (2007). These items had the highest factor loadings in a German validation study (Bertrams et al., 2011). Sample items are: “Today after work, my mind felt unfocused.”, “Today after work, my mental energy was running low.” and “Today after work, I felt lazy”. The omega reliability coefficient is .90.

*Spousal support* was measured with the six-item scale from Abbey, Abramis and Caplan (1985). The employee’s (i.e., actor’s) partner was asked to which extent his/her partner provided spousal support by rating items such as “Today after work, my partner gave useful information and advice when I wanted it.” The omega reliability coefficient is .94.

*Spousal conflict* was measured with the five-item scale from Abbey, Abramis and Caplan (1985). The employee’s partner was asked to which extent his/her partner initiated spousal conflict by rating items such as “Today after work, my partner argued with me about something.” The omega reliability coefficient is .75.

## **Data analysis**

We applied the actor-partner interdependence model (APIM; Kenny, Kashy, & Cook, 2006) to account for the non-independency between two respondents within a dual-earner couple (e.g., they experience the same home stressors, influence each other, etc.). Using APIM

allowed us to examine (1) within-person effects also called actor effects—that is, the intraindividual influence of an employee’s level of a predictor variable on his/her level of an outcome variable—, as well as (2) between-person effects also called partner effects—that is, the interindividual influence of an employee’s level of a predictor variable on his/her partner’s level of an outcome variable—. As recommended by Kenny et al. (2006), we simultaneously examined how much the husband is influenced by his wife and how much the wife is influenced by her husband. To that end, we included each employee as an actor and as a partner in our analyses and restructured our data set (i.e., pairwise or double-entry data set; for more details, read Cook & Kenny, 2005). The data had a nested structure, namely working days (i.e., level 1 or within-person) nested within employees (i.e., level 2 or between-person) who are in turn nested within a dual-earner couple (i.e., level 3 or between-dyads). Therefore, we performed three-level path analyses using Mplus version 7.3 (Muthén & Muthén, 2012), in which we separated within from between variance (i.e., Preacher, Zyphur, & Zhang, 2010). Prior to testing our hypotheses, we conducted a multilevel confirmatory factor analysis to examine the discriminant validity of our research variables and examined alternative models.

First, we examined the intercept-only model to estimate the amount of variance attributable to the couple (i.e., level 3), person (i.e., level 2) and day (i.e., level 1) level of the model. Next, we modeled relationships among level 2 variables at level 1 by defining random slopes. We examined actor and partner effects simultaneously in one model. We used maximum likelihood estimation as this estimator allows us to use complete as well as incomplete data—without imputing them—to estimate the parameter values that are most likely of producing the sample data (Baraldi & Enders, 2010).

## **Results**

We examined our hypothesized five-factor measurement model by means of a multilevel confirmatory factor analysis in which we included all items measuring our level 1



variables (i.e., self-control demands, psychological detachment, ego depletion, spousal support and spousal conflict) at the within-person level. Each item loaded significantly and in the expected direction onto its respective latent factor. Overall, this model had a reasonable to good fit with our data ( $CFI = .89$ ,  $TLI = .88$ ,  $RMSEA = .05$ ,  $SRMR_{within} = .06$ ; Kline, 2005). Moreover, our hypothesized measurement model yielded superior fit compared to different alternative models (see Appendix A). Combined, these research findings support the distinctiveness of our study constructs.

### **Testing alternative models**

As our study design is not able to infer directionality (nor causality) as some variables were assessed at the same/one point in time, we examined—besides the specified hypothesized model—some alternative versions of the hypothesized model (see Table 1). Each alternative model deviates from our hypothesized model with just one reversed relationship/directionality of one hypothesized relationship between variables not measured with a time-lag in between. More specifically, we compared the Bayesian information criterion ( $BIC$ ) value of our hypothesized model to the  $BIC$  value of each alternative model (for a similar approach see for example Meier & Spector, 2013) to examine which model fits the data best. Since the comparison revealed that our hypothesized model offered the best fit to the data (i.e., lowest  $BIC$  value), we will rely on our three-level path model when discussing the results.

[Insert Table 1 about here]

### **Descriptive statistics**

Table 2 reports the means, standard deviations, intraclass correlation coefficients ( $ICC$ ), zero-order correlations (i.e., the correlations at the individual level) and person-centered correlations (i.e., the correlations at the day-level). As all  $ICC$ s at the day-level were higher than .05 (ranging from .41 to .64), we are confident that the grouping structure mattered and the variables fluctuated over time (Marcoulides & Schumacker, 2009).

[Insert Table 2 about here]

### Hypothesis testing

**Spillover.** In support to hypothesis 1 and 2, we found a positive association between an employee's level of experienced self-control demands and his/her level of ego depletion at work ( $\beta = .22, p < .001$ ) as well as at home ( $\beta = .09, p < .05$ ), while controlling for the effect of ego depletion at work on ego depletion at home ( $\beta = .53, p < .001$ ). Moreover, encountering self-control demands at work directly negatively related to psychological detachment ( $\beta = -.18, p < .01$ ; supporting hypothesis 3), whereas ego depletion experienced at work was only marginally negatively related with one's psychological detachment ( $\beta = -.17, p = .06$ ; partially supporting hypothesis 4). In turn, psychological detachment related negatively with feelings of ego depletion experienced at home ( $\beta = -.17, p < .001$ ; supporting hypothesis 5). To examine whether an employee's psychological detachment mediates the relationship between self-control demands encountered at work and ego depletion experienced at home, we compared a full mediation model (i.e., without a direct effect between self-control demands at work and ego depletion at home) with a partial mediation model (i.e., including a direct effect between self-control demands and ego depletion). To that end, we compared the balance between the number of parameters (i.e., model complexity) and the fit of the model to the data (i.e., *BIC*) of the full and the partial mediation model. According to the *BIC* values, the partial mediation model yielded a superior fit to the data ( $BIC_{full\ mediation} = 5113.404 > BIC_{partial\ mediation} = 5106.956$ ; Aiken & West, 1991). Self-control demands experienced at work are positively related to ego depletion experienced at home via—amongst others—a lack of psychological detachment ( $\beta = .03, p < .05$ ), thereby supporting hypothesis 6.

**Crossover.** In support of crossover hypothesis 7, the actor's daily level of ego depletion was significantly and positively related with the actor's partner level of ego depletion that day ( $\beta = .20, p < .01$ ). Moreover, the actor's partner level of ego depletion was significantly negative

associated with his/her level of giving spousal support as rated by the actor ( $\beta = -.19, p < .001$ ) and significantly positive associated with his/her level of initiating spousal conflict as rated by the actor ( $\beta = .19, p < .001$ ), thereby supporting hypothesis 8 and 9. Moreover, the BIC values ( $BIC_{full\ mediation} = 5106.956 < BIC_{partial\ mediation} = 5113.875$ ) provided stronger support for a full mediation model. Specifically, ego depletion of the actor's partner mediated the relation between ego depletion of the actor and spousal support ( $\beta = -.04, p < .05$ ) as well as spousal conflict ( $\beta = .04, p < .05$ ) initiated by the actor's partner (as rated by the actor), thereby supporting hypothesis 10 and 11. Figure 2 represents the results of the three-level path analysis.

[Insert Figure 2 about here]

### **Additional analysis**

Taking the ongoing debate on whether psychological detachment should be conceptualized as a moderator and/or mediator (e.g., Safstrom & Hartig, 2013) in the relationship between job stressors and well-being outcomes into account, we also tested the moderating role<sup>1</sup> of psychological detachment in our sample for reasons of completeness. However, we did not find support for psychological detachment moderating the relationship between self-control demands encountered at work and ego depletion experienced at home ( $\beta = .01, p = .85$ ).

## **Discussion**

This dyadic diary study examined the immediate and prolonged influence of self-control demands experienced at work on ego depletion experienced at work and at home, and whether the resource-depleting spillover process between self-control demands experienced at work and ego depletion experienced at home operates through (and/or additionally was attenuated by) psychological detachment. Besides this possible spillover effect of self-control demands to the

---

<sup>1</sup> The stressor-detachment model states that psychological detachment buffers the relationship between job stressors and well-being outcomes (e.g., exhaustion; see meta-analysis of Sonnentag & Fritz, 2015). This buffering role can be ascribed to the resource replenishing and gaining characteristics of psychologically detaching (e.g., self-control), which counteract the resource loss initiated by job stressors (e.g., self-control demands).

family context, we examined the direct crossover of experienced ego depletion at home from an actor to the actor's partner and whether an actor's ego depleted partner negatively relates to spousal interactions.

### **Discussing the results, their implications and alternative explanations**

**Spillover.** The strength model of self-control states that after the initial investment of self-control resources in dealing with self-control demands, employees subsequently lack these resources for some period of time (i.e., depletion effect; Baumeister et al., 1998; Muraven et al., 1998). Recent meta-analytic findings based on experimental studies on self-control questioned and found only limited to no support at all for this depletion effect of self-control resources and the transference of the depletion effect to different domains (Carter, Kofler, Forster, & McCullough, 2015). However, not only do our research findings—based on employees' personal perceptions of their level of ego depletion in their own daily work and home environment—support the (prolonged) depletion hypothesis, they also stress the spillover of the depletion effect to a different life domain, and—even more interestingly—demonstrate the crossover of this depletion effect between partners. More in particular, we found that the more an employee is urged to inhibit, alter or override automatic and spontaneous behaviors, emotions and desires at work, the more self-control resources will be drained thereby thwarting subsequent acts of self-control at work as well as later at home. These findings confirm prior research that self-control demands effects endure even in the absence of the demands and across domains (Cohen & Lieberman, 2010; Hagger et al., 2010).

Expanding the stressor-detachment model, we examined whether job stressors (e.g., self-control demands) as well as the associated negative well-being outcomes (e.g., ego depletion) hinder an employee's psychological detachment from work at home. Until now, research focused on workload, time pressure and role conflict as (impairing) antecedents of (daily) psychological detachment (see meta-analysis of Sonnentag & Fritz, 2015). However,

we further expanded this list of job stressors by examining the daily influence of self-control demands and ego depletion at work on psychologically detaching at home. Consistent with prior findings that self-control demands result in negative physiological and psychological stress reactions (e.g., Muraven et al., 1998; Segerstrom et al., 2007), which interferes with psychological detachment (Bono et al., 2013), we found that the more self-control resources are taxed at work, the less likely an employee will be able to purposefully redirect his/her attention from work-related matters at home (i.e., psychologically detach). In addition, the stressful state of lacking self-control resources (i.e., ego depletion) at the end of the workday might also hinder an employee to redirect work-related thinking and behavior at home—although we must be careful when drawing on this conclusion as the result was only marginally significant—.

In turn, on days when an employee is not able to mentally and physically leave one's work behind, the (self-control) demands at work will continue to consume and deplete one's (limited self-control) resource pool—in other words these resources are not being replenished—resulting in feelings of ego depletion at home. This finding confirms prior research stating that poor psychological detachment directly relates to detrimental well-being outcomes (e.g., negative affect, exhaustion; see meta-analysis of Sonnentag & Fritz, 2015).

Although, the stressor-detachment model postulated both a moderating and mediating role of psychological detachment in the association between job stressors and well-being outcomes (Sonnentag, 2010), previous studies—with only a few exceptions (e.g., Germeys & De Gieter, 2017; ten Brummelhuis, & Bakker, 2012)—focused on the moderating role (e.g., Sonnentag, Binnewies, & Mojza, 2010). We found that psychological detachment at home mediated—but not moderated—the resource-depleting relationship between self-control demands at work and feeling ego depleted at home. In other words, besides having a direct relation, self-control demands at work increase an employee's feelings of ego depletion at home

via an impaired psychological detachment from work or impaired replenishment of the self-control resources. However, being able to leave one's work behind with the associated resources gains does not attenuate this direct relation. As such we found partial support for the stressor-detachment model (Sonnentag & Fritz, 2015). However, prior research findings already indirectly pointed towards the need to examine psychological detachment as a mediator—instead of or on top of the dominant moderator approach—. Specifically, the limited increase in explained variance by adding the moderation of psychological detachment (e.g., Sonnentag et al., 2010) and the high intercorrelation between job stressors and detachment (e.g., Moreno-Jiménez, Rodríguez-Munoz, Pastor, Sanz-Vergel, & Garrosa, 2009) are indicative for a mediating instead of a moderating role. Nevertheless, we would recommend future studies to examine the mediating and moderating role of psychological detachment and to examine alternative mediating (e.g., problem-solving coping strategy) and moderating (e.g., positive affect, social support, self-efficacy) pathways in the spillover process between self-control demands at work and feelings of ego depletion at home.

**Crossover.** This study is—to our knowledge—the first to examine the direct daily crossover of an actor's lack of self-control resources at home to the actor's (life) partner. We found that the more ego depletion an actor experienced at home, the more ego depletion the actor's partner would experience. The actor's inattentive considerations towards the his/her partner might instigate this partner to invest self-control resources him/herself, thereby depleting his/her limited resource pool. This finding extends prior empirical findings of negative crossover within dual-earner couples (e.g., burnout; Bakker, Demerouti, & Schaufeli, 2005) by investigating crossover of state (daily) ego depletion. Moreover, this finding strengthens the importance to alleviate the negative spillover of self-control demands at work to ego depletion experienced at home to prevent an actor's partner to also feel depleted of self-control resources.

Ego depletion is an important variable in itself as prior research found that it relates to cognitive impairments (e.g., decreased mental efficiency; Schmeichel, Vohs, & Baumeister, 2003), behavioral control impairments (e.g., increased likelihood to lie; DeBono et al., 2010) and psychological strain (Muraven, Tice, & Baumeister, 1998). In this study, we focused on spousal behavioral control impairments. Specifically, we found that the more an actor's partner experiences ego depletion at home, the less likely he/she will provide spousal support and the more likely he/she will initiate spousal conflict that evening towards the actor. Ego depleted individuals lack the necessary or want to conserve the remaining self-control resources (Baumeister & Vohs, 2007; Hagger et al., 2010). Consequently, these individuals lack the capacity to override automatically driven selfish behavior in favor of their spouse's best interests. Prior research found similar results in the work context, with ego depletion relating negatively to organizational citizenship behaviors directed towards individuals (e.g., helping a colleague; Trougakos et al., 2015) and positively with counterproductive work behaviors towards a colleague or supervisor (e.g., ignoring a colleague; Rosen, Koopman, Gabriel, & Johnson, 2016; Wang et al., 2011). Our findings expand prior knowledge by extending the focus to employees' home domain, namely their spousal interactions. Moreover, besides the research finding that actor's ego depletion crosses over and instigates the ego depletion of the actor's partner, it will—respectively negatively and positively—impact this partner's enactment of spousal support and spousal conflict towards the actor—among others—via inducing a lack of self-control resources of the partner.

### **Limitations and suggestions for future research**

The current study is subject to some limitations and opens up new avenues for further research. Our study design does not allow us to infer directionality nor causality between our focal variables. Although we assessed employees twice a day, made use of partner-rated measures (i.e., spousal support and conflict) and tested alternative models, we recommend

future research to assess concepts multiple times and separate their measurements in time throughout the day, for example by using experience sampling designs. Besides temporal spacing of research variables which gives an indication of (temporal) directionality, researchers could rely on experimental designs to assess causality (Fisher & To, 2012).

Moreover, we used self-reported time stamps in our paper-and-pencil surveys of which we cannot verify the truthfulness. However, we took some steps to minimize this possibility (e.g., not offering any incentive contingent on completion). Studies examining the work-home interface often rely on paper-and-pencil booklets to avoid attrition due to assessing variables at work as well as at home (for a similar approach see Volman, Bakker, & Xanthopoulou, 2013). However, to objectify the time and day of survey completion, we recommend future research to rely on electronic surveys with automatic time stamps.

Third, we found support for the mediating role of psychological detachment in the daily relationship between self-control demands at work and ego depletion at home. However, given the small coefficients of this mediation, we recommend future research to examine additional mediating variables. Possible mediating mechanisms could be other forms of recovery (e.g., relaxation) or work-family interpersonal capitalization—that is, sharing positive news about work with significant others (Ilies, Keeney, & Scott, 2011)—as stressing positive events could offset the negative consequences related to self-control demands or motivation to initiate self-control (e.g., autonomous versus controlled)<sup>2</sup>. Moreover, researchers could examine the relative difference in magnitude between the mediating mechanisms, as this would give an indication of which mechanism is most effectively in avoiding the negative spillover.

In the current study, we focused on psychological detachment at home and on an individual actor and his/her partner. It could however be interesting to examine the relationship between self-control demands, psychological detachment and ego depletion during the workday

---

<sup>2</sup> We thank an anonymous reviewer for this suggestion.



itself. Could implementing more opportunities to recover from work during working hours prevent ego depletion from entering the home domain? Subsequently, it would be interesting to examine whether the effects of ego depletion at home expand beyond the actor's partner (e.g., children). Moreover, scholars could examine the role of the organizational context in the spillover of self-control demands at work to ego depletion at home. Organizational culture—and more specifically the degree to which an organization supports the work-family balance of their employees—might influence this relationship. Self-control demands encountered in a (family-)supportive organization could potentially be less strongly related or unrelated to the experiences of ego depletion later that day (at home).

In this study, we utilize self-control demands as a job stressor distinct from other job stressors. However, to date the exact nature of self-control demands with reference to other job stressors remains largely unknown. Whereas scholars already found that self-control demands explained variance above and beyond variance explained by other job stressors (e.g. role ambiguity; Schmidt & Neubach, 2007), dealing with many job stressors calls upon the use of self-control resources. For example, emotional dissonance—that is displaying emotions that are not truly felt—requires an employee to display a specific impression by modifying spontaneous emotions (Diestel & Schmidt, 2011). Moreover, cognitive demands and workload might cause regulation problems by overtaxing employees' abilities thereby impairing goal-directed behavior (e.g., Sonnentag & Frese, 2003). To that end, employees might feel the need to invest self-control resources, such as by resisting distractions and overcoming inner resistances. Future research could examine the unique nature or possible overlap/meta-status of self-control demands in relation to other job stressors.

In addition, the exact mechanism through which ego depletion of an actor crosses over to the actor's partner remains unknown. One such crossover mechanism could be the transmission of stress (i.e., actor's stress resulting from work-related activities becomes a

stressor for the actor's partner; e.g., Bakker et al., 2008; Ferguson, 2012). Another possible mechanism through which ego depletion potentially crosses over between life partners is empathy (i.e., sharing each other's feelings by imaging the partner's circumstances and position; Westman, 2001). Unraveling the underlying operating mechanisms that bring about crossover of ego depletion, could be valuable to intervene this detrimental crossover.

### **Practical implications**

Given the prevalence of dual-earner couples and self-control demands in today's work environment, understanding the temporal relationship with psychological detachment, ego depletion and the detrimental spillover and crossover effects provides policy makers with a powerful instrument.

Firstly, it is important to raise employees' awareness of the potential work-related and private detrimental consequences of having to exert self-control at work. Self-control demands often form an inevitable part of the job, thereby limiting the possibility to reduce the overall general amount. However, prior research found that fluctuations in self-control demands directly impacted one's energy levels (Prem et al., 2016). To that end, we would advise to spread the taxation of self-control demands throughout the day, as this would allow employees to recharge their pool of self-control resources in the meanwhile by taking short micro breaks from work (Troughakos, Beal, Green, & Weiss, 2008). Moreover, every employee could benefit from self-control training to be better prepared to handle next occasions of high self-control demands (Berkman, 2016). This is especially valuable as these trainings are not solely aimed at improving an employee's exertion of self-control but moreover would prevent the detrimental effects that come with it. In addition, as previous studies showed that resources can offset the negative consequences associated with self-control demands, we recommend organizations to promote and enhance the level of experienced resources, for example autonomy (Neubach & Schmidt, 2007; Prem et al., 2016).

Secondly, psychological detachment might prevent the experience of ego depletion. As “mentally switching off” from work can be trained (Hahn et al., 2011), it would be valuable for organizations to provide this training, particularly for employees who experience high job stressors. Moreover, given the increasing permeable boundaries between work and private life (e.g., working from home, work-related smartphone use at home) organizations should have a clear-cut policy about work-related expectations on working hours and availabilities at home (i.e., after working hours). In addition, employees should try to enhance psychological detachment by consciously refraining from or at least limiting their work-related activities in the evening (e.g., checking mails late at night). Employees can foster psychological detachment by engaging in non-work related activities that require their full attention such as physical exercises or social activities (Cropley, Rydstedt, Devereux, & Middleton, 2015) or reflect upon positive work experiences (Bono et al., 2013). Another way to reduce thinking about work—or in other words increase the likelihood to psychologically detach—is by engaging in mindfulness exercises (Querstret, Cropley, & Fife-Schaw, 2017). Intervention studies already found support for the beneficial effect of being mindful during working hours on psychological detachment at home (Hülshager et al., 2014).

Thirdly, an employee’s experienced level of ego depletion resulting from work experiences did not remain in the work domain, but spilled over to the home domain, crossed over to his/her life partner and moreover related to dysfunctional spousal interaction. To prevent this negative crossover, the individual should search for possibilities to replenish resources. Employees could for example outsource household chores by hiring domestic help. However, as self-control normally inhibits automatic impulses in favor of long-term goals (e.g., relationship satisfaction), ego depletion can operate in an automatic or non-conscious way (Baumeister et al., 1998). As a result, preventing negative outcomes might be more difficult compared to preventing the experience of ego depletion before the initial onset. To that end,

organizations could support their employees by providing family-friendly policies (e.g., child care during vacations, laundry services), and monitor and lower the levels of experienced job stressors by their employees.

## References

- Abbey, A., Abramis, D. J., & Caplan, R. D. (1985). Effects of different sources of social support and social conflict on emotional well-being. *Basic and Applied Social Psychology*, 6, 111–129. doi: 10.1207/s15324834basp0602\_2
- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interactions*. Newbury Park, CA: Sage Publications.
- Anderson, M. C., & Levy, B. J. (2009). Suppressing unwanted memories. *Current Directions in Psychological Science*, 18, 189–194. doi: 10.1111/j.1467-8721.2009.01634.x
- Bakker, A. B., & Demerouti, E. (2008). Towards a model of work engagement. *Career Development International*, 13, 209–223. doi: 10.1108/13620430810870476
- Bakker, A. B., Demerouti, E., & Burke, R. (2009). Workaholism and relationship quality: A spillover-crossover perspective. *Journal of Occupational Health Psychology*, 14, 23–33. doi: 10.1037/a0013290
- Bakker, A. B., Demerouti, E., & Dollard, M. (2008). How job demands influence partners' experience of exhaustion: Integrating work-family conflict and crossover theory. *Journal of Applied Psychology*, 93, 901–911. doi: 10.1037/0021-9010.93.4.901
- Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2005). The crossover of burnout and work engagement among working couples. *Human relations*, 58, 661–689. doi: 10.1177/0018726705055967
- Baraldi, A.N. & Enders, C.K. (2010). An introduction to modern missing data analyses. *Journal of School Psychology*, 48, 5–37. doi:10.1016/j.jsp.2009.10.001
- Bass, B. (1998). *Transformational leadership: Industrial, military, and educational impact*. Mahwah, N.J.: Lawrence Erlbaum Associates
- Baumeister, R. F. (2000). Ego depletion and the self's executive function. In A. Tesser & R. B. Felson (Eds.), *Psychological perspectives on self and identity* (pp. 9 – 33). Washington, DC: American Psychological Association.
- Baumeister, R. F. (2002). Ego depletion and self-control failure: An energy model of the self's executive function. *Self and Identity*, 1, 129–136. doi: 10.1080/152988602317319302
- Baumeister, R. F., Bratslavsky, E., Muraven, M., & Tice, D. M. (1998). Ego-depletion: Is the active self a limited resource? *Journal of Personality and Social Psychology*, 74, 1252–1265. doi: 10.1037/0022-3514.74.5.1252
- Baumeister, R. F., Vohs, K. D. & Tice, D. M. (2007). The strength model of self-control. *Current Directions in Psychological Science*, 16, 351–355. doi: 10.1111/j.1467-

- Berkman, E. T. (2016). Self-regulation training. In K. D. Vohs, & R. F. Baumeister (Eds.), *Handbook of self-regulation: Research, theory, and applications* (3rd ed., pp. 440–457). New York, NY: Guilford.
- Bertrams, A., Unger, A., & Dickhäuser, O. (2011). Momentan verfügbare Selbstkontrollkraft – Vorstellung eines Messinstruments und erste Befunde aus pädagogisch-psychologischen Kontexten. *Zeitschrift für Pädagogische Psychologie*, 25, 185–196. doi: 10.1024/1010-0652/a000042
- Bolger, N., DeLongis, A., Kessler, R., & Wethington, E. (1989). The contagion of stress across multiple roles. *Journal of Marriage and the Family*, 51, 175–183. doi: 10.2307/352378
- Bolton, L. R., Harvey, R. D., Grawitch, M. J., & Barber, L. K. (2012). Counterproductive work behaviours in response to emotional exhaustion: A moderated mediational approach. *Stress and Health*, 28, 222–233. doi:10.1002/smi.1425
- Bono, J. E., Glomb, T. M., Shen, W., Kim, E., & Koch, A. J. (2013). Building positive resources: Effects of positive events and positive reflection on work-stress and health. *Academy of Management Journal*, 56, 1601-1627. doi: 10.5465/amj.2011.0272
- Carter, E. C., Kofler, L. M., Forster, D. E., & McCullough, M. E. (2015). A series of meta-analytic tests of the depletion effect: Self-control does not seem to rely on a limited resource. *Journal of Experimental Psychology: General*, 144, 796–815. doi: 10.1037/xge0000083
- Christian, M. S., & Ellis, A. P. J. (2011). Examining the effects of sleep deprivation on workplace deviance: A self-regulatory perspective. *Academy of Management*, 54, 913–934. doi: 10.5465/amj.2010.0179
- Ciarocco, N. J., Twenge, J. M., Muraven, M., and Tice, D. M. (2007). *Measuring State Self-Control: Reliability, Validity, and Correlations with Physical and Psychological Stress*. Monmouth, NJ: Monmouth University. Unpublished Manuscript
- Cohen, J. R., & Lieberman, M. D. (2010). The common neural basis of exerting self-control in multiple domains. In R. R. Hassin, K. N. Ochsner, & Y. Trope (Eds.), *Self control in society, mind, and brain. Oxford series in social cognition and social neuroscience* (pp. 141–160). New York: Oxford University Press.
- Cook, W. L., & Kenny, D. A. (2005). The actor–partner interdependence model: A model of bidirectional effects in developmental studies. *International Journal of Behavioral Development*, 29, 101–109. doi: 10.1080/ 01650250444000405

- Cropley, M., Rydstedt, L. W., Devereux, J. J., & Middleton, B. (2015). The relationship between work-related rumination and evening and morning salivary cortisol secretion. *Stress Health*, 31, 150–157. doi: 10.1002/smi.2538
- Danner-Vlaardingerbroeck, G., Kluwer, E. S., Van Steenbergen, E. F., & Van Der Lippe, T. (2016). How work spills over into the relationship: Self-control matters. *Personal Relationships*, 23, 441–455. doi: 10.1111/pere.12136
- DeBono, A., Shmueli, D., & Muraven, M. (2010). Rude and inappropriate: The role of self-control in following social norms. *Personality and Social Psychology Bulletin*, 37, 136–146. doi: 10.1177/0146167210391478
- Demerouti, E., Bakker, A. B., Sonnentag, S., & Fullagar, C. J. (2012). Work-related flow and energy at work and at home: A study on the role of daily recovery. *Journal of Organizational Behavior*, 33, 276–295. doi: 10.1002/job.760
- DeWall, C. N., Baumeister, R. F., Gailliot, M. T., & Maner, J. K. (2008). Depletion makes the heart grow less helpful: Helping as a function of self-regulatory energy and genetic relatedness. *Personality and Social Psychology Bulletin*, 34, 1653–1662. doi:10.1177/0146167208323981.
- Diamond, A. (2013). Executive functions. *Annual Review of Psychology*, 64, 135–168. doi: 10.1146/annurev-psych-113011-143750
- Diestel, S., & Schmidt, K.-H. (2011). Costs of simultaneous coping with emotional dissonance and self-control demands at work: Results from two German samples. *Journal of Applied Psychology*, 96, 643–653. doi:10.1037/a0022134
- Ferguson, M. (2012). You cannot leave it at the office: Spillover and crossover of coworker incivility. *Journal of Organizational Behavior*, 33, 571–588. doi: 10.1002/job.774
- Fisher, C. D., & To, M. L. (2012). Using experience sampling methodology in organizational behavior. *Journal of Organizational Behavior*, 33, 865–877. doi: 10.1002/job.1803
- Geldhof, G. J., Preacher, K. J., & Zyphur, M. J. (2013). Reliability estimation in a multilevel confirmatory factor analysis framework. *Psychological Methods*, 19, 72–91. doi: 10.1037/a0032138
- Germeys, L., & De Gieter, S. (2017). Psychological detachment mediating the daily relationship between workload and marital satisfaction. *Frontiers in Psychology*, 7, 2036. doi: 10.3389/fpsyg.2016.02036
- Geurts, S., De Bloom, J., Kompier, M. & Sonnentag, S. (2011). *De Herstelervaringen Vragenlijst: Nederlandse vertaling van de Recovery Experience Questionnaire*. Intern rapport. Nijmegen: Radboud Universiteit Nijmegen.

- Hagger, M. S., & Chatzisarantis, N. L. D. (2013). The strength model of self-control: Recent advances and implications for public health. In P. A., Hall (Ed.), *Social Neuroscience and Public Health* (pp. 123–139). New York: Springer.
- Hagger, M. S., Wood, C., Stiff, C., & Chatzisarantis, N. L. D. (2010). Ego depletion and the strength model of self-control: A meta-analysis. *Psychological Bulletin*, 136, 495–525. doi: 10.1037/a0019486
- Hahn, V. C., Binnewies, C., Sonnentag, S., & Mojza, E. J. (2011). Learning how to recover from job stress: Effects of a recovery training program on recovery, recovery-related self-efficacy, and well-being. *Journal of Occupational Health Psychology*, 16, 202–216. doi: 10.1037/a0022169
- Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist*, 44, 513–524. doi: 10.1037/0003-066X.44.3.513
- Hülshager, U. R., Lang, J. W. B., Depenbrock, F., Fehrmann, C., Zijlstra, F. R. H., & Alberts H. J. (2014). The power of presence: The role of mindfulness at work for daily levels and change trajectories of psychological detachment and sleep quality. *Journal of Applied Psychology*, 99, 1113–1128. doi: 10.1037/a0037702
- Ilies, R., Schwind, K. M., Wagner, D. T., Johnson, M. D., Derue, D. S., & Ilgen, D. R. (2007). When can employees have a family life? The effects of daily workload and affect on work-family conflict and social behaviors at home. *Journal of Applied Psychology*, 92, 1368–1379. doi: 10.1037/0021-9010.92.5.1368
- Ilies, R., Keeney, J., & Scott, B. A. (2011). Work–family interpersonal capitalization: Sharing positive work events at home. *Organizational Behavior and Human Decision Processes*, 114, 115–126. doi:10.1016/j.obhdp.2010.10.008
- Kenny, D. A., Kashy, D. A., & Cook, W. L. (2006). *Dyadic data analysis*. New York, NY US: Guilford Press.
- Kline, R. B. (2005). *Principles and practice of structural equation modeling* (2<sup>nd</sup> ed.). New York: The Guilford Press.
- Korunka, C., Kubicek, B., Prem, R., & Cvitan, A. (2012). Recovery and detachment between shifts, and fatigue during a twelve- hour shift. *Work*, 41, 3227–3233. doi: 10.3233/WOR-2012-0587-3227
- Marcoulides, G. A., & Schumacker, R. E. (2009). *New developments and techniques in structural equation modeling*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burn-out. *Annual Review of Psychology*, 52, 397-422.



- Meier, L. L. & Spector, P. E. (2013). Reciprocal effects of work stressors and counterproductive work behavior: A five-wave longitudinal study. *Journal of Applied Psychology*, 98, 529–539. doi: 10.1037/a0031732
- Moreno-Jiménez, B., Rodríguez-Munoz, A., Pastor, J.-C., Sanz-Vergel, A. I., & Garrosa, E. (2009). The moderating effect of psychological detachment and thoughts of revenge in workplace bullying. *Personality and Individual Differences*, 46, 359–364. doi: 10.1016/j.paid.2008.10.031
- Muraven, M., Tice, D. M., & Baumeister, R. F. (1998). Self-control as limited resource: Regulatory depletion patterns. *Journal of Personality and Social Psychology*, 74, 774–789. doi:10.1037/0022-3514.74.3.774
- Muthén, L. K., & Muthén, B. O. (2012). *Mplus user's guide* (7<sup>th</sup> ed.). Los Angeles, CA: Muthén & Muthén.
- Neubach, B., & Schmidt, K.-H. (2007). Entwicklung und Validierung von Skalen zur Erfassung verschiedener Selbstkontrollanforderungen bei der Arbeit. *Zeitschrift für Arbeitswissenschaft*, 61, 35–45.
- Osgood, J. M., & Muraven, M. (2015). Self-Control depletion does not diminish attitudes about being prosocial but does diminish prosocial behaviors. *Basic and Applied Social Psychology*, 37, 68–80. doi: 10.1080/01973533.2014.996225
- Podsakoff, P. M., MacKenzie, S. B., Lee, J., & Podsakoff, N. P. (2003). Common method variance in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88, 879–903. doi: 10.1037/0021-9010.88.5.879
- Preacher, K. J., Zyphur, M. J., & Zhang, Z. (2010). A general multilevel SEM framework for assessing multilevel mediation. *Psychological Methods*, 15, 209–233. doi: 10.1037/a0020141
- Prem, R., Kubicek, B., Diestel, S., & Korunka, C. (2016). Regulatory job stressors and their within-person relationships with ego depletion: The roles of state anxiety, self-control effort, and job autonomy. *Journal of Vocational Behavior*, 92, 22–32. doi: 10.1016/j.jvb.2015.11.004
- Querstret, D., Crompton, M., & Fife-Schaw, C. (2017). Internet-based instructor-led mindfulness for work-related rumination, fatigue, and sleep: Assessing facets of mindfulness as mechanisms of change: A randomized waitlist controlled trial. *Journal of Occupational Health Psychology*, 22, 153–169. doi: 10.1037/ocp0000028

- Rawn, C., & Vohs, K. D. (2006). The importance of self-regulation for interpersonal functioning. In K. Vohs, & E. Finkel (Eds.), *Self and relationships: Connecting intrapersonal and interpersonal processes* (pp. 15–31). New York: Guilford Press.
- Rivkin, W., Diestel, S., & Schmidt, K. H. (2015). Psychological detachment: A moderator in the relationship of self-control demands and job strain. *European Journal of Work and Organizational Psychology, 24*, 376–388. doi: 10.1080/1359432X.2014.924926
- Robinson, J. L., & Demaree, H. A. (2007). Physiological and cognitive effects of expressive dissonance. *Brain and Cognition, 63*, 70–78. doi:10.1016/j.bandc.2006.08.003
- Rosen, C. C., Koopman, J., Gabriel, A. S., & Johnson, R. E. (2016). Who strikes back? A daily investigation of when and why incivility begets incivility. *Journal of Applied Psychology, 101*, 1620–1634. doi: /10.1037/apl0000140
- Safstrom, M., & Hartig, T. (2013). Psychological detachment in the relationship between job stressors and strain. *Behavioral Sciences, 3*, 418–433. doi: 10.3390/bs3030418
- Sanz-Vergel, A. I., Demerouti, E., Bakker, A. B., & Moreno-Jiménez, B. (2011). Daily detachment from work and home: The moderating effect of role salience. *Human Relations, 64*, 775–799. doi: 10.1177/0018726710393368
- Schmeichel, B. J., Vohs, K. D., & Baumeister, R. F. (2003). Intellectual performance and ego depletion: Role of the self in logical reasoning and other information processing. *Journal of Personality and Social Psychology, 85*, 33–46. doi:10.1037/0022-3514.85.1.33
- Schmidt, K. -H., & Diestel, S. (2012). The relation of self-control demands to job strain: The moderating role of organisational commitment. *Applied Psychology: An International Review, 61*, 479–497. doi: 10.1111/j.1464-0597.2011.00479.x
- Schmidt, K.-H., & Neubach, B. (2007). Self-control demands: A source of stress at work. *International Journal of Stress Management, 14*, 398–416. doi: 10.1037/1072-5245.14.4.398
- Segerstrom, S. C., & Solberg Nes, L. (2007). Heart rate variability reflects self-regulatory strength, effort, and fatigue. *Psychological Science, 18*, 275–281. doi: 10.1111/j.1467-9280.2007.01888.x
- Shiffrin, R. M., & Schneider, W. (1977). Controlled and automatic human information processing: II. Perceptual learning, automatic attending, and a general theory. *Psychological Review, 84*, 127–190. doi: 10.1037/0033-295X.84.2.127
- Sluiter, J. K., de Croon, E. M., Meijman, T. F., & Frings-Dresen, M. H. W. (2003). Need for recovery from work related fatigue and its role in the development and prediction of

- subjective health complaints. *Occupational and Environmental Medicine*, 60, 62–70. doi: 10.1136/oem.60.suppl\_1.i62
- Sonnentag, S. (2010). Recovery from fatigue: The role of psychological detachment. In P. L. Ackerman (Ed.), *Cognitive fatigue: The current status and future for research and application* (pp. 253–272). Washington, CD: American Psychological Association. doi: 10.1037/12343-012
- Sonnentag, S. (2012). Psychological detachment from work during leisure time: The benefits of mentally disengaging from work. *Current Directions in Psychological Science*, 21, 114–118. doi: 10.1177/0963721411434979
- Sonnentag, S., Arbeus, H., Mahn, C., & Fritz, C. (2014). Exhaustion and lack of psychological detachment from work during off-job time: moderator effects of time pressure and leisure experiences. *Journal of Occupational Health Psychology*, 19, 206–216. doi: 10.1037/a0035760
- Sonnentag, S., & Bayer, U. V. (2005). Switching off mentally: Predictors and consequences of psychological detachment from work during off-job time. *Journal of Occupational Health Psychology*, 10, 393–414. doi: 10.2486/indhealth.2013-0210
- Sonnentag, S., Binnewies, C., & Mojza, E. J. (2010). Staying well and engaged when demands are high: The role of psychological detachment. *Journal of Applied Psychology*, 95, 965–976. doi: 10.1037/a0020032
- Sonnentag, S., & Frese, M. (2003). Stress in organizations. In W. C. Borman, D. R. Ilgen, & R. J. Klimoski (Eds.), *Comprehensive handbook of psychology. Industrial and Organizational Psychology* (Vol. 12, pp. 453–491). New York, NY: Wiley.
- Sonnentag, S., & Fritz, C. (2007a). Recovery from job stress: The stressor-detachment model as an integrative framework. *Journal of Organizational Behavior*, 36, 72–103. doi: 10.1002/job
- Sonnentag, S., & Fritz, C. (2007b). The recovery experience questionnaire: Development and validation of a measure for assessing recuperation and unwinding from work. *Journal of Occupational Health Psychology*, 12, 204–221. doi: 10.1037/1076-8998.12.3.204
- Sonnentag, S., & Fritz C. (2015). Recovery from job stress: The stressor-detachment model as an integrative framework. *Journal of Organizational Behavior*, 36, 72–103. doi: 10.1002/job.1924
- Tangney, J. P., Baumeister, R. F., & Boone, A. L. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of Personality*, 72, 271–324. doi:10.1111/j.0022-3506.2004.00263.x

- ten Brummelhuis, L. L., & Bakker, A. B. (2012). A resource perspective on the work–home interface: The work–home resources model. *American Psychologist*, 67, 545–556. doi:10.1037/a0027974
- Tice, D. M., Baumeister, R. F., Shmueli, D., & Muraven, M. 2007. Restoring the self: Positive affect helps improve self-regulation following ego depletion. *Journal of Experimental Social Psychology*, 43, 379–384. doi: 10.1016/j.jesp.2006.05.007
- Trougakos, J. P., Beal, D. J., Cheng, B. H., Hideg, I., & Zweig, D. (2015). Too drained to help: A resource depletion perspective on daily interpersonal citizenship behaviors. *Journal of Applied Psychology*, 100, 227–236. doi: 10.1037/a0038082
- Trougakos, J. P., Beal, D. J., Green, S. G., & Weiss, H. M. (2008). Making the break count: An episodic examination of recovery activities, emotional experiences, and positive affective displays. *Academy of Management Journal*, 51, 131–146. doi: 10.5465/AMJ.2008.30764063
- Tyler, J. M., & Burns, K. C. (2008). After depletion: The replenishment of the self's regulatory resources. *Self and Identity*, 7, 305–321. doi: 10.1080/15298860701799997
- Volman, F. E., Bakker, A. B., & Xanthopoulou, D. (2013). Recovery at home and performance at work: A diary study on self–family facilitation. *European Journal of Work and Organizational Psychology*, 22, 218–234. doi: 10.1080/1359432X.2011.648375
- Wang, M., Liao, H., Zhan, Y., & Shi, J. (2011). Daily customer mistreatment and employee sabotage against customers: Examining emotion and resource perspectives. *Academy of Management Journal*, 54, 312–334. doi: 10.5465/AMJ.2011.60263093
- Westman, M. (2001). Stress and strain crossover. *Human Relations*, 54, 557–591. doi: 10.1177/0018726701546002
- Xu, H., Bègue, L., & Bushman, B. J. (2012). Too fatigued to care: Ego depletion, guilt, and prosocial behavior. *Journal of Experimental Social Psychology*, 48, 1183–1186. doi: 10.1016/j.jesp.2012.03.007
- Yam, K. C., Fehr, R., Keng-Highberger, F. T., Klotz, A. C., & Reynolds, S. J. (2016). Out of control: A self-control perspective on the link between surface acting and abusive supervision. *Journal of Applied Psychology*, 101, 292–301. doi: 10.1037/apl0000043

Table 1. *Comparing BIC values of hypothesized and alternative models.*

Modification compared to hypothesized model:	<i>BIC</i>
None (i.e., hypothesized model)	5106.956
Ego depletion at work → self-control demands at work	6193.173
Ego depletion at home → psychological detachment	5110.593
Spousal support → ego depletion at home	5137.045
Spousal conflict → ego depletion at home	5145.538

Table 2. Means, standard deviations, intraclass correlations, zero-order and person-centered correlations among the focal variables.

	<i>M</i>	<i>SD</i>	<i>ICC</i> (couple)	<i>ICC</i> (person)	<i>ICC</i> (day)	1.	2.	3.	4.	5.	6.
1. Self-control demands	2.94	0.93	.12	.37	.51	-	.24***	-.17**	.18**	-.01	.04
2. Ego depletion (at work)	1.98	.73	.17	.28	.55	.32***	-	-.12**	.40***	.01	.01
3. Psychological detachment	3.47	1.16	.16	.43	.41	-.29**	-.19***	-	-.19**	.16**	-.11*
4. Ego depletion (at home)	2.40	0.82	.09	.39	.52	.24**	.58***	-.15**	-	-.15**	.13**
5. Spousal support	3.83	0.71	.21	.25	.54	.01	-.14**	.15**	-.14**	-	-.29**
6. Spousal conflict	1.68	0.66	.19	.17	.64	.08	.20***	-.13**	.22**	-.35**	-

Notes. \*:  $p < .01$ . \*\*:  $p < .001$ . Means and standard deviations were computed on the raw data.

Zero-order correlations are presented below the diagonal ( $N = 131$ ) and were computed by aggregating each research variable within employees across days. Person-centered correlations are presented above the diagonal ( $N = 651$ ) and were computed for each research variable by person-mean centering, that is subtracting an employee's mean across days from each daily response.

Figure 1. Hypothesized relationships.

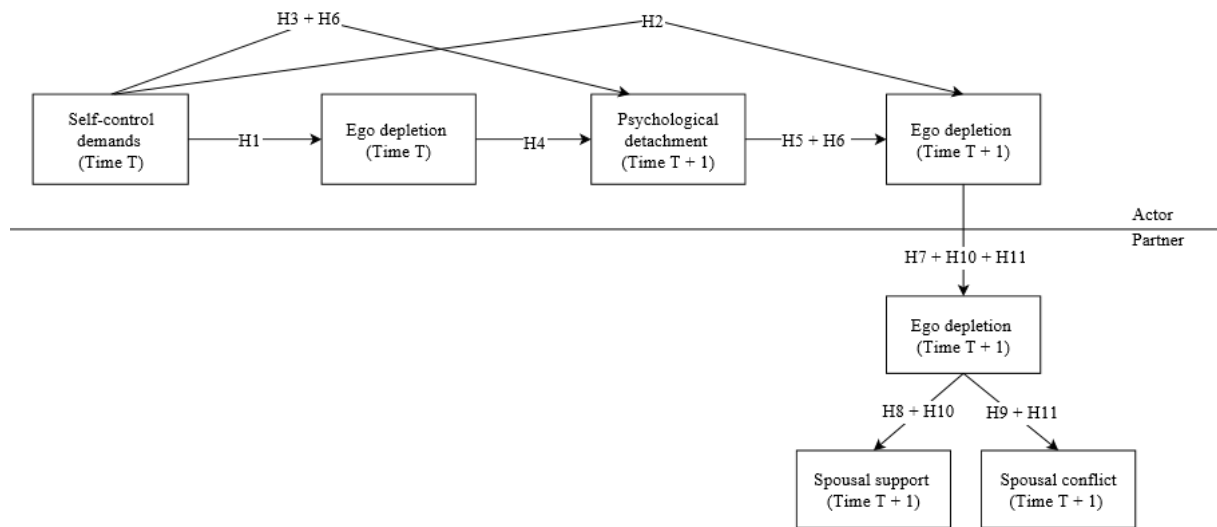
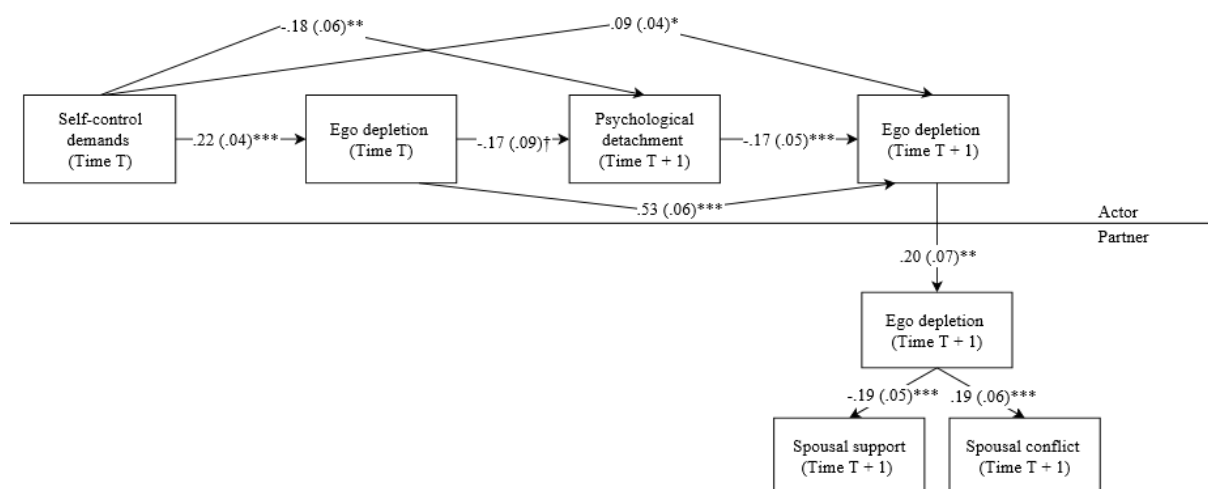


Figure 2. Results of the three-level path analysis.



Notes.  $^{\dagger}$ :  $p < .10$ , \*:  $p < .05$ , \*\*:  $p < .01$ , \*\*\*:  $p < .001$ .



## Appendix A.

*Multilevel confirmatory factor analyses of hypothesized and alternative models.*

<b>Model</b>	<b><i>CFI</i></b>	<b><i>TLI</i></b>	<b><i>RMSEA</i></b>	<b><i>SRMR<sub>within</sub></i></b>
Six factor model: Hypothesized model	.89	.88	.05	.06
Four factor model: Ego depletion at work and at home combined into one factor	.83	.82	.07	.07
Four factor model: Spousal conflict and spousal support combined into one factor	.84	.82	.07	.07
Three factor model: Self-control demands, ego depletion at work and at home combined into one factor	.81	.79	.07	.07
One factor model: All factors combined into one factor	.35	.30	.13	.14