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Affective commitment as a moderator of the adverse relationships between day-specific self-control demands and psychological well-being

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Abstract

Recent research has focused on the day-specific adverse effects of stressors at work. Thus, in the present study, we examine the relationships between day-specific work-related self-control demands (SCDs) as a stressor and day-specific indicators of psychological well-being (ego depletion, need for recovery, and work engagement). On the basis of the limited strength model of self-control, we predict that SCDs deplete limited regulatory resources and impair psychological well-being. Furthermore, we propose affective commitment as a buffering moderator of this relationship. Consistent with the broaden and build theory of positive emotions and the self-determination theory, we suggest that affective commitment satisfies employees basic psychological needs and provides positive emotions, which, in turn, help restore limited regulatory resources. Thus, affective commitment should buffer the negative relationships between day-specific SCDs and day-specific psychological well-being. To examine our hypotheses, we conducted a diary study with N=60 employees over 10 working days and used multi-level models to test our predictions. Our results demonstrated that day-specific SCDs indeed impaired indicators of psychological well-being. Furthermore, affective commitment buffered these adverse relationships; thus, on days with high SCDs, highly committed employees reported higher levels of psychological well-being than did less committed employees.

Keywords: Self-control demands, Organizational commitment, Diary study, Multi-level analysis, Ego depletion, Psychological well-being.

Affective commitment as a moderator of the adverse relationships between day-specific self-control demands and psychological well-being

Today's work is characterized by highly dynamic and complex environments that require employees to be flexible and adapt to different demands, such as regulate emotions towards colleagues and clients, monitor goal directed behavior or motivate themselves to perform unattractive tasks (e.g., Cascio, 2003). These demands cannot be met by automatic rigid behavioral patterns; rather, they cause employees to exert self-control to cope with these situational requirements (Schmidt & Diestel, in press). Self-control involves the inhibition, modification, or override of spontaneous and automatic reactions, urges, emotions, and desires that would otherwise interfere with goal-directed behavior and impede goal achievement at work (Baumeister, Heatherton, & Tice, 1994). Despite the positive effects of self-control on personal success in many domains of life (Baumeister & Vohs, 2004), a growing body of research indicates that frequent acts of self-control can lead to impairments in cognitive and behavioral control (Hagger, Wood, Stiff, & Chatzisarantis, 2010). These findings are consistent with the limited strength model of self-control, which states that different acts of self-control consume a common limited regulatory resource and can cause impairments in psychological well-being (Muraven & Baumeister, 2000).

Consistent with this proposition, multiple studies have demonstrated that self-control demands (SCDs) at work, which require individuals to engage in self-control, predict strain and impaired psychological well-being (for an overview, see Schmidt & Diestel, in press). In view of these detrimental effects of SCDs, previous research has also focused on resources defined as "those (...) aspects of the job that (...) may reduce demands and associated physiological and psychological costs" (Hobfoll, 2002). For example, recent evidence indicates that job control, as

an external resource, as well as psychological detachment, as an internal resource, buffer the adverse effects of SCDs (Schmidt & Diestel, in press).

However, in reference to at least two issues, scholarly knowledge regarding work-related SCDs is limited: First, although many studies provide strong evidence for negative relationships between SCDs and indicators of psychological well-being at the interindividual level (cf. Diestel & Schmidt, 2009), only one experimental study has demonstrated the intraindividual or day-specific effects of SCDs on well-being (Muraven, Collins, Schiffman, & Paty, 2005). Second, our understanding would also benefit from potential moderators of the day-specific relations between SCDs and well-being because experimental research indicates that SCDs do not inevitably result in impaired psychological well-being (Muraven & Slessareva, 2003).

The aim of our present study is to address these drawbacks via an examination of the impact of day-specific SCDs at work on various indicators of psychological well-being (ego depletion, need for recovery, and work engagement). Although SCDs have been demonstrated to be relatively stable sources of work stress (Schmidt & Neubach, 2010), they may also exhibit substantial day-specific fluctuations. For example, on some days, an employee may be involved in frequent quarrels with colleagues or customers at work; thus, these days require the exertion of more self-control than other days on which the same employee has hardly any contact with other individuals at work. Consistent with the strength model of self-control, we predict that high day-specific SCDs consume limited regulatory resources and thus impair day-specific well-being.

Furthermore, we focus on commitment as a potential buffering moderator of the proposed day-specific relationships. In an interindividual cross-sectional study, Schmidt and Diestel (2012) demonstrated that affective commitment moderated (buffered) the adverse impact of job-related SCDs on indicators of psychological strain, such as burnout. Their results are consistent

with both the self-determination theory (SDT; Deci & Ryan, 2000; Ryan & Deci, 2000) and the broaden and build theory of positive emotions (Fredrickson, 2001). The SDT postulates that the satisfaction of basic psychological needs (autonomy, competence, and relatedness) causes intrinsic motivation, which goes along with more autonomous or self-chosen rather than controlled forms of regulation. Muraven, Gagné, and Rosman (2008) propose that autonomous regulation, in turn, is accompanied by positive emotional states. According to the broaden and build theory of positive emotions (Fredrickson & Levenson, 1998), these positive emotional states have the potential to reduce the harmful consequences of negative emotions, which are caused, for example, by stressors, such as SCDs, and to return bodily functions to a neutral state after stressful events. Integrating both theories, we propose that affective commitment satisfies basic psychological needs and thereby induces positive emotions, which, in cases of high SCDs, replenish regulatory resources and thus prevent impairments of psychological well-being.

Our research offers several contributions to the literature on self-control: First, it may provide initial evidence for day to day variations of SCDs at work by demonstrating that SCDs are not only (interindividual) stable attributes of work but may also exhibit day-specific (intraindividual) fluctuations. The introduction of new methods, such as diary studies, in the field of self-control research may also further help understand job-related SCDs by providing evidence that these demands exhibit high day-specific or meaningful intraindividual variations. Second, our study may provide additional insights into the role of job-related SCDs as a source of stress at work by demonstrating that day-specific SCDs may also impair day-specific psychological well-being. Finally, to our knowledge, the present research is the first to examine the psychological function of affective commitment in coping with day-specific job demands. Thus, we may expand our conceptual view of affective commitment as a protective resource (cf.

Meyer & Maltin, 2010) by demonstrating moderating effects of affective commitment on intraindividual relationships between stress and well-being.

We first review the literature on self-control. The concept of organizational commitment will subsequently be discussed. Finally, we integrate both lines of research and derive our hypotheses on the buffering effect of affective commitment.

SCDs: A source of stress at work

A large body of empirical evidence has supported the prediction that the exertion of self-control is associated with psychological costs. In a series of experimental studies that demanded two successive acts of self-control (e.g., the suppression of emotions or thoughts and attention control), self-control performance on the second act was consistently impaired, even in apparently unrelated spheres of activity (see Hagger et al., 2010, for a meta-analysis).

While a major part of research has focused on the cognitive and behavioral consequences of self-control (Hagger, et al., 2010), recent research in occupational health psychology has also demonstrated that demands on self-control constitute a major stressor at work. Schmidt and Neubach (2007) identified three forms of SCDs at work. First, impulse control refers to the demand to inhibit spontaneous, impulsive response tendencies and associated affective states, which manifest, for example, in injudicious expressions. Second, resisting distractions involves the requirement to ignore or resist distractions evoked by task irrelevant stimuli. Third, overcoming inner resistances relates to the requirement to overcome motivational deficits that result from unattractive tasks. Multiple studies have demonstrated that these forms were related to an increase in indicators of strain (e.g., burnout and depression) and a decrease in productivity (e.g., absenteeism; Diestel & Schmidt, 2011). These adverse effects can be accounted for by the strength model of self-control (Muraven & Baumeister, 2000), which proposes that SCDs cause

employees to engage in self-control, which, in turn, depletes limited regulatory resources and thereby impairs psychological well-being.

Under the assumption that SCDs represent relatively stable work-characteristics (12 to 24 months; Schmidt & Neubach, 2010), most studies on the adverse impact of SCDs have examined cross-sectional data and analyzed the relationships on the basis of interindividual variations in SCDs and psychological well-being. However, Muraven et al. (2005) suggest that there may also be day-specific (intraindividual) variations in SCDs. In a study on the relationship of SCDs and alcohol consumption, they argue that SCDs vary from day to day because events that require self-control (e.g., anger-provoking or frustrating events) may occur more frequently on some days than on other days. Consistent with previous findings regarding the depleting effects of SCDs, they demonstrated that day-specific SCDs were positively related to alcohol consumption on the same day. Accordingly, we propose day-specific fluctuations in job-related SCDs because events at work that require self-control, such as the impolite behavior of, insults from, or quarrels with other individuals, may occur more frequently on some days than on other days. Consistent with the strength model of self-control, we predict that these events and associated day-specific SCDs are negatively related to psychological well-being (on an intraindividual level).

As outcomes, we use ego depletion, need for recovery and work engagement. Previous research has demonstrated that these outcomes constitute short-term indicators of well-being that correspond with day-specific fluctuations of stressors (Rivkin, Diestel, & Schmidt, 2014a, Diestel, Rivkin, & Schmidt, in press). Ego depletion refers to a state of regulatory resource depletion and an inner experience of exhaustion that results from SCDs (Baumeister, Bratslavsky, Muraven, & Tice, 1998). Need for recovery reflects the need to recuperate from work tasks that is strongest in the last hours of work and directly after work (Van Veldhoven &

Broersen, 2003). These indicators represent cognitive and behavioral manifestations of regulatory resource depletion; thus, they should be influenced by day-specific SCDs (Diestel et al., in press).

Work engagement is a fulfilling and motivational state of mind reflected by perceived energy, vitality and mental resilience (vigor), strong work-related involvement (dedication), and being positively engrossed in and focused on work (absorption; Bakker, 2011). Inspired by this conceptualization, Sonnentag, Mojza, Demerouti, and Bakker (2012; p. 844) argued that day-specific work engagement depends on the “availability of energetic and affective resources”, which are consumed by SCDs. This argument derives from the idea that high self-control demands cause shifts of motivation because individuals aim to conserve limited regulatory resources (Baumeister & Vohs, 2004). According to Ryan and Deci (2008), shifts of motivation become manifest in lower vitality, impaired task involvement and less absorption (see also Ryan & Deci, 2008). Thus, we predict that day-specific work engagement is affected by day-specific SCDs. On the basis of these arguments, we propose the following hypothesis:

Hypothesis 1: Day-level SCDs are positively related to day-level (a) ego depletion as well as (b) need for recovery and negatively related to (c) day-level work engagement.

Organizational Commitment

Organizational commitment can be described as “a force that binds an individual to the target and to a course of action of relevance to that target” (Meyer, Becker, & Van Dick, 2006, p. 666). Although early studies have conceptualized commitment as a one-dimensional work attitude, recent research has widely acknowledged a three component model of commitment (affective, normative, and continuance commitment; for an overview, see Meyer & Herscovitch, 2001). Previous research provides consistent evidence for the buffering effects of affective

commitment on stressor-strain relationships (cf. Meyer & Maltin, 2010), which indicates that in contrast to the other components, it has the greatest potential to buffer stressor-strain relationships. Thus, we examine affective commitment as a buffering moderator of the relationships between day-specific SCDs and indicators of psychological well-being.

From a theoretical perspective, we propose that the beneficial effects of affective commitment can be explained via the integration of both the SDT (Deci & Ryan, 2000; Ryan & Deci, 2000) and the broaden and build theory of positive emotions (Fredrickson, 2001). The SDT suggests that the satisfaction of needs for autonomy, competence, and relatedness is positively related to more autonomous regulation. According to Meyer and Maltin (2010), autonomous regulation is involved in activities that are freely chosen and consistent with one's core values, whereas controlled regulation is required when activities aim to gain rewards or avoid punishment. Consistent with this proposition, research in the field of self-control has provided evidence that autonomously chosen self-regulation is less depleting than self-regulation that is enforced or controlled (Muraven, 2008; Muraven et al., 2008). Muraven et al. (2008) argue that these beneficial effects of autonomous regulation are determined by positive emotions. According to Fredrickson (2001), positive emotions broaden an individual's thought-action repertoires and build resources to cope with stressors. Thus, positive emotions have the potential to mitigate the adverse effects of stressors and even create upward spirals of self-reinforcing positive emotions. Consistent with this proposition, studies from basic research demonstrate that in contrast to neutral or negative emotional states, positive emotional states facilitate and speed up the recovery of physiological (e.g., heart rate) and psychological (e.g., regulatory resources) functions to pre-stressor levels after stressful events (e.g., Fredrickson & Levenson, 1998; Tice, Baumeister, Shmueli, & Muraven, 2007). In addition, Tice et al. (2007) demonstrated that

positive emotions reduce the depleting effects of self-control and proposed that positive emotions have the potential to replenish regulatory resources after depletion.

Integrating both theories, we expect affective commitment to be associated with more autonomous forms of regulation (Gagné, Chemolli, Forest, & Koestner, 2008) by providing employees with feelings of safety, security and belonging, which satisfy basic psychological needs. Consequently, in cases of high SCDs and associated regulatory resource depletion, employees that have a strong affective commitment are more likely to perform autonomous regulation than less committed employees. This form of regulation, in turn, is accompanied by positive emotions that restore regulatory resources and thus buffer the adverse consequences of day-specific SCDs. Thus, our second hypothesis is as follows:

Hypothesis 2: Person-level affective commitment moderates the positive relationships between day-specific SCDs and (a) day-specific ego depletion, as well as (b) day-specific need for recovery and the negative relationship between day-specific SCDs and (c) day-specific work engagement: All three intraindividual relationships are attenuated as a function of commitment.

Methods

Participants

Consistent with our predictions that the relationships between SCDs and well-being fluctuate across different working days, we conducted a diary study. As previously discussed, we analyze the direct relationships between SCDs and its interaction with affective commitment and indicators of well-being on the basis of a sample that is foremost comprised of employees from service sector occupations. In their respective occupational fields, the participants had regular contact with clients, patients, customers, or other individuals. Thus, demands for impulse control constitute a major work-related SCD for these participants. For example, to promote customer

satisfaction, employees must conform to organizational display rules, such as being friendly, caring and enthusiastic towards customers. Consequently, they must inhibit affective states or behavioral tendencies that interfere with these display rules. Especially in situations when customers are rude or unfriendly, impulse control is required to overcome these states and conform to organizational display rules. Additionally, employees must carefully consider their language and refrain from injudicious expressions toward customers. Therefore, in the present study, we use impulse control as the dominant self-control demand. In addition, previous research on the adverse effects of different forms of SCDs has also shown that demands on impulse control exhibit relatively consistent and strong positive relationships with a broad spectrum of indicators of job strain (compared with both of the other demands; Diestel & Schmidt, 2011; Schmidt & Neubach, 2007). Thus, our choice to use impulse control demands draws on the finding that this SCD accounts for unique amounts of variance in psychological well-being (see also Schmidt, Neubach & Heuer, 2007).

We recruited our participants from various organizations in Germany through announcements and personal invitation. A final sample of 60 participants (response rate: 66%) was included in our study. Of the participants, 57% were female, 12% worked part time and the mean age was 37.07 (SD = 13.75) years. All participants received € 40 (approx. \$53.26) as compensation for study completion. In advance of the day-specific measurements, the participants responded to a general questionnaire that assessed demographic variables and person-level constructs (e.g., affective commitment). Over 10 consecutive work days, three times per day (521 daily measurement points), the participants completed day-specific questionnaires. At midday, the participants rated day-specific demands on self-control; in the evening after work,

ego depletion, need for recovery, and work engagement were assessed. On weekends or (public) holidays, the diary study was interrupted and continued on the next regular work day.

Measures and control variables

The general questionnaire included age, gender, working-time and affective commitment. In the day-specific questionnaires, we explained that the items of the impulse control scale and all items of psychological well-being refer to momentary experience.

Affective commitment. To measure affective commitment, four items from the German translation (Schmidt, Hollmann, & Sodenkamp, 1998) of Allen and Meyer's (1990) affective commitment scale were used. The scale reflects the affective attachment to and involvement in the organization. A typical item is "This organization has a great deal of personal meaning for me". All items were rated on a 7-point intensity rating scale (1 = not at all; 7 = a great deal).

Impulse control (midday). Six items from the previously described SCDs scale by Neubach and Schmidt (2007) were used to assess the day-specific demands on impulse control. On a 5-point intensity rating scale (1 = not at all; 5 = a great deal), the participants rated the degree to which they had to control their impulses in "the last hours" of work. An example of an item is "In the last hours, my job required me not to lose my temper".

Ego depletion (evening). Day-specific ego depletion was assessed using five items related to the participants' current experiences with resource depletion and low willpower (e.g., "At the moment, I feel increasingly less able to focus on anything."). The scale was developed and validated by Bertrams, Unger, and Dickhäuser (2011), who intended to assess the psychological state of ego depletion proposed by Muraven and Baumeister (2000). All items are scored using a 4-point intensity rating format (1 = not at all; 4 = a great deal).

Need for recovery (evening). We assessed the day-specific need for recovery using five items from Van Veldhoven and Broerson's (2003) scale (e.g., "Today, I cannot really show any interest in other people when I have just come home myself."). In essence, this scale indicates the extent to which employees are incapable of expressing interest in other things and perceive a high requirement for a rest period to recover from straining activities. All items are scored using a 4-point intensity rating format (1 = not at all, 4 = a great deal).

Work engagement (evening). The assessment of day-specific work engagement was based on the nine-item version of the Utrecht Work Engagement Scale (Breevaart, Bakker, Demerouti, & Hetland, 2012; Schaufeli, Bakker, & Salanova, 2006), which was adapted for day-specific assessment and involved three facets: vigor (e.g., "Today, I felt strong and vigorous at my work."), dedication (e.g., "Today, I was enthusiastic about my job."), and absorption (e.g., "Today, I was immersed in my work."). The response format ranges from 0 (never) to 6 (always). As suggested by Xanthopoulou, Bakker, Demerouti, & Schaufeli (2009), we incorporated vigor, dedication and absorption into a general work engagement factor that was computed as the mean of the three facets of work engagement.

Analytical procedure

To test our hypotheses, we used stepwise multi-level modeling with random intercepts and random slopes because the day-level data (level 1) were nested within the person-level data (level 2), and this procedure takes the interdependence of both levels into account (Hox, 2002). All parameter specifications and estimations were conducted with the MLwiN program (Rasbash, Steele, Brown, & Goldstein, 2012). The null model only included the intercept. In Model 1, we added the person-level variables of gender, age, and working-time; Model 2 included the day-specific impulse control demands and person specific affective commitment. In

Model 3, we tested the proposed interactions of the main predictors. When the parameters were estimated in MLWIN, all level 1 variables were centered around the person mean (centering within the clusters), whereas the level 2 variables were centered around the grand mean to reduce the risk of confounding effects (Enders & Tofighi, 2007).

Results

Table 1 displays the descriptive statistics and reliabilities of the study variables. Initially, we examined the within-person (level-1) variance in all three outcomes. For ego depletion and need for recovery, the proportion of within-person variation was 40.8% and 45.2%, respectively. For work engagement, the level-1 variance was 26.2%. Consistent with our proposition of day-specific fluctuations, the results of variance decomposition necessitate the application of multi-level modeling.

- Insert Table 1 approximately here -

Measurement models

Prior to testing our hypotheses, we conducted multi-level confirmatory factor analyses to test the differentiability of the criteria. Ego depletion, need for recovery, and work engagement were tested as separate factors in a three-factor model. As indicated by the fit indices: $\chi^2(298)=724.352$, $p<.01$; root mean square error of approximation (RMSEA) = .052; comparative fit index (CFI) = .909; standard root mean square residual (SRMR) within group portion of the model (SRMR_w) = .063; SRMR between group portion of the model (SRMR_b) = .093, a three-factor model yielded a better data approximation than a one-factor model that integrates all criterion variables into one factor: $\chi^2(304)=2119.10$, $p<.01$; RMSEA = .107; CFI = .614; SRMR_w = .178; SRMR_b = .381.

Test of hypotheses

Hypothesis 1 proposed that day-specific demands on impulse control are positively related to ego depletion and the need for recovery and negatively related to work engagement. Consistent with this proposition, the multi-level estimates indicated that after controlling for demographic variables, impulse control demands were significantly related to all three indicators of well-being with signs corresponding to expectations (cf. Table 3-5). For all outcomes, Model 2 consistently exhibited an improvement of fit compared with Model 1 as indicated by the difference in the log likelihood ratio. Thus, Hypothesis 1 was fully confirmed. Furthermore, affective commitment was negatively related to day-specific ego depletion and the need for recovery and was positively associated with day-specific work engagement.

Hypothesis 2 proposed that affective commitment moderates (buffers) the day-specific relationship between SCDs and all three indicators of well-being. Tables 3-5 demonstrate that the cross-level interaction effects of SCDs and affective commitment on all three indicators of well-being were significant; furthermore, Model 3 provided a better data fit compared with Model 2 as indicated by the significant log likelihood differences. To facilitate the interpretation of the interaction effects, we depicted the interactions and performed simple slope tests, as recommended by Preacher, Curran, and Bauer (2006). As shown in Figures 1-3, the interactions are consistent with our Hypotheses 2 (a-c). In particular, individuals with low levels of affective commitment reported an increase in day-specific ego-depletion and need for recovery as a result of an increase in day-specific SCDs, whereas for the individuals with high affective commitment, the day-specific relationships between SCDs and both strain indicators were not significant. For day-specific work-engagement, we identified a similar interaction pattern: the day-specific negative relationship between SCDs and work-engagement was attenuated as a function of

commitment. Thus, affective commitment attenuated the day-specific adverse relationships between SCDs and ego depletion, need for recovery, and work engagement.

- Insert Table 2-4 approximately here -

- Insert Figure 1 approximately here -

Discussion

Research on self-control strongly suggests that demands on self-control and the associated depletion of regulatory resources are negatively related to psychological well-being (Schmidt & Diestel, in press). Furthermore, there is initial evidence that proposes SCDs may fluctuate from day to day and that these day-specific SCDs draw on and deplete limited regulatory resources (Muraven et al., 2005). On the basis of these propositions, we examined the relationships between job-related day-specific SCDs and day-specific indicators of psychological well-being. Additionally, we sought to identify moderators that may determine day-specific availability, as well as usage of limited regulatory resources, which thus have the potential to attenuate the negative relations of day-specific SCDs and psychological well-being. Our results indicate that SCDs exhibit day-specific fluctuations that are related to day-specific changes in indicators of well-being. More precisely, on days with high SCDs, employees are more likely to suffer from increased ego depletion and need for recovery and impaired work-engagement compared with low day-specific SCDs. In addition, consistent with the SDT and the broaden and build theory of positive emotions, we demonstrate that affective commitment attenuates the day-specific negative relationships between SCDs and psychological well-being. Thus, when SCDs are high, strongly committed employees are less susceptible to impairments in psychological well-being because of SCDs compared with less committed employees. In summary, as

predicted, affective commitment can protect employees from the adverse effects of day-specific SCDs.

Theoretical implications

Our study contributes to the literature on self-control in multiple ways. First, we complement previous studies that examined SCDs as stable attributes of work by providing the initial evidence for day-specific variations in work-related SCDs. Thus, in addition to the interindividual variations of SCDs, our research also demonstrates the intraindividual day-specific variations of SCDs that may be related to day-specific events at work that require employees to exert self-control.

Second, consistent with the limited strength model of self-control, our study provides initial evidence for negative relationships between job-related day-specific SCDs and psychological well-being. Thus, our research complements findings on the adverse impact of job-specific SCDs on long-term indicators of well-being (e.g., Diestel & Schmidt, 2011) by also demonstrating that day-specific SCDs are negatively related to day-specific psychological well-being. It is possible that previous results concerning the adverse effects of global job-specific SCDs on interindividual indicators of psychological well-being may be determined, at least in part, by day-specific relationships between SCDs and indicators of psychological well-being.

Third, consistent with the SDT, our research suggests that commitment fulfills employees' basic psychological needs (autonomy, competence and relatedness) and demonstrates the buffering effects of commitment on the adverse day-specific relationships between SCDs and indicators of psychological well-being. Thus, our findings complement previous research on organizational resources that buffer the adverse consequences of SCDs (e.g., job-control and goal conflicts; cf. Schmidt & Diestel, in press).

Fourth, we integrate the limited strength model of self-control and the broaden and build theory of positive emotions to propose that the buffering effect of affective commitment may be provided through positive emotions associated with it. Although there is broad empirical evidence for the notion that positive emotions are beneficially related to various health outcomes, such as cardiovascular health, illness related physician visits, coping with traumatic events, anxiety and depression (Davis, Nolen-Hoeksema, & Larson, 1998; Folkman & Moskowitz, 2000; Pennebaker & Francis, 1996; Stein Folkman, Trabasso, & Richards, 1997; Tugade, Fredrickson & Feldman, 2004), future research may benefit from an elaboration of the mechanisms that provide these beneficial effects. The undoing hypothesis of positive emotions describes a mechanism that has the potential to account for such beneficial effects. It suggests that “(...) positive emotions should serve a homeostatic role by “undoing” the lingering aftereffects of negative emotional reactivity (...)” (Tugade et al., 2004). Our study supports this hypothesis in the field of self-control because it strongly suggests that the buffering effect of affective commitment is provided by positive emotions that replenish limited regulatory resources. Thus, our study complements findings from experimental research in the field of self-control and positive emotions (Fredrickson & Levenson, 1998; Fredrickson, Mancuso, Branigan, & Tugade, 2000; Tice, Baumeister, Shmueli, & Muraven, 2007; Tyler & Burns, 2008) by providing evidence for the undoing hypothesis from applied research.

Practical implications

Our research offers several implications on how to improve employees psychological well-being. Specifically, in occupations that are characterized by high SCDs, such as service sector occupations, it is necessary to prevent day-specific SCDs and associated impairments of psychological well-being. Previous studies have identified resources that have the potential to

reduce the adverse relationships between SCDs (Schmidt & Diestel, in press) and indicators of well-being. For example, psychological detachment, which refers to an individual's experienced state of mental disengagement from work during leisure time (Sonnentag & Bayer, 2005), has been demonstrated to buffer the adverse effects of SCDs on psychological well-being (Rivkin et al., 2014a). Thus, an increase in psychological detachment is expected to prevent the adverse consequences that are associated with SCDs. Therefore, Rivkin et al. (2014a) propose that individuals might, for example, refrain from work-related communication (e.g., e-mails, phone calls, and text messages) in their leisure time. Furthermore, Sonnentag, Kuttler, and Fritz (2010) suggest that being occupied with non-work related activities that require an individual's full attention in leisure time may also improve psychological detachment and thus reduce the adverse influences of SCDs.

Another implication of our research is to strengthen employees' affective commitment. Mowday, Porter, and Steers (1982) identified leadership as a key determinant of commitment. Servant leadership refers to a leadership style that is concerned with the integration of the needs of different organizational stakeholders and, in particular, the empowerment of employees to release their full potential (Greenleaf, 2002). Previous research has demonstrated that among other beneficial outcomes, such as employee health, organizational trust, and leader trust (Joseph & Winston, 2005; Rivkin et al., 2014b), servant leadership also predicts affective commitment (Walumbwa, Hartnell, & Oke, 2010). These results indicate that servant leadership may not only directly improve employees' psychological well-being but may also increase commitment and thereby attenuate the adverse relationships between SCDs and psychological well-being. Thus, to protect employees from impairments in psychological well-being associated with high SCDs organizations may train their leaders according to the principles of servant leadership.

Limitations and suggestions for future research

Despite the contributions, our study is subject to several limitations, which must be discussed. First, although we assessed SCDs, commitment and well-being at different points in time during the working days, our correlational data structure does not permit causal conclusions. For example, a reverse causal interpretation of the results might rest on the assumption that low levels of psychological well-being let employees perceive SCDs as more threatening than high levels of psychological well-being. However, previous research has strongly suggested that SCDs result in impaired well-being and not vice versa (Diestel & Schmidt, 2011). For example, drawing on a cross-lagged panel design, Diestel and Schmidt (2011) have demonstrated that SCDs predicted burnout and absenteeism over longer time periods. In contrast, the lagged effects of burnout and absenteeism on self-control demands at a later time point failed to reach significance. Nevertheless, research could benefit from additional studies which allow causal conclusions regarding the adverse impact of SCDs on psychological well-being.

Second, we propose that the buffering effects of affective commitment on the relationships between SCDs and indicators of strain are provided by autonomous regulation that is associated with positive emotions, which, in turn, restore regulatory resources. However, we did not include these intermediating variables into our present study. Thus, to disentangle the mechanisms that are responsible for the buffering effect of affective commitment on the relationships between SCDs and psychological well-being, further studies are needed to examine mediation models that include variables such as autonomous regulation as well as positive emotions.

Third, even though Schmidt and Neubach (2007) propose that SCDs are composed of three different dimensions (impulse control, resisting distractions and overcoming inner resistances) in

the present study we only used impulse control as a measure of SCDs. However, a major part of our sample was occupied in the services sector where impulse control constitutes a dominant SCD. Furthermore, previous research demonstrates that impulse control has a major influence on indicators of psychological well-being (Diestel & Schmidt, 2011; Schmidt & Neubach, 2007). Nevertheless, to increase the external validity of our results, further research should examine the moderating influence of commitment on other forms of SCDs like resisting distractions or overcoming inner resistances.

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Tables

Table 1

Means, Standard Deviations, Internal Consistencies (Cronbach's Alpha) and Intercorrelations (Study 1)

Variable	1	2	3	4	5	6	7	8
1. SCDs - midday	(.86)	.44	.38	-.32				
2. Ego depletion - evening	.58	(.87)	.76	-.53				
3. Need for recovery - evening	.50	.82	(.83)	-.51				
4. Work engagement - evening	-.42	-.58	-.54	(.94)				
5. Age	-.12	-.07	.13	-.08	–			
6. Gender ^a	-.28	-.24	-.19	.14	.19	–		
7. Work-time ^b	.25	-.02	-.04	.10	-.32	.11	–	
8. Affective commitment	-.28	-.34	-.18	.55	.28	-.04	-.09	(.82)
<i>M</i>	2.66	1.90	2.01	3.58	37.07	1.43	1.88	4.70
<i>SD</i>	0.85	0.53	0.54	1.18	13.75	0.50	0.32	1.03

Note: Cronbach's alpha for day-level variables represent the mean internal consistencies averaged over all measurement days.

Correlations below the diagonal are person-level correlations (N=60). Correlations above the diagonal are day-level correlations

(N=521). Numbers in bold $p < .05$. ^aGender (1 = female, 2 = male). ^bWorking Time (1 = part time, 2 = full time).

Table 2

Multi-level Estimates for Models that Predict Ego Depletion (evening)

Parameter	Null model			Model 1			Model 2			Model 3		
	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t
Intercept	1.903	0.069	27.64**	2.470	0.563	4.39**	2.286	0.528	4.33**	2.309	0.535	4.32**
Age				-0.002	0.006	-0.40	0.003	0.006	0.48	0.003	0.006	0.44
Gender				-0.265	0.140	-1.90	-0.315	0.131	-2.40*	-0.313	0.132	-2.37*
Work-time				-0.056	0.244	-0.23	-0.024	0.228	-0.11	-0.034	0.231	-0.15
SCDs midday							0.149	0.052	2.87**	0.153	0.049	3.11**
Affective commitment (AC)							-0.263	0.092	-2.87**	-0.264	0.095	-2.79**
SCDs x AC										-0.176	0.088	-2.00*
— 2*log (lh)		742.764			737.565			712.040			706.699	
Diff — 2*log (lh)					5,199			25.525**			5.341*	
df					3			2			1	
Level 1 Intercept variance		0.181			0.181			0.166			0.158	
Level 2 intercept variance		0.263			0.158			0.133			0.129	

Note: Gender, Age, Work-time and Affective commitment are person-level (Level 2) variables; all other predictor variables are day-level (Level 1) variables. *p < .05. **p < .01. N = 521.

Table 3

Multi-level Estimates for Models that Predict Need for Recovery (evening)

Parameter	Null model			Model 1			Model 2			Model 3		
	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t
Intercept	2.005	0.069	28.97**	2.082	0.557	3.74**	1.966	0.549	3.58**	1.955	0.552	3.54**
Age				0.006	0.006	1.08	0.010	0.006	1.69	0.010	0.006	1.70
Gender				-0.249	0.142	-1.76	-0.292	0.137	-2.13*	-0.290	0.137	-2.11*
Work-time				0.025	0.241	0.10	0.043	0.237	0.18	0.044	0.238	0.18
SCDs midday							0.129	0.059	2.18*	0.134	0.057	2.35*
Affective commitment (AC)							-0.204	0.096	-2.14*	-0.197	0.096	-2.05*
SCDs x AC										-0.232	0.106	-2.19*
— 2*log (lh)		825.013			820.151			798.925			793.175	
Diff — 2*log (lh)					4,862			21.226**			5.750*	
df					3			2			1	
Level 1 Intercept variance		0.216			0.216			0.198			0.190	
Level 2 intercept variance		0.262			0.171			0.147			0.147	

Note: Gender, Age, Work-time and Affective commitment are person-level (Level 2) variables; all other predictor variables are day-level (Level 1) variables. *p < .05. **p < .01. N = 521.

Table 4

Multi-level Estimates for Models that Predict Work Engagement (evening)

Parameter	Null model			Model 1			Model 2			Model 3		
	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t
Intercept	3.579	0.151	23.68**	2.740	1.185	2.31**	3.359	0.958	3.51**	3.380	0.957	3.53**
Age				-0.004	0.013	-0.34	-0.023	0.010	-2.30*	-0.024	0.010	-2.31*
Gender				0.284	0.317	0.90	0.494	0.251	1.97*	0.496	0.251	1.97*
Work-time				0.315	0.507	0.62	0.219	0.412	0.53	0.212	0.412	0.52
SCDs midday							-0.181	0.086	-2.12*	-0.157	0.079	-1.98*
Affective commitment (AC)							1.034	0.175	5.91**	1.024	0.175	5.84**
SCDs x AC										0.340	0.161	2.11*
— 2*log (lh)		1274.212			1271.898			1229.818			1220.358	
Diff — 2*log (lh)					2.314			42.080**			9.460**	
Df					3			2			1	
Level 1 Intercept variance		0.467			0.467			0.420			0.409	
Level 2 intercept variance		1.314			0.875			0.689			0.698	

Note: Gender, Age, Work-time and Affective commitment are person-level (Level 2) variables; all other predictor variables are day-level (Level 1) variables. *p < .05. **p < .01. N = 521.

Figures

Figure captions.

Figure 1. Interaction effects of SCDs and affective commitment on ego depletion, need for recovery, & work engagement.

