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Article

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Diestel, Stefan; Schmidt, Klaus-Helmut

The protective role of selection, optimization and compensation in coping with self-control demands at work

Abstract

In recent research, self-control demands have been found to predict high burnout and other forms of psychological strain. Self-control refers to a psychological mechanism, which enables people to override, inhibit or modify habits, spontaneous emotions or impulses and motivational tendencies, in order to regulate goal-directed behavior. In the present study, we tested moderating effects of coping strategies of selection, optimization and compensation (SOC-strategies) on the positive relationships between self-control demands and indicators of job strain. These strategies are conceptualized as individual mechanisms of building and conserving psychological resources. On the basis of a sample, which comprised 195 employees from a German financial institution, we found that the positive relationships of self-control demands to emotional exhaustion, ego-depletion and depressive symptoms are attenuated as a function of selection, optimization and compensation. Our findings indicate that those three coping strategies prevent employees from being strained when their job role puts high demands on self-control. In particular, human resource management and organizational stress prevention strategies should focus on SOC-strategies as effective skills of developing resilience in facing high job demands.

1 Introduction

In nearly all occupational and organizational settings, high demands on impulse regulation, attentional and motivational control constitute an integral part of the job role (Cascio 2003; Schmidt/Diestel 2015; Sonnentag/Frese 2013). Such job demands results from highly complex as well as dynamic environments in which adaptability, flexibility, and self-management of employees have become increasingly important. Because of the rise of service-oriented and technologically advanced businesses, employees are often required to be flexible service providers who can anticipate and fulfil customers' needs and be adaptive, creative, and innovative in applying new technological methods (Schmidt/Diestel 2015). Such demands cannot be met by automatic or habitual behavioral patterns, but rather call for self-control. Self-control is a voli-

tional mechanism, which involves inhibiting, modifying, or overriding spontaneous and automatic impulses, urges, emotions, and motivational response tendencies that would otherwise interfere with goal-directed behavior (Muraven/Baumeister 2000). Although self-control is highly important for most life domains (de Ridder et al. 2012), a large body of evidence from basic and applied psychological research demonstrates that exerting self-control entails psychological costs, which can become manifest in feelings of exhaustion (Hagger et al. 2012).

Recent research has focused on job-related demands on self-control and their adverse effects on psychological well-being (Schmidt/Diestel 2015). In cross-sectional and longitudinal studies, self-control demands explained unique amounts of variance in different indicators of job strain, such as burnout, anxiety, job dissatisfaction, psychosomatic symptoms and absenteeism – even after controlling for other relevant job characteristics, such as work pressure, concentration requirements, social support, job control and role ambiguity. However, while scholarly knowledge on psychological costs of self-control demands is growing (Schmidt/Diestel 2015), individual strategies of coping with such demands have been largely neglected in prior studies. In order to fill this gap, the present study focuses on selection, optimization and compensation as protective strategies of adaptive development of abilities, resources and resilience factors (Freund/Baltes 2002). On the basis of the model of self-control strength (Muraven/Baumeister 2000) and conservation of resources theory (Hobfoll 2002), we argue that those strategies support employees in coping with self-control demands at work and thus, reduce the risk of high psychological strain even in cases of high self-control demands. That is, we hypothesize buffering effects of SOC-strategies on the positive relationship between self-control demands and indicators of psychological well-being.

In the following, we elaborate on the adverse effects of self-control demands on well-being. Then, the psychological roles of SOC-strategies in building resilience will be discussed. Finally, we derive our hypotheses on interactions of self-control demands and SOC-strategies on strain.

1.1 Self-control demands as a source of stress at work: Resource depletion

As already noted above, self-control demands exert adverse effects on psychological well-being and cause impairments of behavioral as well as cognitive performance. In a series of experimental studies, acts of volitional self-control resulted in ego-depletion as indicated by low attentional and motivational regulation, low cognitive and emotional control as well as increased feelings of exhaustion. In accordance with experimental findings, research on occupational

stress has provided strong evidence on the role of self-control demands as a source of work stress by indicating that these demands are positively related to job strain.

To explain the adverse impact of self-control demands on strain, Muraven and Baumeister (2000) have proposed a limited regulatory resource capacity (self-control strength), which supplies different processes of volitional self-control and thus, enables regulatory functioning in different psychological domains. In particular, self-control processes draw on and deplete the limited resource capacity. In the case of resource depletion, individuals are less able to exert self-control and experience psychological strain. In line with the theoretical notion of a common resource capacity, recent imaging studies have shown that different self-control processes share a common neuronal substrate in the region of the prefrontal cortex (Tabibnia et al. 2006).

To analyze different self-control aspects of job roles, Neubach and Schmidt (2007) distinguished between three, strongly related forms of self-control demands at work. On the one hand, impulse control refers to the demand on inhibiting spontaneous, impulsive response tendencies, and affective states. On the other hand, resisting distractions is defined as the requirement to ignore or resist distractions evoked by task-irrelevant stimuli. Finally, overcoming inner resistances relates to requirements to overcome motivational deficits to fulfill unattractive tasks. All three job-related demands are conceptualized to cause employees to engage in volitional self-control. In support of the proposition that different self-control demands consume the same resource, Diestel/Schmidt (2011) have found that emotion control demands and self-control demands mutually amplify each other in their adverse effects on psychological strain. That is, coping with both kinds of stressors results in disproportionately high feelings of exhaustion. In light of this finding, Diestel/Schmidt (2011) argued that a composed measure of all three self-control demands reflects the overall degree to which a given job role causes employees to exert volitional self-control. In attempt to identify protective factors, Rivkin, Diestel and Schmidt (2015) have shown that affective commitment attenuates the positive relationship between self-control demands and psychological strain. Similar moderating effects have been also found for job control (Schmidt/Diestel 2015).

While job characteristics have been repeatedly considered in disentangling the role of boundary conditions of the relationship between self-control demands and job strain, person-related factors have been largely neglected in past research. Only Schmidt/Hupke/Diestel (2012) have found that trait self-control as a stable personality characteristic moderates the adverse effects of self-control demands on strain. Trait self-control is considered as the person-related ability to exert volitional self-control in different behavioral domains, such as habit breaking, cognitive

control, conscientiousness, communication skills and resisting distractions (Tangney et al. 2004). However, despite the finding on the role of individual traits, conceptual insights into the individual mechanisms of successful coping with self-control demands is largely limited. Put differently, more detailed knowledge on effective strategies of self-regulation would help to prevent high burnout when one's job role put high demands on self-control.

1.2 Selection, Optimization, and Compensation: Conservation of Resources

Recent evidence on self-control strongly suggests that individuals allocate and conserve their limited resources during exerting self-control, to prevent "total" exhaustion (Muraven/Shmueli/Burkley 2006). In doing so, individuals can be highly adaptive in coping with self-control demands and prevent themselves from being depleted – even in cases of constant high self-control demands. In explaining this phenomenon, Muraven et al. (2006) refer to conservation of resources theory (Hobfoll 2002), according to which efficient allocation and effective conservation of resources are primarily motivated by inner goals and priorities, which are rooted in the basic intention to retain and protect resource supply. In support of this line of reasoning, several experimental studies have demonstrated that individuals regulate their self-control efforts, especially when they anticipate further self-control demands (Vohs/Baumeister/Schmeichel 2012). In addition to this finding, other scholars have reported high interindividual differences in the ability to allocate and conserve limited resources during exercising self-control (Gröpel/Baumeister/Beckmann 2014). That is, and consistent with Schmidt et al. (2012), some individuals are better able to protect their resources than others when regulating their behavioral, cognitive and emotional processes according to job demands.

One conceptual application of the theoretical notion of conservation of resources relies in the distinction between three adaptive strategies – namely selection, optimization, and compensation – , which aim at stabilizing and developing abilities, skills as well as resilience (Freund/Baltes 2002). First, selection refers to defining, setting and committing to a subset of potential personal goals in different life domains on which an individual focuses her or his limited resources. Second, optimization involves acquiring, applying, and refining goal-relevant means, to gain resources and achieve desired outcomes in selected domains. Third, compensation is defined as the usage of alternative means for counteracting loss in goal-relevant means, to maintain a given level of functioning. By their very nature, as specific forms of goal-directed self-regulation, these strategies are considered to ensure effective and efficient life management (Freund/Baltes 2002). Originally, they were conceptualized and examined within the tradi-

tion of psychology of ageing and life-span psychology (Freund/Baltes 1998; Baltes/Lindenberger/Staudinger 1998). In this tradition, several studies have documented positive relationships between all three strategies and indicators of psychological well-being, such as positive emotions, perceived autonomy, purpose in life, self-acceptance, and personal growth (Freund/Baltes 2002). In addition, SOC-strategies have been linked to conscientiousness, which is hypothesized to reflect high trait self-control (McCrae/Löckenhoff 2010). That is, because of goal-focusing, development of skills to achieve selected goals and compensation of deficits or goal-related losses, those who adopt SOC-strategies are better able to exert volitional self-control compared to individuals who do not use such regulatory strategies.

In line with conservation of resource theory, we argue that SOC-strategies facilitate coping with self-control demands through efficient allocation and effective conservation of limited regulatory resources. Some empirical support for our argument is provided by Schmitt, Zacher and Frese (2012) who found that these strategies buffer the adverse effects of high demands on problem solving at work on well-being.

1.3 Hypotheses development: Moderating effects of SOC-strategies

On the basis of the integration of the model of self-control strength and the conservation of resources theory, we predict that SOC-strategies moderate (buffer) the positive relationships of self-control demands to facets of job strain. Our prediction derives from two arguments: First, coping with self-control demands at work taxes a limited resource capacity and causes psychological strain through the depletion of that resource capacity. Second, in cases of high self-control demands, selection of specific goals, optimization of abilities to achieve those selected goals and compensation of resource deficits by using optimized abilities enable employees to allocate, conserve and invest their limited resources, efficiently, and to prevent resource depletion as well as associated feelings of exhaustion, effectively. Consequently, even when one's job role requires high impulse control, resisting distractions and overcoming inner resistances, the three adaptive strategies ensure goal achievement at work and reduce the risk of disproportionately high strain through purposeful and careful usage of limited resources.

Drawing from the self-control strength model, we believe that ego-depletion, emotional exhaustion, and depressive symptoms reflect the hypothesized interactions of self-control demands and SOC-strategies. First, ego-depletion refers to the state of diminished resources after exerting self-control (Muraven/Baumeister 2000) and thus, indicates the individual amount of volitional willpower available for coping with self-control demands. Thus, efficient investment

and effective development of resources through SOC-strategies may manifest in high volitional willpower as reflected by disproportionately low ego-depletion – even when self-control demands are high. Second, emotional exhaustion is conceptualized as the core dimension of burn-out (Maslach/Schaufeli/Leiter 2000), which has been repeatedly found to be predicted by self-control demands (Neubach/Schmidt 2007). In explaining this finding, some authors have argued that exhaustion is very sensitive to impairments of the regulatory resource and may reflect overstraining by high self-control demands (Diestel/Schmidt 2011). Experimental findings showing that deficits in self-control are strongly associated with exhaustion provide support for this argument (Diestel/Cosmar/Schmidt 2013). Finally, recent research on organizational stress has examined depressive symptoms as a result of high self-control demands (Diestel/Schmidt 2011). According to the control theory of depression (Hyland 1987), depressive symptoms are caused by chronic self-control failures such that persons are not able to control their goal-directed behavior and to achieve their goals. Because effective self-regulation through SOC-strategies stabilizes functioning of the limited resource, self-control failures should be less likely - in cases of high self-control demands. Thus, the hypothesized interactive effects may also become manifest in low depressive symptoms, in organizational contexts. In conclusion, we propose the following hypothesis:

Hypothesis 1: SOC-strategies moderate the positive relationships between self-control demands and ego-depletion (Hypothesis 1a), emotional exhaustion (Hypothesis 1b) and depressive symptoms (Hypothesis 1c): The relationships are attenuated as a function of SOC-strategies.

2 Methods

2.1 Sample and procedure

Participants of our study were recruited in cooperation with a German health care provider. Data from 195 healthy participants was collected during a voluntary medical check-up. The aim of this check-up was to assess employees' physical and psychological health. Data collection was conducted by physicians who applied self-report measures of psychological variables. Most participants worked in the financial sector and their job-related tasks included providing customer services, selling financial products and evaluating clients' financial situation. Thus, employees were required to frequently interact with clients. Because most people tend to be very cautious about financial issues, employees may be required to explain products and services multiple times to ensure that customers understand all details. In addition, to encourage customers to

invest their money to the financial institution, employees are likely to exert self-control by regulating their emotional expression, controlling their behavioral response, and focusing their attention. Therefore, self-control demands were an integral part of most participants. Participants were assured that their data will remain confidential and participation is voluntary as well as anonymous. The proportion of female participants was 37.4% and age ranged from 28 to 64 years ($M=48.63$; $SD=6.84$).

2.2 Measures

Self-control demands were assessed by ten items of Neubach and Schmidt's (2007) scale. The items request participants to indicate the extent to which their job requires them to suppress and inhibit spontaneous and impulsive responses, to overcome inner motivational blockades and to resist distractions, which would otherwise interfere with successful task accomplishment. Exemplary items are "My job requires me never to lose my temper", "In order to achieve my performance goals, I must not let myself be distracted" and "Starting off with certain tasks sometimes costs me a considerable amount of will power". All items are scored on a 5-point intensity rating format ranging from 1 (not at all) to 5 (a great deal).

The measurement of the three adaptive coping strategies, *selection*, *optimization*, and *compensation*, was based on a short version of the SOC questionnaire (12 Items) developed by Freund/Baltes (2002). Each item includes two opposite behavioral strategies and participants were asked to choose one strategy, which describe their typical behavior best when facing with task, goals, and challenges (dichotomous response format). One of both strategies refers to effective adaptive coping (1 = "target"), whereas the opposite strategy describes dysfunctional coping patterns (0 = "distractor"). The individual scale values (ranging from 0 to 12) were computed by the sum of all targets. Example items are "I concentrate all my energy on a few things (target)" OR "I divide my energy among many things (distractor)" (Selection), "I do everything I can to realize my plans (target)" OR "I wait a while first to see if my plans don't realize themselves (distractor)" (Optimization) and "When things don't work the way they used to, I look for other ways to achieve them (target)" OR "When things don't work the way they used to, I accept things the way they are (distractor)" (Compensation).

To assess *ego depletion*, we used four items from the state self-control capacity scale from Bertrams, Unger, and Dickhäuser (2011). An example for an item is "I feel like my willpower is gone". Ego depletion was rated on a 5-point Likert scale (1 = never; 5 = always).

The burnout dimension of *emotional exhaustion* (eight items) was operationalized on the basis of the Maslach Burnout Inventory (Maslach/Jackson 1986) in a German translation by Büssing and Perrar (1992). Emotional exhaustion refers to feelings of being overextended and drained by emotional demands of one's work (e.g. "I feel emotionally drained from my work"). All items are scored on a 6-point intensity rating scale ranging from 1 (not at all) to 6 (very strong).

Depressive symptoms were measured with a shortened version of the Beck Depression Inventory (Beck/Steer/Garbin 1988), which was translated by Schmitt/Maes (2000). The seven items refer to various forms of depressive symptoms, such as reduced initiative, irritation, sadness, hesitancy, tiredness, and listlessness. Intensity/severity of symptoms are rated on a 6-point frequency response format, which ranged from 0 (never) to 5 (almost always).

Before analyzing the hypothesized interactions of self-control demands and SOC-strategies on strain, we conducted Harman's single-factor test, to determine the risk of mutual contamination of the self-report based constructs (Podsakoff/MacKenzie/Podsakoff/Lee 2003). Principal component analysis with varimax rotation showed that all underlying factors distinguished between the items and exhibited eigenvalues greater than 1.0. Thus, a single factor is rather unlikely and common method variance should not bias the present result patterns.

2.3 Statistical procedure

The hypothesized interaction effects of self-control demands and SOC-strategies on ego-depletion, emotional exhaustion and depressive symptoms were tested on the basis of hierarchical moderated regression analyses, which were performed separately for each dependent variable. In the first step, we introduced biographical variables (age and gender) to reduce the risk of spurious relationships due to biographical differences in the study variables, because age and gender were repeatedly found to predict psychological strain (e.g. Diestel/Schmidt 2011) and may therefore explain spurious associations among our study variables (Becker 2005). In the second step, we jointly added self-control demands and SOC-strategies to the regression equation. Finally, we computed an interaction term by multiplying self-control demands and SOC-strategies. Before calculating the interaction term, we standardized both predictor variables, to partial non-essential covariation between the interaction term and both predictors as well as to avoid biasing effects of multi-collinearity (see Aiken/West 1991).

3 Results

3.1 Descriptive statistics

Means, standard deviations, correlations as well as internal consistencies are provided in Table 1. Compared to men, women reported significant higher levels of depressive symptoms ($t = 2.16$; $p < .05$). As Table 1 shows, SOC-strategies exhibited a significant negative association with self-control demands and were strongly negatively correlated with all three indicators of psychological job strain (ego-depletion, emotional exhaustion, and depressive symptoms).

Table 1: *Means, Standard Deviations, Internal Consistencies (Cronbach's Alpha) and Correlations of all Study Variables.*

Variable	1.	2.	3.	4.	5.	6.	7.
1. Age	-						
2. Gender ^a	-.19**	-					
3. Self-control demands	.02	-.03	-				
4. SOC-strategies	.11	.06	-.26**	-			
5. Ego-depletion	-.01	-.10	.48**	-.42**	-		
6. Emotional exhaustion	.04	-.03	.56**	-.45**	.74**	-	
7. Depressive symptoms	-.08	-.15*	.47**	-.53**	.72**	.77**	-
<i>M</i>	48.63	1.63	3.11	8.36	1.58	2.28	1.03
<i>SD</i>	6.84	0.49	0.67	2.84	0.59	1.04	0.92
α			.87	.76	.88	.91	.90

Note. $N = 195$. Gender (1 = female, 2 = male). * $p < .05$. ** $p < .01$.

3.2 Regression analyses

In Table 2, parameter estimates of moderated regression analyses are provided. Besides the abovementioned relation of gender to depressive symptoms, age and gender did not predict psychological strain. In contrast, the introduction of self-control demands and SOC-strategies resulted in a significant increase of explained variance in all three indicators of job strain. In particular, self-control demands were positively related with ego-depletion ($\beta = .23$; $p < .01$), emotional exhaustion ($\beta = .48$; $p < .01$), and depressive symptoms ($\beta = .32$; $p < .01$), whereas the combined measure of SOC-strategies was negatively associated with all three indicators of job

strain (ego-depletion: $\beta = -.17$; $p < .01$; exhaustion: $\beta = -.33$; $p < .01$; depressive symptoms: $\beta = -.36$; $p < .01$). Finally, and theoretically more important, both self-control demands and SOC-strategies exerted interactive effects on ego-depletion ($\beta = -.12$; $p < .01$), emotional exhaustion ($\beta = -.14$; $p < .05$), and depressive symptoms ($\beta = -.19$; $p < .01$), with signs corresponding to expectations. In support of Hypotheses 1a, 1b and 1c, the interaction terms significantly explained additional amounts of variance in all three strain outcomes over and beyond that accounted for by the main effect variables (ego-depletion: $\Delta R^2 = .05$; $p < .01$; exhaustion: $\Delta R^2 = .02$; $p < .05$; depressive symptoms: $\Delta R^2 = .05$; $p < .01$).

3.3 Simple slope analysis

To facilitate interpretation of the present results, we conducted simple slope analyses and plotted the interaction patterns. Specifically, we determined values of the predictors one standard deviation above and below the means. Then, for each strain outcome variable, we calculated simple regression lines by inserting these values into the regression equations (Aiken/West 1991).

Table 2: *Results from Hierarchical Moderated Regression Analyses*

		Ego-depletion		Emotional exhaustion		Depressive symptoms	
Regression steps		β	ΔR^2	β	ΔR^2	β	ΔR^2
1.	Age	.00	.01	.01	.00	.00	.03
	Gender ^a	– .10		– .02		– .22	
2.	Self-control demands	.23**	.32**	.48**	.41**	.32**	.39**
	SOC-strategies	– .17**		– .33**		– .36**	
3.	Interaction	– .12**	.05**	– .14*	.02*	– .19**	.05**
	R^2		.38		.43		.46
	F		23.38**		28.95**		32.12**

Note. $N = 195$.^a Gender (1 = female, 2 = male). * $p < .05$. ** $p < .01$.

The resulting plots are depicted in Figure 1, which show that as compared with high levels of SOC-strategies, the positive relationships between self-control demands and ego-depletion, emotional exhaustion, and depressive symptoms were stronger for those who did not adopt these three strategies. That is, the positive relationships between self-control demands and all

three strain outcomes were attenuated as a function of increasing SOC-strategies. In addition, we also performed simple slope analyses, to determine whether the regressions of the strain outcomes on self-control demands is significantly different from zero for a specific level of SOC-strategies (Aiken/West 1991). The results are shown in the interaction plots (Figure 1): The slopes were highly significantly different from zero at low levels of SOC-strategies (one standard deviation below mean). In contrast, in cases of high levels of SOC-strategies (one standard deviation above mean) the slopes were lower, but significant for exhaustion and ego-depletion, whereas the regression for depressive symptoms was not different from zero. Thus, for depressive symptoms, the SOC-strategies mitigated the adverse effects of self-control demands. In conclusion, the results of the present data lend strong support for our Hypotheses 1a-c.

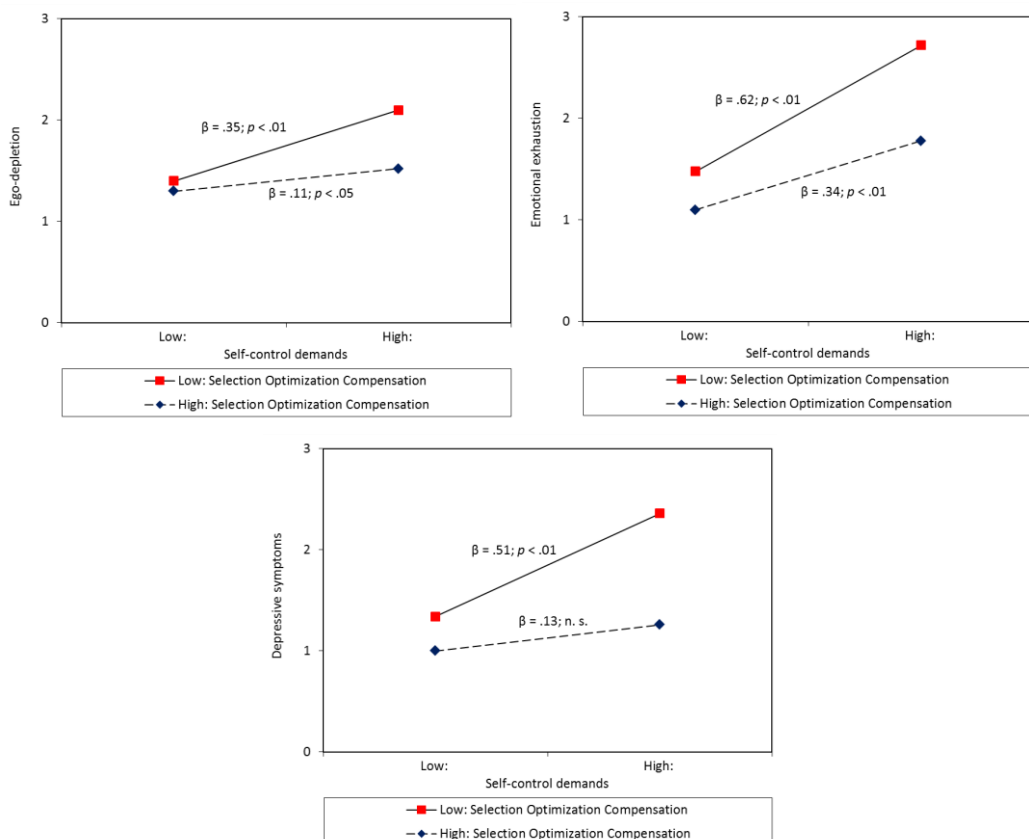


Figure 1: *Interaction effects of self-control demands and adaptive coping strategies*

4 Discussion

The present study connects two lines of research, which have developed independently so far. On the one hand, job-related self-control demands have been found to act as a source of work stress, whose adverse effects emerge in high levels of job strain, increased absenteeism and impaired work engagement (Rivkin/Diestel/Schmidt 2015; Schmidt/Diestel 2015). On the other hand, psychological research on ageing has revealed that those who select specific goals and skills, optimize their goal achievement and skills as well as compensate deficits in other goal or skill domains, are able to cope with regulatory requirements in different life domains and to foster psychological well-being (Freund/Baltes 2002). Although both lines of research expatiate upon the proposition that the availability, usage, and functioning of limited regulatory resources are critical for goal achievement, self-regulation and psychological well-being (Hobfoll 2002, Muraven/Baumeister 2000), implications of that proposition for coping with self-control demands at work have been neither derived nor tested, so far. Consequently, we sought to provide evidence on the psychological role of SOC-strategies in coping with self-control demands. In particular, we predicted that those who adopt SOC-strategies are able to prevent themselves from being strained even in cases of high self-control demands.

On the basis of a sample of service employees, we found that SOC-strategies moderate (buffer) the positive relationships between self-control demands and several indicators of psychological strain. Since our study design encompassed different kinds of strain outcomes, which refer to short-time experience of resource depletion (ego-depletion), to long-term job strain (emotional exhaustion), and to indicators of psychological disorders (depressive symptoms), the moderating effect of SOC-strategies can be considered as statistically consistent and relevant for momentary as well as chronic aspects of psychological well-being. That is, SOC-strategies foster psychological functioning in working environments, which are characterized by high demands on regulating behavioral impulses, resisting interfering distractions and overcoming motivational blockades.

4.1 Theoretical implications

Our findings offer at least two relevant contributions for scholarly knowledge on self-control demands and adaptive coping strategies. First, most research on SOC-strategies has primarily focused on other life domains than the job. Only few studies have also considered these strategies as predictors of psychological functioning and well-being in occupational settings (Schmitt et al. 2012; Weigl et al. 2013). The authors of these studies have already reported some evi-

dence on moderating effects of SOC-strategies on the negative impacts of age and problem solving demands on well-being. In addition to this evidence, the present findings enlarges the scope of the psychological function of SOC-strategies in stabilizing well-being at work by demonstrating that these strategies also buffer the positive relations of self-control demands as a far-reaching stressor to different short and long-term indicators of psychological strain. Moreover, because we controlled for age, we were also able to show that the three strategies are also relevant for younger and middle-aged employees and not limited to older employees as suggested by the findings of Weigl et al. (2013).

Second, past research on moderators of the adverse effects of self-control demands on well-being has mainly focused on job characteristics and stable personality traits (for review Schmidt/Diestel 2015) without considering underlying adaptive or flexible processes of effective coping. Because job characteristics and personality traits are difficult to alter, the moderating effect of SOC-strategies indicates that effective strategies of resource allocation, goal focusing and skill enhancing can also foster coping with self-control demands, and that the relations of self-control demands to strain are also influenced by more flexible regulatory processes - besides stable aspects of the person or the job. In addition, the present interaction effects provide additional insights into the mechanism of resource investment when facing self-control demands. In consideration of experimental findings on conservation of resources (Muraven et al. 2006), Diestel et al. (2015) have argued that high job-related demands on self-control do not inevitably result in total depletion of resources, but rather cause employees to adopt strategies of efficient resource allocation, in order to stabilize psychological functioning and enable goal achievement. However, only few strategies may be effective and prevent increases psychological strain (Vohs et al., 2012). Our results indicate that focusing on specific goals and skills, developing selected skills and optimizing goal achievement as well as goal-directed compensating deficiencies and obstacles implies efficient allocation and effective conservation of limited resources, when self-control demands are high. In line with Diestel et al.'s (2015) argument, the buffering effect of the three adaptive strategies would not emerge, if high self-control demands always depleted the complete resource capacity and the functioning of that resource was not influenced by adaptive strategies.

4.2 Limitations and avenues for future research

Our study is subject to several limitations, which should be discussed, thoroughly. First, the cross-sectional design of our research does not permit strong causal conclusions. Thus, while our hypothesis and regression models clearly specify the direction of the analyzed relationships,

the underlying causal process cannot be captured on the basis of cross-sectional data. However, several longitudinal studies on self-control demands have repeatedly demonstrated that self-control demands predict job strain over time and not vice versa (Diestel/Schmidt 2011, Schmidt/Diestel in press). In addition, the three adaptive coping strategies have been also found to relate to health-related outcomes at a later point in time (Freund/Baltes 2002). Consequently, empirical evidence from prior research provides strong support for our specification of the relationships examined in the present study. Nevertheless, future research should adopt longitudinal designs or experience sampling, to provide additional insights into underlying processes and mechanisms (Ohly et al. 2010).

Second, our study variables exclusively based on self-report measures and might be biased by common method variance (Podsakoff et al. 2003). To exclude the possibility of mutual contamination of our study variables, we applied Harman's single factor test, which confirmed psychometrical distinctiveness of our measures. In addition, the impact of self-report biases would mainly be reflected in inflated linear relationships, which in turn reduce the likelihood of identifying true interaction effects. In conclusion, self-report biases seem rather unlikely.

Finally, our results suggest that the SOC-strategies also moderate the positive relations of self-control demands to absenteeism (Diestel/Schmidt 2011) and work engagement (Sonnen- tag/Mojza/Demerouti/Bakker 2012). This suggestion derives from the conceptual proposition that resource depletion leads to impaired motivation and reduced vitality as reflected by high absenteeism and low work engagement (Baumeister/Vohs 2007). Because the three adaptive coping strategies are hypothesized to foster efficient allocation and effective conservation of resources, employees should be able to stabilize motivation and vitality as well as prevent themselves from withdrawal behavior, when they adopt selection, optimization and compensation, to cope with self-control demands. Therefore, future research may broaden the spectrum of potential outcomes, to test combined effects of self-control demands and adaptive coping strategies on withdrawal behavior and work engagement.

4.3 Practical implications

In light of the hypothesized flexibility as well as adaptability of SOC-strategies, the most obvious practical implication of the present result patterns relies in the development and application of training programs, which inform about and facilitate effective adoption of the three adaptive coping strategies especially in occupational contexts with high self-control demands (Schmitt et al. 2012). According to the original conceptualization of the SOC-strategies (Freund/Baltes

2002), individuals can learn and acquire the usage of these strategies. In contrast to stable traits, behavioral regulation through SOC-strategies can be fostered and developed, more effectively. Thus, organizations and human-resource practitioners may focus on these strategies and develop training concepts as well as coaching programs, which aim at facilitating coping with self-control demands by allocating and conserving limited regulatory resources. One effective element of such programs might be flexible and adaptive goal setting, monitoring as well as achievement as conceptualized by the theory of goal setting (Locke/Latham 2002). According to this theory, the definition of specific, measurable and realistic as well as challenging goals fosters effective behavioral regulation through efficient investments of resources, skills and knowledge. Such goal-based mechanisms can be thought of core aspects of SOC-strategies, which enable long-term development of skills, abilities as well as knowledge and thus provide relevant conditions of coping stressful event as well as stabilizing psychological well-being (Freund/Baltes 2002).

Another practical implication derives from the finding that the beneficial impacts of SOC-strategies on psychological well-being are of contingent upon social-contextual or organizational boundary conditions. For example, Weigl et al. (2013) reported that job control and the SOC-strategies jointly moderate the negative relationship between age and work ability. That is, selection, optimization, and compensation may be more effective, when job control is high. Thus, effective prevention of high strain as a result of high (self-control) demands requires job design, which considers job-related factors such as job control and thus, provides important conditions for effective coping with job demands.

Finally, supervisors may also facilitate usage of SOC-strategies, at the work. As noted above, SOC-strategies are positively related to conscientiousness (McCrae/Löckenhoff 2010). Recently, Colbert/Witt (2009) found that goal-focused leadership as indicated by high task-orientation and effective feedback behaviors amplifies the positive effects of conscientiousness on performance. That is, on the basis of effective goal-setting, those supervisors enhance self-regulation and thus, development as well as adoption SOC-strategies by defining specific roles, task-related priorities and responsibilities, thoroughly (Hoare 2011). Therefore, besides personnel development and job design, supervisors have strong impacts on self-regulatory processes of their employees and thus, should be informed about their role in fostering self-regulation as well as psychological well-being (see also Rivkin et al. 2014).

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