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The Moderating Role of Cognitive Control Deficits in the Link From Emotional Dissonance to Burnout Symptoms and Absenteeism

Stefan Diestel and Klaus-Helmut Schmidt
Technical University of Dortmund

The present study examines whether cognitive control deficits (CCDs) as a personal vulnerability factor amplify the relationship between emotional dissonance (ED; perceived discrepancy between felt and expressed emotions) and burnout symptoms (emotional exhaustion and depersonalization) as well as absenteeism. CCDs refer to daily failures and impairments of attention regulation, impulse control, and memory. The prediction of the moderator effect of CCDs draws on the argument that portraying emotions which are not genuinely felt is a form of self-regulation taxing and depleting a limited resource capacity. Interindividual differences in the resource capacity are reflected by the measure of CCDs. Drawing on two German samples (one cross-sectional and one longitudinal sample; $N_{TOTAL} = 645$) of service employees, the present study analyzed interactive effects of ED and CCDs on exhaustion, depersonalization, and two indicators of absenteeism. As was hypothesized, latent moderated structural equation modeling revealed that the adverse impacts of ED on both burnout symptoms and absence behavior were amplified as a function of CCDs. Theoretical and practical implications of the present results will be discussed.

Keywords: cognitive control deficits, emotional labor, emotional dissonance, burnout, absenteeism

Due to the continuous rise of the services sector in Western industrialized countries, emotional labor becomes increasingly important for the achievement of job-related goals in many occupational contexts (Cascio, 2003; Judge, Woolf, & Hurst, 2009). Emotional labor refers to the regulation of feelings in order to create and express a specific facial and bodily display (Hochschild, 1983). A growing body of evidence has demonstrated that emotional labor can be stressful and cause burnout symptoms, especially when employees express certain emotions contrary to their genuinely felt emotions (Brotheridge & Lee, 1998). The perceived discrepancy between emotions truly felt and those expressed as required by the job role is commonly referred to as emotional dissonance (ED; Abraham, 1998; Zapf, Vogt, Seifert, Mertini, & Isic, 1999). Compared to other demands involved in emotional labor, like requirements to display positive or negative emotions and sensitivity requirements, ED has been repeatedly found to have the strongest effect on burnout symptoms (Zapf & Holz, 2006).

In research on emotional labor, a key observation is that ED is more closely related to psychological strain, especially burnout symptoms, for some than for others (Judge et al., 2009; Schmeichel, 2007). To explain this interindividual variability, the adverse effects of ED have recently been analyzed from a perspective of person-related traits (Heuven, Bakker, Schaufeli, & Huisman, 2006). Whereas skills, like emotional competence (Giardini & Frese, 2006), and personality traits, like extraversion (Judge et al., 2009), have received increasing attention, the role of employees' cognitive control resource in performing emotional labor has largely been neglected so far (Diefendorff & Gosserand, 2003). Cognitive control resource refers to one's limited cognitive capacity required for exerting different cognitive control or self-regulatory processes, like suppression of emotions, solving of complex tasks or attention regulation. The importance of that capacity for emotional labor relies on the well-founded argument that portraying emotions which are not genuinely felt is a form of self-regulation drawing on the limited resource and exerts its adverse effects on psychological strain through the depletion of that resource (Richards & Gross, 2000; Schmeichel, Vohs, & Baumeis-

Stefan Diestel and Klaus-Helmut Schmidt, Leibniz Research Centre for Working Environment and Human Factors, Technical University of Dortmund, Dortmund, Germany.

Correspondence concerning this article should be addressed to Stefan Diestel, Leibniz Research Centre for Working Environment and Human Factors at the Technical University of Dortmund, Ardeystr. 67, Dortmund D-44139, Germany. E-mail: diestel@ifado.de

ter, 2003). However, this argument has only been elaborated theoretically and tested empirically in laboratory research so far. Moreover, in this line of research, relatively stable interindividual differences in the control resource have been found to influence the ability to display emotions which are not truly felt (Schmeichel, Volokhov, & Demaree, 2008). Daily cognitive control deficits (CCDs) in the form of frequent failures in perception, action, self-regulation, and affective control have been repeatedly used to assess interindividual differences in the cognitive resource capacity and thus provide a good measure for such differences (Broadbent, Cooper, Fitzgerald, & Parkes, 1982; Larson, Alderton, Neideffer, & Underhill, 1997). Drawing on person-environment fit theory (P-E fit; French, Caplan, & Harrison, 1982), we argue that if ED involves high efforts in self-regulation depleting the limited resource, the increase of burnout symptoms with ED will be stronger for those with high CCDs as compared to low CCDs. Theoretically, CCDs are considered to function as a personal vulnerability factor making employees more susceptible to the adverse effects of ED.

In the present study, we test enhancer effects of CCDs on the relation of ED to both core symptoms of burnout, emotional exhaustion and depersonalization. Moreover, consistent with recent theoretical accounts on absenteeism (Johns, 2009), we predict that this interaction will also become manifest in an increase of absence behavior. Theoretically, our prediction draws on Conservation of Resources theory (COR; Hobfoll & Freedy, 1993) which proposes that absenteeism is a form of withdrawal that aims at recovery from resource depletion and preventing further losses in resources. Finally, our moderator analyses draw on two different samples, one cross-sectional and one longitudinal, providing support for the generalizability of our findings and the hypothesized directions of the analyzed relations. In the following, we review theoretical notions and empirical results on ED and CCDs in turn. Subsequently, we integrate both lines of research and develop our hypotheses.

ED, Self-Regulation, and Psychological Strain

Over the past two decades, ED has been established as a source of stress at work in a broad spectrum of occupational settings, like flight and financial services, health care as well as call-centers (Morris & Feldman, 1996; Zapf, Seifert, Schmutte, Mertini, & Holz, 2001). ED is a relational concept that reflects a mismatch between an emotional expression required by a given job function or role on the one hand and those emotional or affective states truly experienced by the employee on the other (Abraham, 1998). Besides burnout symptoms (Zapf & Holz, 2006), low work engagement (Heuven et al., 2006), job dissatisfaction (Lewig & Dollard, 2003), and psychosomatic complaints (Dormann, Zapf, & Isic, 2002) have been revealed to be strongly affected by ED.

To explain the psychological mechanism through which ED exerts its adverse effects, scholars have argued that portraying emotions which are not genuinely felt constitutes a form of self-regulation (Diefendorff & Gosserand, 2003; Zapf & Holz, 2006). This argument draws on recent findings from laboratory research indicating that suppressing felt emotions and exaggerating a required emotional display are effortful processes, which deplete a limited cognitive resource capacity (for review Gross, 1998; Muraven & Baumeister, 2000; Schmeichel, 2007; Tice & Bratslavsky, 2000). For example, Schmeichel et al. (2003; Study 2) found that these self-regulatory processes required in tasks where emotions have to be expressed that are not felt deplete the cognitive resource capacity, which is also consumed by other self-regulatory processes, like intellectual functioning. In terms of consequences for psychological health, frequent exertion of self-regulation in the form of emotion control and thus depletion of the cognitive resource have been repeatedly revealed to result in psychological strain (Richards & Gross, 2000). For example, in their experiment, Robinson and Demaree (2007) found portraying emotions that are not felt to cause high sympathetic activation, which is strongly related to health impairments (Gross & Levenson, 1997). In awareness of these findings, Zapf and Holz (2006) proposed to conceptualize ED as an indicator for high efforts in self-regulation (see also Neubach & Schmidt, 2006). In line with this conceptualization, Morris and Feldman (1996; p. 992) pointed out that with an increase in the mismatch between truly felt and organizationally desired emotions, greater investments of control, skill, and attentive action are required. Thus, in case of high ED, employees engage in self-regulatory efforts consuming and depleting a limited cognitive resource capacity.

CCDs as a Vulnerability Factor in Performing Emotional Labor

In research on emotional labor, scholars have repeatedly expressed interest in person-related traits,

which have been found to moderate the adverse effects of ED (Giardini & Frese, 2006; Heuven et al., 2006; Judge et al., 2009). The moderating effects of interindividual differences and the laboratory findings on self-regulation strongly suggest to consider the adverse effects of ED from the Person-Environment Fit perspective (P-E fit, French et al., 1982). According to the basic premise of the P-E fit theory, a misfit or incongruency between person's abilities, capacities, and resources on the one hand, and job-related demands on the other, is hypothesized to result in psychological strain (Edwards, 1992). In laboratory research on self-regulation, the ability to portray emotions that are not truly felt has been linked to interindividual differences in the cognitive resource capacity. For example, Schmeichel et al. (2008) found that the adverse effects of self-regulation in the form of emotion control vary as a function of stable interindividual differences in that resource. Consequently, employees with a lower cognitive resource capacity should be more vulnerable to the adverse effects of ED as compared to those with a high resource. In terms of P-E fit, the risk of psychological strain increases with an increasing incongruency between regulatory demands on emotional labor and employees' (insufficient) resource capacity.

A growing body of evidence on self-regulatory functioning and cognitive resources suggests that the measure of CCDs constitutes a valid indicator for the individual capacity of the cognitive resource (McVay & Kane, 2009; Rast, Zimprich, Van Boxtel, & Jolles, 2009). CCDs involve a broad range of difficulties and impairments of attention as well as memory, affective or emotional instability, and limited flexibility in dealing with novel and changing tasks (Broadbent et al., 1982). For example, specific concentration problems, like the inability to be focused during a conversation, as well as emotion control problems, like affective huffiness or injudicious expressions, are typical behavioral manifestations of CCDs. Past research has accentuated the adverse effects of CCDs for many domains of life including the job domain (Wallace & Vodanovich, 2003). Furthermore, a high interindividual stability of CCDs has repeatedly been reported (Broadbent et al., 1982; Wallace, 2004) and most researchers concur in the notion that these deficits constitute a person-related trait (Rast et al., 2009). In support of this notion, high interindividual differences have been found in impairments of cognitive control processes, including self-regulation, like attention regulation (Hofmann, Gschwendner, Friese, Wiers, & Schmitt, 2008) and emotion control (Schmeichel et al., 2008), as well as decision making (Hinson, Jameson, & Whitney, 2003). To account for these differences, such cognitive control or self-regulatory processes are hypothesized draw on and deplete a limited cognitive resource capacity which highly differs between persons (Baumeister, Gailliot, DeWall, & Oaten, 2006; Friedman & Miyake, 2004; Muraven & Baumeister, 2000). Therefore, we argue that CCDs reflect stable interindividual differences in that capacity. Strong empirical support for this argument is provided by McVay and Kane (2009) who reported that persons with a low resource capacity produce more mistakes and show more control deficits in tasks which require self-regulatory efforts as compared to persons with a higher resource (see also Kane & Engle, 2003).

In explaining the relations among CCDs, job demands, and psychological strain at work, Broadbent et al. (1982) have proposed the stress-strain vulnerability hypothesis according to which employees with high control deficits are more susceptible to the adverse effects of job demands and, thus, experience higher levels of strain than those with low deficits. Consequently, CCDs as a personal vulnerability factor are hypothesized to amplify the relation of job demands to strain (see also Matthews, Coyle, & Craig, 1990). In support of the vulnerability hypothesis, Parkes (cited by Broadbent et al., 1982) reported an interaction effect between stressful work conditions and CCDs on psychological strain among student nurses. Specifically, psychological strain was more strongly related to stressful work conditions when high levels of deficits were reported as compared to low levels of deficits. It is important to note that CCDs had been assessed before the nurses entered stressful situations. Health care is characterized by high demands on emotional labor and nurses are often confronted with the regulatory requirement to express organizationally desired emotions which they do not truly feel (de Jonge, Le Blanc, Peeters, & Noordam, 2008; Neubach & Schmidt, 2006).

The stress-strain vulnerability hypothesis is consistent with the P-E fit theory. Hence, high CCDs indicate that an employee may not have enough resources or may suffer from an insufficient capacity for meeting regulatory requirements of a given job function or role. Given that portraying emotions that are not truly felt requires high efforts in self-regulation expending the limited resource capacity, the moderator effect of CCDs should most notably emerge in case of high ED. Specifically, the adverse effects of ED on psychological strain should be more pronounced for employees with high CCDs as com-

pared to those with low CCDs. In terms of P-E fit theory, high CCDs indicating a low resource capacity increase the likelihood of resource depletion and thus of psychological strain when self-regulation is exerted to express emotions that are not truly felt.

Development of the Hypotheses

In line with the P-E fit theory, several findings from research on self-regulation and studies on emotion labor suggest that both core burnout symptoms, emotional exhaustion and depersonalization (Maslach, Schaufeli, & Leiter, 2001), are most likely to develop as a result of the interactive effects of ED and CCDs. First, in support of the conceptualization as a personal vulnerability factor, van der Linden, Keijsers, Eling, & van Schaijk (2005) reported significant differences in CCDs between clinically treated burnout patients (highest levels of deficits), high (nonclinical) burnout employees and a (nonburnout) control group (lowest levels of deficits). Specifically, exhaustion and depersonalization (but not personal accomplishment) varied as a function of CCDs, which were operationalized by the Cognitive Failure Questionnaire (CFQ, Broadbent et al., 1982). The CFQ is most frequently used to assess individual CCDs. Moreover, van der Linden et al. (2005) also observed that, compared to a nonburnout group, participants suffering from both burnout symptoms performed significantly worse in tasks requiring self-regulatory control, like attention regulation.

Second, Oaten and Cheng (2005, 2006) have found high self-regulatory efforts to longitudinally result in several forms of psychological strain, like somatic complaints, depressive symptoms, and emotional distress, which are strongly related to exhaustion and depersonalization (Schaufeli & Buunk, 2003; Shirom, Melamed, Toker, Berliner, & Shapira, 2005). This finding led scholars to argue that the adverse effects of frequent self-regulation and repeated resource depletion do not only limit to immediate impairments of well-being, but also become chronically manifest in psychological strain *over long time periods*, especially when certain circumstances—such as recurrent demands on self-regulation—prevent recovery of the limited resource capacity (Baumeister, Gailliot, DeWall, & Oaten, 2006; de Lange et al., 2009; Shirom et al., 2005).

Third, and in line with the notion of long-term effects of repeated resource depletion, the vast bulk of field studies on emotional labor has reported strong positive relations of ED to both burnout symptoms: exhaustion and depersonalization (whereas personal accomplishment failed to reflect the adverse effects of ED; see Dormann et al., 2002; Zapf & Holz, 2006). Moreover, both burnout variables have been found to reflect interactions between ED and other demands on self-regulation depleting the *same* limited resource capacity (Diestel & Schmidt, 2010a; Zapf et al., 2001).

In conclusion, these findings strongly suggest that especially emotional exhaustion and depersonalization are very sensitive to chronic resource depletion due to high demands on self-regulation when performing emotional labor (Shirom et al., 2005). Consequently, as van der Linden et al.'s results (2005) indicate, employees with high CCDs should report a higher increase of both burnout symptoms with ED compared to those with low deficits.

> *Hypothesis 1:* CCDs moderate the positive relations of ED to emotional exhaustion and depersonalization in such a way that the relations are amplified as a function of CCDs.

One of the core propositions of the COR theory (Hobfoll & Freedy, 1993) is that withdrawal from work mainly results from perceived losses of resources under conditions of chronic work stress and aims at preventing further losses. Specifically, the likelihood of withdrawal increases with work stress, when resources for reducing that stress are depleted. According to Johns (2009) and Darr & Johns (2008), absenteeism constitutes a behavioral manifestation of withdrawal which has been theoretically linked to person-related traits such as hardiness or self-efficacy (Johns, 1997; Tang & Hammontree, 1992). Drawing on Hobfoll's (1989) conceptualization of the cognitive resource capacity as a stress resistance resource, we predict that, compared to low levels of CCDs, employees with high CCDs are more likely to perceive losses in their stress resistance resources and thus withdraw from work in case of chronically high ED. Due to the limitation of their cognitive resource, these employees should experience resource depletion more frequently and thus should be more absent from work, when they often express emotions which they do not truly feel.

Consistent with COR theory, Johns (2002, 2009) has also argued that absenteeism fulfills a restorative function aiming at recharging depleted resources (Staw & Oldham, 1978). Accordingly, to recover from repeated resource depletion and to prevent further losses, employees engage in coping behavior in the form of absenteeism, when they feel less able to meet job demands and fail to use more effective

strategies (Tourigny, Baba, & Lituchy, 2005). As employees with high CCDs should perceive their resource capacity as insufficient and often depleted under conditions of chronically high ED, the restorative argument facilitates our prediction of a moderator effect of CCDs on the relation of ED to absenteeism.

Johns (1997, 2009) pointed out that research has largely failed to consider interindividual differences in the relationship between stress and absenteeism and to facilitate both the withdrawal and restorative argument. Some support for the restorative function is provided by Sonnentag, Kuttler, and Fritz (2010) who reported positive effects of ED on need for recovery which is a strong antecedent of absenteeism (de Croon, Sluiter, & Frings-Dresen, 2003).

> *Hypothesis 2:* CCDs moderate the positive relations of ED to absenteeism in such a way that the relations are amplified as a function of CCDs.

The Present Studies

The hypotheses of the current study were tested in two different German samples. The first study was conducted in a municipal administration of a middle-sized city in Germany and focused on interactive effects between ED and CCDs on burnout.

In study two, employees of a large civil service institution were surveyed in order to expand and to cross-validate the findings from the first study in an independent sample, extending the spectrum of outcomes by introducing two absence indices. Moreover, we surveyed the participants on two occasions for testing lagged interactive effects.

Study 1

Method

Participants and procedure. The participants of the first study sample were staff members of a municipal administration of a middle-sized city in Germany. Most of these staff members were involved, for example, in social work, youth welfare, and public health service and thus were frequently required to create a professional, competent, friendly, and positive emotional impression, especially when customers, citizens, or patients were unfriendly and frustrated due to personal problems.

A total of 452 employees completed the questionnaire. This number accounts for 63.8% of the total sample. Questionnaires were administered in small groups of about 15 persons during normal working hours. Completing the questionnaire was voluntary. All participants were assured that their data would remain confidential. During the group sessions, a member of the research team was present. The age of participants varied between 17 and 64 years (M = 43.12, SD = 9.69). 58.2% of the employees involved were women and 64.8% were employed on a full-time basis.

Measures and variables. *Emotional dissonance* was measured with four items asking for the frequency of the perceived discrepancy between emotions expressed as required by the job role and those genuinely felt (e.g., "How often do you have to show feelings at work that you do not really feel?", "How often do you display emotions which do not correspond to inner feelings?"). The items originally stem from the Frankfurt Emotion Work Scales (FEWS 3.0; Zapf et al., 1999). Some questions were slightly modified for the core tasks in the municipal administration by asking specifically about interactions with citizens, patients, and customers. The response format of this scale ranged from 1 (*never*) to 5 (*very often*).

As an indicator of *cognitive control deficits*, the frequency of everyday slips and errors in perception, memory, and action was assessed using a German version (Schmidt & Neubach, 2006) of the CFQ developed by Broadbent et al. (1982). Several factor analyses and psychometrical tests across different samples have repeatedly provided strong evidence for the construct validity of the CFQ in terms of dimensionality, convergent, and divergent validity (Larson et al., 1997; Wallace, 2004). Moreover, van der Linden et al. (2005) found the frequency of failures in self-regulatory tasks to be strongly correlated to the CFQ-scores facilitating that the CFQ is a valid instrument for assessing interindividual differences in CCDs (see also Rast et al., 2009). Each of the 25 items refers to a particular type of failure (e.g., forgetting names and appointments, losing temper, failing to regulate attention, communication problems), and participants are asked to indicate how often they have made that particular error within the last six months (e.g., "How often did you lose your temper and regret it?"; "How often did you start doing one thing and get distracted into doing something else?"; "How often did you say things and realize afterward that they might be taken as an insult?"). The five-point Likert-response format covers a range from 1 (*never*) to 5 (*very often*).

The two burnout dimensions of *emotional exhaustion* (nine items) and *depersonalization* (four items)

were measured by the German version (Büssing & Perrar, 1992) of the Maslach Burnout Inventory (MBI, Maslach & Jackson, 1986). The German translation of the MBI has been proven to have good psychometrical properties and to reflect the hypothesized factor structure (Neubach & Schmidt, 2000). Emotional exhaustion refers to feelings of being overextended and drained by emotional work demands (e.g., "I feel emotionally drained from my work"). Depersonalization is characterized by a detached, indifferent, and cynical attitude toward other persons with whom one has to interact at work (e.g., "I have become more callous toward people since I took this job"). All items are scored on a 6-point frequency rating scale ranging from 1 (*not at all*) to 6 (*very often*).

As age (Cheung & Tang, 2007), gender (González-Morales, Rodríguez, & Peiro, 2010), and working time status (Barnett, Gareis, & Brennan, 1999) have been found to account for differences in burnout symptoms (and in absenteeism; see Wegge, Schmidt, Parkes, & Van Dick, 2007), these variables were also collected (in both studies) and included in our analyses to control for the possibility of spurious relations among the study variables.

Statistical procedure. Drawing on the LMS estimation method (Latent Moderated Structural Equation Modeling; Dimitruk, Schermelleh-Engel, Kelava, & Moosbrugger, 2007; Klein & Moosbrugger, 2000), a moderated SEM was specified to test interactive effects of CCDs and ED on emotional exhaustion and depersonalization. In this model, gender (1 = female; 2 = male), and working time status (1 = part time; 2 = full time) as dichotomous manifest variables and age were related to both latent outcomes (emotional exhaustion and depersonalization). To analyze main effects, we specified direct paths from both predictors ED and CCDs to both burnout variables. As known from moderated regression analysis (Aiken & West, 1991), latent product terms of the hypothesized interacting variables (ED and CCDs) were computed and specified to predict both latent dependent variables. As normal distribution of the latent dependent variables cannot be assumed when interaction effects are predicted (Kelava, Moosbrugger, Dimitruk, & Schermelleh-Engel, 2008), no χ^2-values and fit indices are provided by LMS method. Alternatively, the log-likelihood difference test (Δ-*2LL*; Dimitruk et al., 2007) validates the improvement in model fit of the moderated SEM in comparison to a linear SEM without interaction terms. All parameter specifications and estimations of the SEM were conducted with Mplus 5.1 (Muthén & Muthén, 2007).

To reduce measurement errors of the indicators, all items for assessing the study variables were aggregated into parcels, each representing a manifest variable for the respective latent constructs. The parceling procedure based on the item-to-construct balance method that places lower loaded items with higher loaded items and thus minimizes the loading differences among the manifest variables (see Little, Cunningham, Shahar, & Widaman, 2002). To test the validity of the psychometrical distinctiveness of the self-report measures, Confirmatory Factor Analyses (CFAs) were conducted before applying the LMS-procedure.

Results

Descriptive statistics. Descriptive statistics, coefficient alphas, and intercorrelations for all measures are depicted in Table 1.

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

Variable	1	2	3	4	5	6	7
1. Age	—						
2. Gender[a]	**.12**	—					
3. Working time status[b]	−.01	**.59**	—				
4. Emotional dissonance	.02	**.12**	**.13**	—			
5. Cognitive control deficits	−.07	.08	.09	**.48**	—		
6. Emotional exhaustion	−.03	.08	**.12**	**.57**	**.67**	—	
7. Depersonalization	**−.13**	**.22**	**.21**	**.61**	**.58**	**.69**	—
M	43.12	1.42	1.65	2.72	2.32	2.49	1.98
SD	9.69	0.49	0.48	1.01	0.66	1.02	0.92
α	—	—	—	.92	.86	.91	.70

Note. $N = 452$. Numbers in bold, $p < .05$.
[a] Gender (1 = female, 2 = male). [b] working time status (1 = part-time, 2 = full-time).

Measurement models. In Table 2, the global fit of the measurement models is reported. CFAs provided support for the psychometrical distinctiveness of ED and CCDs. The proposed 2-factor model yielded a very good data approximation, whereas a 1-factor model largely failed to fit the data. According to the construct validity of both burnout variables, the theorized 2-factor structure showed a good fit to the data. By way of contrast, a general burnout model shows an inadequate fit. All standardized factor loadings were higher than $\lambda = .77$ and significant, indicating adequate, valid, and reliable measurement models.

Latent moderated structural equation analysis. The results of LMS estimations are given in Table 3. After controlling for biographical data (age, gender, and working time status), ED and CCDs were found to positively relate to both burnout symptoms. Moreover, and theoretically more important, significant interaction effects between ED and CCDs were identified to result in higher proportions of explained variance in both burnout symptoms than accounted for by the main effects. The signs of the parameters indicate that the positive relations of ED to exhaustion and depersonalization were amplified as a function of CCDs. In support of Hypothesis 1, the log-likelihood difference test confirmed interactive effects between ED and CCDs on both burnout variables in the underlying population. The incremental amounts of variance explained by the interaction effects were 8% (exhaustion) and 10% (depersonalization), respectively.

To facilitate the interpretation of the present findings, interaction plots were generated using the method recommended by Aiken and West (1991). As Figure 1 shows, compared to employees with low levels of CCDs (one *SD* below the mean), the adverse effects of ED on both burnout symptoms were more pronounced when high levels of CCDs (one *SD* above the mean) were reported. Thus, Hypothesis 1 received strong support by the data of Study 1.

Table 3
Unstandardized LMS-Estimates of the Main Effects of Control Variables and Main and Interaction Effects of Emotional Dissonance and Cognitive Control Deficits on Burnout Symptoms (Study 1)

	Emotional exhaustion	Depersonalization
γ: Age	.00	−.01**
γ: Gender	−.09	.25**
γ: Working time status	.10	.06
R^2	.01	.10
γ: Emotional dissonance	.32**	.36**
γ: Cognitive control deficits	.81**	.49**
R^2 (ΔR^2)	.67 (.66)	.72 (.62)
ω: Interaction	.49**	.38**
R^2 (ΔR^2)	.75 (.08)	.82 (.10)
Δ-*2LL* (df_{diff})	5243.99 (2)**	

Note. $N = 452$.
** $p < .01$.

Study 2

Method

Participants and procedure. The sample of the second study consisted of service employees of a

Table 2
Results of Confirmatory Factor Analyses for Testing the Differentiability of the Variables (Study 1)

	χ^2	*df*	RMSEA	$CI_{90\%}$ (RMSEA)	SRMR	Gamma hat	CFI
Measurement models of predictors							
2-factor model	3.64 (n.s.)	4	.000	.000–.068	.011	1.000	1.000
1-factor model[a]	219.84**	5	.308	.274–.344	.142	.840	.759
Measurement models of criteria							
2-factor model	4.29 (n.s.)	4	.013	.000–.073	.010	1.000	1.000
1-factor model[b]	31.41**	5	.108	.074–.146	.034	.980	.970

Note. $N = 452$; n.s. = nonsignificant.
[a] Emotional dissonance and cognitive control deficits as one factor. [b] Emotional exhaustion and depersonalization as one factor.
** $p < .01$.

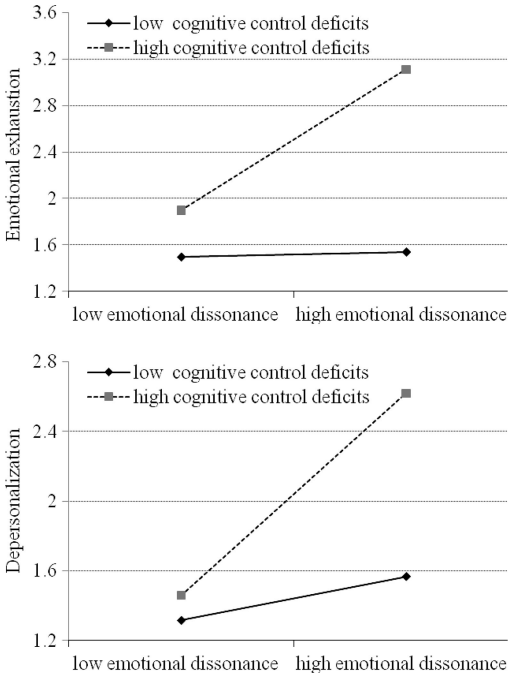

Figure 1. Study 1: Interaction effects of emotional dissonance and cognitive control deficits on burnout symptoms.

civil service institution of a federal state in Germany. The service employees' core tasks included providing financial services, investigating the financial status of citizens, and gathering information about income as well as tax liabilities in face-to-face interactions or phone calls. In dealing with these tasks, the service employees were often faced with demands to perform emotional labor with high risks of experiencing ED because citizens are often unfriendly and disingenuous when they have to give information about their financial status.

The service employees were asked to participate in the survey on two occasions with a time interval of 24 months. Consistent with the empirically well-founded argument that the adverse effects of regulatory requirements at work and repeated resource depletion manifest in psychological strain over longer time periods (de Lange et al., 2009), Dormann and Zapf (2002) found a 2-years interval to be most appropriate to analyze lagged effects of job stressors on strain measures (see also de Jonge & Dormann, 2006). Again, completing the questionnaire was voluntary and all participants were assured that the data would remain confidential. At Time 1, 551 employees completed the questionnaire, yielding a response rate of 86% while at Time 2, 341 employees took part in the survey (response rate: 79.7%). In sum, a final sample of 193 participants was identified to complete the questionnaire on both survey times. For all participating employees, absence data of the 12 months before the first and after the second survey was available. Age varied between 19 and 59 years (M = 42.12, SD = 9.45). Of the sample, 58% were women and 89.1% were employed on a full-time basis.

Measures and variables. The assessment of *emotional dissonance*, *cognitive control deficits*, *emotional exhaustion*, and *depersonalization* was based on the same instruments as in Study 1. Some questions for the assessment of ED were slightly modified for the domain of service work in a civil service institution by specifically addressing interactions with citizens.

Again, age, gender, and working time status were collected to control for the possibility that biographical differences produce spurious relationships.

Two indices were used for assessing absence behavior: *sum of days absent from work* and *absence frequency* (the number of absence events, regardless of their duration). The corresponding data were drawn from personnel records of the Human Resource department. Each index was calculated twice by adding the absence data of each participant over a period of 12 months before the first survey and after the second survey. Thus, both absence measures related to participants' absence behavior prior to the first survey (Time 1) and after the second survey (Time 2). This procedure mitigates confounding influences due to different time frames and thus enables precise estimations of the interindividual stabilities of absenteeism between both surveys (Dormann, Zapf, & Perels, 2010). Since the distributions of the absence indices considerably deviated from the thresholds that are commonly seen as critical for unbiased parameter estimations (Hammer & Landau, 1981; Kelava et al., 2008), all individual raw scores were subjected to a square root transformation (see Clegg, 1983). After transformation, skewness and kurtosis for both absence indices were smaller than 1 (skewness) and lower than 2 (kurtosis), meeting the criteria for applying covariance based analyses (see also Geurts, Buunk, & Schaufeli, 1994).

Statistical procedure. Using the LMS method, a nonlinear SEM was specified to test whether ED and CCDs interact in predicting burnout and absence behavior at Time 2. Both absence indices were included as manifest variables. Again, age, gender (1 = female; 2 = male), and working time status (1 = part

time; 2 = full time) as manifest variables were related to all four outcomes (exhaustion, depersonalization, absence frequency, and sum of days absent). We adopted the cross-lagged panel method as this design has been proven to control for the effects of unmeasured third variables (Dormann et al., 2010). Accordingly, to control for interindividual stability, the four outcomes were longitudinally related to themselves. For analyzing lagged main and interactive effects, both interacting predictors (ED and CCDs) and their latent product term on Time 1 were specified to predict the four outcomes on Time 2. To test the validity of the measurement models, CFAs were conducted.

Results

Descriptive statistics. Descriptive statistics, coefficient alphas, and intercorrelations for all measures of Study 2 are depicted in Table 4.

Measurement models. In Table 5, information about the global fit of the factor models is provided. As reported in Study 1, CFAs confirmed that ED and CCDs represent distinct latent variables. On both measurement times, the theorized two-factor model performed considerably better than a one-factor model. For the outcomes, the fit indices clearly support a model that differentiates between exhaustion and depersonalization. In contrast, a model combining both burnout variables failed to fit the data, on Time 1 and 2.

Latent moderated structural equation analysis. Table 6 depicts the parameter estimations of the moderated structural equation analysis. As can be seen, gender, age, and working time status were not longitudinally related to both burnout symptoms and absence indices at a later point in time. In line with prior studies on burnout (Diestel & Schmidt, 2010b) and absenteeism (Schmidt, 2002), the interindividual stabilities were fairly high for the two burnout symptoms and moderate for both absence indices. After controlling for biographical differences and outcome stability, ED (Time 1) exerted positive lagged effects on exhaustion and depersonalization at Time 2, whereas CCDs (Time 1) longitudinally predicted all four outcomes with signs corresponding to theoretical expectations. Finally, and consistent with Hypotheses 1 and 2, LMS estimations revealed significant lagged

Table 4
Descriptive Statistics, Coefficient Alphas, and Intercorrelations (Study 2)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
							Time 1								
1. Age	—														
2. Gender[a]	**.15**	—													
3. Working time status[b]	.09	**.26**	—												
4. Emotional dissonance	−.00	**.20**	.08	—											
5. Cognitive control deficits	**−.20**	.02	−.12	**.42**	—										
6. Emotional exhaustion	−.10	**.17**	.02	**.51**	**.59**	—									
7. Depersonalization	**−.23**	**.18**	.01	**.52**	**.45**	**.66**	—								
8. Sum of days absent	**.14**	.04	−.12	.11	.14	**.16**	.11	—							
9. Absence frequency	−.06	−.11	**−.15**	.12	**.16**	**.20**	.12	**.81**	—						
							Time 2								
10. Emotional dissonance	.04	**.16**	**.12**	**.62**	**.35**	**.33**	**.43**	.00	−.03	—					
11. Cognitive control deficits	−.12	.11	−.06	**.44**	**.72**	**.49**	**.46**	.05	.08	**.37**	—				
12. Emotional exhaustion	−.13	**.19**	.09	**.51**	**.57**	**.68**	**.56**	.13	**.16**	**.48**	**.65**	—			
13. Depersonalization	**−.22**	**.12**	.03	**.55**	**.50**	**.54**	**.75**	.09	.11	**.55**	**.55**	**.73**	—		
14. Sum of days absent	−.08	.00	−.09	**.29**	**.41**	**.36**	**.23**	**.39**	**.40**	**.21**	**.35**	**.34**	**.33**	—	
15. Absence frequency	**−.18**	−.05	**−.14**	**.21**	**.29**	**.29**	**.23**	**.42**	**.53**	.11	**.28**	**.31**	**.29**	**.82**	—
M	42.12	1.42	1.89	2.69	2.47	2.57	2.24	8.23	2.26	2.69	2.30	2.63	2.27	7.34	2.58
SD	9.45	0.50	0.31	0.89	0.62	0.96	1.00	11.32	2.13	0.86	0.65	0.94	1.00	8.35	2.24
α	—	—	—	.90	.85	.89	.77	—	—	.90	.88	.89	.80	—	—

Note. $N = 193$. Numbers in bold, $p < .05$.
[a] Gender (1 = female, 2 = male). [b] working time (1 = part-time, 2 = full-time). Descriptive statistics of absence data represent non-transformed scores.

Table 5
Results of Confirmatory Factor Analyses for Testing the Differentiability of the Variables (Study 2)

	χ^2	*df*	RMSEA	$CI_{90\%}$ (RMSEA)	SRMR	Gamma hat	CFI
				Time 1			
Measurement models of predictors							
2-factor model	2.85 (n.s.)	4	.000	.000–.093	.026	1.000	1.000
1-factor model[a]	56.81**	5	.232	.180–.288	.128	.900	.772
Measurement models of criteria							
2-factor model	3.02 (n.s.)	4	.000	.000–.096	.016	1.000	1.000
1-factor model[b]	27.50**	5	.153	.100–.211	.042	.955	.942
				Time 2			
Measurement models of predictors							
2-factor model	3.85 (n.s.)	4	.000	.000–.107	.013	1.000	1.000
1-factor model[a]	124.81**	5	.352	.300–.407	.136	.800	.482
Measurement models of criteria							
2-factor model	1.86 (n.s.)	4	.000	.000–.074	.008	1.000	1.000
1-factor model[b]	25.56**	5	.146	.093–.204	.030	.959	.961

Note. $N = 193$. n.s. = nonsignificant.
[a] Emotional dissonance and cognitive control deficits as one factor. [b] Emotional exhaustion and depersonalization as one factor.
** $p < .01$.

interactive effects of ED and CCDs on both burnout symptoms and both absence indices at a later point in time. As in Study 1, the signs of the coefficients indicate that the positive longitudinal relations of ED at Time 1 to all four outcomes at Time 2 were amplified as a function of CCDs at Time 1. Supporting both hypotheses, the log-likelihood difference test confirmed interactive effects in the underlying population. In terms of effect sizes, the increases in explained variance due to the significant interactions were 4% for both burnout symptoms and approximately 5% for sum of days absent and 2% for absence frequency.

Again, using the plotting procedure by Aiken and West (1991), we generated simple slope plots (see Figure 2). The positive longitudinal relations of ED (Time 1) to both burnout symptoms at Time 2 were

Table 6
Unstandardized LMS-Estimates of the Lagged Main Effects of Control Variables and Lagged Main and Interaction Effects of Emotional Dissonance and Cognitive Control Deficits on Burnout Symptoms, and Absence Behavior (Study 2)

	Emotional exhaustion t_2	Depersonalization t_2	Sum of Days absent t_2	Absence frequency t_2
γ: Age	.00	−.01	−.01	−.01
γ: Gender	.10	−.02	−.04	.01
γ: Working time status	.15	−.01	−.28	−.21
γ: Stability (Outcome t_1)	.52**	.66**	.21**	.37**
R^2	.58	.64	.12	.24
γ: Emotional dissonance t_1	.16*	.20**	.19	.07
γ: Cognitive control deficits t_1	.26*	.20*	.71**	.21**
R^2 (ΔR^2)	.64 (.06)	.70 (.06)	.31 (.19)	.32 (.08)
ω: Interaction	.33*	.31*	.61*	.17*
R^2 (ΔR^2)	.69 (.04)	.74 (.04)	.36 (.05)	.34 (.02)
Δ-2LL (df_{diff})	3022.31 (4)**			

Note. t_1 = Time 1; t_2 = Time 2; $N = 193$.
* $p < .05$. ** $p < .01$.

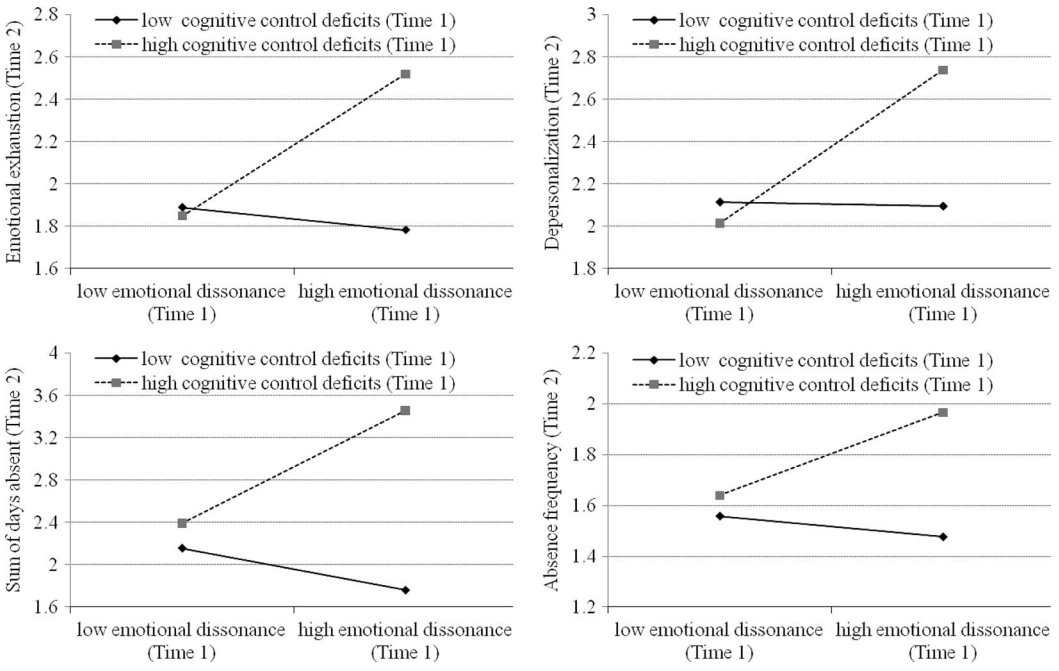

Figure 2. Study 2: Lagged interaction effects of emotional dissonance (Time 1) and cognitive control deficits (Time 1) on burnout symptoms (Time 2) and absence behavior (Time 2).

stronger when high levels of CCDs (Time 1) were reported (one *SD* above the mean) as compared to low levels of CCDs (one *SD* below the mean). For both absence indices, the same pattern of results was found: with high levels of CCDs (Time 1), the positive relation of ED (Time 1) to absence behavior (Time 2) was stronger as compared to low levels of CCDs. Thus, the lagged positive effects of ED on both burnout symptoms and absenteeism were strengthened by CCDs, supporting Hypotheses 1 and 2.

Additional analyses. To test for reverse causation, we further examined our data using LMS. Neither both burnout symptoms nor both absence indices (each assessed at Time 1) predicted ED and CCDs at Time 2. There was also no evidence for any interaction effect between ED and both burnout symptoms at Time 1 or ED and both absence indices at Time 1 on CCDs at Time 2. Vice versa, CCDs didn't interact with any of the four outcomes at Time 1 in predicting ED at Time 2. Taken together, these results suggest that neither both burnout symptoms nor absenteeism increase ED or CCDs over time as main or interaction effects. Emphasizing the role of ED as a stable characteristic of a job role (Zapf et al., 1999) and CCDs as a stable person-related trait (Wallace, 2004), the latent stabilities of both variables were quite high (ED: .68; $p < .01$; CCDs: .82; $p < .01$).

Discussion

The present study tested whether CCDs as an individual vulnerability factor moderate (strengthen) the adverse effects of ED on burnout symptoms and absenteeism. The conceptual background of our research draws on recent theoretical accounts and laboratory findings suggesting the assumptions that (a) portraying emotions which are not truly felt involves an act of self-regulation and thus consumes a limited cognitive resource capacity, (b) CCDs reflect a low resource capacity and (c) constitute a vulnerability factor that becomes manifest in a moderator effect on the adverse impacts of job demands on psychological strain and absenteeism (stress-strain vulnerability hypothesis, see

Broadbent et al., 1982; Schmeichel, 2007; Tice & Bratslavsky, 2000; van der Linden et al., 2005; Zapf & Holz, 2006). The basic premises of Person-Environment Fit theory (Edwards, 1992) and of COR theory (Hobfoll & Freedy, 1993) led us to propose that CCDs make employees more vulnerable to the adverse impacts of emotional labor, especially when genuinely felt emotions often differ from those emotions that are expressed as required by the job role. The results of both studies provide convergent support for that proposition. In addition, we were able to demonstrate that the interaction patterns are invariant across different occupational settings. Moreover, the moderator effect of CCDs became manifest over a time period of 24 months, indicating that the combination of ED and CCDs also has long-term consequences for one's psychological well-being and the organizations' absence rate. Finally, the high effect sizes of the interactions (up to 10% of explained variance) emphasize the practical relevance of CCDs in performing emotional labor.

Theoretical Implications

Drawing on the findings of the present study, our research offers several theoretical contributions to the existing knowledge. First, our research replicates recent experimental findings from the laboratory in organizational contexts. Experimentally, the psychological costs of ED have been revealed to depend on a limited control resource capacity, which differs significantly between individuals (Schmeichel et al., 2008). Moreover, a low control resource has been shown to become manifest in CCDs as measured by the CFQ (Broadbent et al., 1982). Research on emotional labor in organizational contexts has largely failed to consider both findings thus far. Here, we were able to show in organizational settings that interindividual differences in CCDs influence the extent to which ED is associated with burnout symptoms as well as absence behavior and, thus, explain why for some employees, emotional labor can be more exhausting and provide more reasons to "take a sickie" than for others.

Second, in the face of growing flexibility and dynamic of work structures, fast developing technologies as well as a continuous rise of the service-sector, our findings highlight the debilitating effects of CCDs in occupational settings in which cognitive control of behavior, emotions, and thoughts is increasingly required for achieving organizational goals (Cascio, 2003; Schmidt & Neubach, 2007). However, basic research on CCDs has largely neglected the job domain. Only Wallace and Vodanovich (2003) reported positive associations between individual CFQ-scores and job-related outcomes, for example work accidents. Here, we identified—besides main effects—enhancer effects of CCDs, accentuating the role of individuals' limited cognitive resource capacity for job-related outcomes in terms of psychological strain and absenteeism. Whereas traditional conceptualizations of CCDs have primarily focused on the theoretical status as an individual trait with consequences for one's cognitive functioning (Rast et al., 2009; Vom Hofe, Mainemarre, & Vannier, 1998; Wallace, 2004), the found enhancer effect largely broadens the scope of CCDs and suggests interpreting CCDs as an indicator for a lack of resources and capacities in performing emotional labor.

Third, to our knowledge, this study is one of the first to disentangle the relationship between emotional labor, especially ED as a source of work stress, and absenteeism. After reviewing the literature, Johns (1997, 2009) concluded that the stress-absence relationship is complicated and interindividual differences might constitute a boundary condition determining whether work stress increases absenteeism or not. Drawing on COR theory (Hobfoll & Freedy, 1993) and Johns's conceptualization of absence behavior as a form of withdrawal and coping strategy (Johns, 2002, 2009), we predicted that absenteeism can result from a combination of ED indicating high self-regulatory efforts and CCDs indicating low resources required for self-regulatory efforts. Thus, consistent with P-E fit and COR theory, our results facilitate Johns's argument that the adverse effects of work stress on absenteeism depend on interindividual differences in stress resistance resources.

Finally, the interactive effects of ED and CCDs on absenteeism also imply organizational costs. A growing number of studies reveals that organizations (especially in the services sector) lose millions of dollars each year due to increasing absenteeism (Hausknecht, Hiller, & Vance, 2008). Thus, as different absence indices reflected the interactions in our study, the combination of ED and CCDs can cause considerable financial costs and thus affect organizational efficiency. This conclusion demands attention not only from a theoretical perspective, but also from an economical point of view.

Limitations and Avenues for Future Research

Of course, the present study has certain limitations. First, most of the study variables were operationalized through self-report measures. Thus, common method variance or a self-report bias might have contaminated the relations found (Podsakoff, MacKenzie, Podsakoff, & Lee, 2003). However, using two absence indices that reflected a similar pattern of interactions, as did the self-report measure of burnout symptoms and the panel design largely mitigated the risk of mutual contamination of the constructs (de Jonge & Dormann, 2006). Nevertheless, future research on the moderating effect of CCDs should conduct (short) tests of cognitive functioning, which are less contaminated by self-report biases and assess the limited cognitive resource capacity, more directly (e.g., see Schmeichel et al., 2008). In view of the fact that using the CFQ provides only a proxy measure of the regulatory resource this suggestion should be considered thoroughly. Whereas past research has offered support for the claim that daily CCDs (as measured by the CFQ) are strongly influenced by impairments of the regulatory resource (Vom Hofe et al., 1998; Wilhelm, Witthöft, & Schipolowski, 2010), several authors have put forward the idea that CCDs might also depend on boredom proneness and daytime sleepiness (Wallace, Vodanovich, & Restino, 2003) or impulsivity (Wallace, Kass, & Stanny, 2002). Although such factors are also related to self-regulation and thus to the resource capacity (Muraven & Baumeister, 2000), more valid measures of that capacity should help to distinguish between different potential influences on the emotional labor process and thus to preclude that other factors associated with CCDs moderate the adverse effects of ED.

Second, the nontrivial latent correlation between ED and CCDs in both samples rises the question whether an underlying dispositional factor operated and thus determined the main and interactive effects on burnout symptoms as well as absence behavior. Some authors have argued that negative affectivity (NA) or similar personality traits (neuroticism) may influence relations among sources of work stress, resource capacities, and indicators of job strain (Watson, Pennebaker, & Folger, 1987; Zapf & Holz, 2006). However, past research has repeatedly shown that neither ED (Wegge, Van Dick, & von Bernstorff, 2010; Zapf & Holz, 2006) nor CCDs as measured by the CFQ (Bridger, Brasher, Dew, Sparshott, & Kilminster, 2010) are closely (or even significantly) related to dispositional factors, like NA or neuroticism. Moreover, the CFA results of our studies clearly confirmed a 2-factor-model distinguishing between ED as a source of stress and CCDs as an indicator for one's resource capacity. In line with the conclusions drawn by Spector, Zapf, Chen, and Frese (2000), influences of such dispositional factors on the relations found are rather unlikely.

Third, the theoretical argument that ED leads immediately to resource depletion, especially for those with high CCDs or a low resource capacity, refers to an event-level process and thus calls for an experience sampling methodology or an experimental design (Ohly, Sonnentag, Niessen, & Zapf, 2010). In extending this argument, we also refer to longitudinal studies suggesting that repeated resource depletion causes psychological strain and withdrawal from work *over longer time periods* (Oaten & Cheng, 2005, 2006). Thus, the theorized event-level process is not only limited to immediate strain experiences, but has also long-term effects on the between-person level. The high stabilities of ED and CCDs reported in Study 2 facilitate this conclusion. Nevertheless, future research should also focus on the moderating effect of CCDs as a between-person-level variable on the within-person relationship between ED varying across the day or week and corresponding strain experience, like need for recovery (Sonnentag et al., 2010).

Finally, in future research, the moderating function of CCDs should be integrated and tested in a more elaborated stress-strain process model. On the one hand, other relevant emotional labor variables, like display rules (Cheung & Tang, 2007) or emotion regulation strategies (Brotheridge & Lee, 1998; Judge et al., 2009), might also be connected to CCDs. For example, display rules may influence the experience of ED and the relation among both may be also enhanced by CCDs such that employees with high CCDs are less able to be aware of and thus to apply display rules in client interaction processes. Similarly, the effects of ED on psychological strain might be mediated by emotion regulation strategies and thus this mediated relation should be amplified as a function of CCDs such that employees with high CCDs are less able to control their emotions and to choose an efficient regulation strategy. On the other hand, CCDs might also moderate the adverse effects of other stressors, which cause employees to engage in self-regulation and thus presumably draw on the same limited resource as ED does. For example, concentration requirements (Diestel & Schmidt, 2009; Hacker & Richter, 1990), self-control demands

(Oaten & Cheng, 2005; Schmidt & Neubach, 2007), or goal incongruency (Kehr, 2004; Schmidt, 2010) have been theoretically linked to self-regulation. Consequently, testing a more complex model that integrates these stressors may reveal whether and, to what extent, their relations to psychological strain are influenced by interindividual differences in the cognitive control resource and thus enhanced by CCDs.

Practical Implications

Due to the rising importance of the service-sector and growing competition in industrialized countries, demands on emotion labor and, therefore, the likelihood of ED are expected to increase in the future (Cascio, 2003; Gross, 2007). Consequently, as COR theory strongly suggests, attempts to mitigate the adverse effects of ED and CCDs on psychological strain and absenteeism should focus on strengthening protective resources. For example, intervention programs, which enhance the limited resource capacity for self-regulation seem to be effective and promising (for review Baumeister et al., 2006). Past intervention studies have consistently revealed that a successive training of cognitive control results in a significant improvement of self-regulation in a wide range of laboratory tasks, like emotion control, overcoming inner motivational blockades, or impulse control (Muraven, Baumeister, & Tice, 1999; Oaten & Cheng, 2006). Additionally, these effects were not only limited to laboratory tasks, but were also found in real-life contexts. For example, participants of the training reported significant decreases in consumption of drugs and an increase in healthy behavior, attendance to commitments as well as in emotion control, especially in personal relationships. In comparison, control groups which did not enter such an intervention showed no improvement in cognitive control. Indeed, as Oaten and Cheng (2006) pointed out, such a training program need to include regular stages of recovery in order to prevent the longitudinal adverse effect of frequent self-regulatory effort on psychological strain. Thus, recovery experience is a crucial boundary condition of the relation of self-regulatory demands to strain or improved self-regulation (see also Sonnentag, Binnewies, & Mojza, 2008).

Besides such interventions, field studies on emotional labor has also offered several influencing organizational and personal variables that mitigate the adverse effects of ED. For example, de Jonge et al. (2008) found emotional job resources, like emotional support from supervisors and colleagues, to buffer the adverse effects of emotional job demands on burnout symptoms. Moreover, Giardini and Frese (2006) introduced emotional competence, like the ability to influence the emotions of others, as a personal resource making employees more resistant to the adverse effects of ED. Finally, Heuven et al. (2006) reported that self-efficacy has similar buffering effects on the relations of ED to burnout. Although organizations are hardly able to control the actual emotions experienced by their employees, they nevertheless can use a broad spectrum of strategies supporting employees in performing emotional labor.

Concluding Comments

The present study connected two issues of research that has been only separated examined, so far. First, past research on emotional labor has found ED to predict burnout symptoms and, to explain this relationship, has repeatedly linked ED to self-regulation. However, implications of the argument that ED causes employees to engage in self-regulation have been largely neglected. Second, research on CCDs has a long tradition in the literature. In this tradition, CCDs has been connected to stress and strain and found to reflect interindividual differences in a resource capacity that is required for self-regulation. Drawing on established theories of occupational health, we proposed that CCDs constitute a person-related boundary condition under which ED leads to burnout symptoms and absence behavior. The finding that ED is more closely related to both outcomes for those employees with high CCDs, strongly supports Diefendorff and Gosserand's (2003) cognitive control perspective on emotional labor and emphasizes the crucial role of one's cognitive resource capacity. To provide deeper insight in the nature of the emotional labor process, we encourage future research to consider self-regulation and CCDs more thoroughly.

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