Feeling Recovered and Thinking About the Good Sides of One's Work

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Consistent with a positive psychology perspective, this longitudinal study investigated relations between positive and negative nonwork experiences (i.e., feeling recovered, thinking about the positive and negative aspects of one's work during leisure time) with different job performance dimensions. In total, 358 employees working with persons with special needs responded to two questionnaires at an interval of 6 months. Results from hierarchical regression analyses showed that feeling recovered during leisure time predicted an increase in task performance after 6 months. This relation was mediated by occupational self-efficacy. Positive work reflection was found to predict an increase in proactive behavior (personal initiative, creativity) and organizational citizenship behavior. Negative work reflection was unrelated to job performance. Our results emphasize the role of positive nonwork experiences for employees' job performance.

Keywords: recovery from job stress, work-life balance, nonwork experiences, job performance, personal initiative, creativity, organizational citizenship behavior

Work and nonwork domains are both important parts of an employee's life. One domain can benefit the other domain, but both domains can also interfere with each other (Ford, Heinen, & Langkamer, 2007; Rothbard, 2001). Specifically, experiences and behaviors at work affect experiences and behaviors in the nonwork domain and vice versa (e.g., Ilies et al., 2007).

Recovery is a nonwork experience that benefits individuals' well-being and job performance (e.g., Fritz & Sonnentag, 2005). However, research on the benefits of recovery for job performance is scarce and focused on short-term consequences within a few hours, days, or weeks after a respite period (e.g., Binnewies, Sonnentag, & Mojza, 2009; Fritz & Sonnentag, 2005, 2006; Trougakos, Beal, Green, & Weiss, 2008).

In our study, we examined feeling recovered (i.e., being mentally and physically refreshed) during leisure time—an indicator of individuals' successful recovery—as a predictor of individuals' job performance over a period of 6 months. Thereby, we complemented research on the relation between need for recovery and fatigue with performance-related outcomes (Demerouti, Taris, & Bakker, 2007; Van der Linden, Frese, & Meijman, 2003). In line with the positive psychology framework (Seligman & Csikszentmihalyi, 2000) that addresses positive conditions and processes that contribute to individuals' optimal functioning (Gable & Haidt, 2005; Seligman & Csikszentmihalyi, 2000), we focused on the positive concept of feeling recovered during leisure time.

Thinking about work during leisure time (e.g., ruminating and not being able to mentally switch off from work) is another important nonwork experience (Cropley & Purvis, 2003; Etzion, Eden, & Lapidot, 1998; Sonnentag & Bayer, 2005). Although research called for the distinction between positive and negative thinking (Segerstrom, Stanton, Alden, & Shortridge, 2003), most studies focused on negative thoughts (Cropley, Dijk, & Stanley, 2006; Cropley & Purvis, 2003) or the absence of work-related thoughts (e.g., psychological detachment; Sonnentag & Bayer, 2005), thereby neglecting positive thoughts and

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outcomes (for an exception, see Fritz & Sonnentag, 2006). Moreover, studies investigating the relation between work-related thoughts during nonwork time with job performance are sparse (Fritz & Sonnentag, 2005, 2006). Our study addressed this gap and examined the relations of positive and negative work reflection during leisure time with job performance.

In addition, our study investigated if self-efficacy is one of the resources built up during recovery that benefits job performance. Self-efficacy can be viewed as a personal resource (Hobfoll, 1989) and is part of individuals' psychological capital (Luthans & Youssef, 2007). As self-efficacy is one core construct of positive psychology (Luthans, Avolio, Avey, & Norman, 2007) and a predictor of job performance (Stajkovic & Luthans, 1998), we examined self-efficacy as a mediator in the relation between nonwork experiences and job performance.

By examining the relations of positive and negative nonwork experiences with job performance our study contributes to research on spillover from the nonwork domain to the work domain (e.g., Edwards & Rothbard, 2000; Hammer, Cullen, Neal, Sinclair, & Shafiro, 2005). As far as we know, our study is the first that investigates relations between nonwork experiences and job performance over a longer period of time.

We can also draw practical implications from our study: If it turns out that feeling recovered positive and negative work reflection during leisure time are predictors of job performance, individuals should be encouraged to take care of their recovery, to engage in positive work reflection and to prevent negative work-related thoughts.

Recovery During Leisure Time

At work, individuals have to invest physical and mental resources to deal with work-related demands (Meijman & Mulder, 1998). After work an individual's resources are depleted, resulting in fatigue and a need for recovery (Sluiter, van der Beek, & Frings-Dresen, 1999). According to Hobfoll's (1989) Conservation of Resources (COR) model, individuals experience stress when their resources are depleted. Resources are defined as "objects, personal characteristics, conditions, or energies that are valued by the individual or that serve as a means for attainment of these objects, personal characteristics, conditions, or energies" (Hobfoll, 1989, p. 516). During leisure time, an individual is no longer confronted with work-related demands, does not face a further resource loss, and has time to unwind from job stressors. This process of unwinding is called *recovery*. The recovery process reverses the negative effects of work-related demands and enables an individual's functional system to return to the prestressor level of functioning (Craig & Cooper, 1992). In addition, during leisure time an individual can engage in activities that restore and increase his or her resources, such as self-efficacy or positive affect (Fritz & Sonnentag, 2005).

Feeling recovered during leisure time refers to how much an individual feels physically and mentally refreshed (Sonnentag & Kruel, 2006). It is a positive indicator of successful recovery during leisure time. Feeling recovered is similar, but distinct from other concepts, such as need for recovery and mental fatigue (Demerouti et al., 2007; Van der Linden et al., 2003). Need for recovery is a short-term response following work-related demands (Sluiter et al., 1999) referring to a person's need for recuperation from work-induced fatigue (Jansen, Kant, & van den Brant, 2002). Mental fatigue is a change in psychophysiological states due to sustained accomplishment of mentally demanding tasks (Van der Linden et al., 2003). Whereas need for recovery and mental fatigue represent negative indicators of being recovered after a working day or a performance episode, feeling recovered during leisure time is a positive indicator of recovery and reflects a more general evaluation of feeling physically and mentally fit.

Feeling Recovered During Leisure Time and Job Performance

Feeling recovered during leisure time indicates that successful recovery has occurred and that resources have been restored (Hobfoll & Shirom, 2001). When back at work, more resources are available that can be invested into task accomplishment (Fritz & Sonnentag, 2005). According to Beal, Weiss, Barros, and MacDermid (2005), restoring resources is critical for showing a high level of performance as performance depends on the amount of resources allocated to the task. Rebuilt resources should be particularly important for showing high performance over a longer period of time. While individuals may be able to counteract the negative consequences of being poorly recovered and to uphold their performance level over short periods of time (e.g., a day or a week), feeling poorly recovered may be related to decreased performance over longer time periods. Taken together, we propose a positive relation between feeling recovered during leisure time and job performance over time.

In our study, we followed the view that job performance is a multidimensional construct (Campbell,

1990) and included several performance outcomes. First, we focused on task performance as an individual's formally required contribution to organizational performance (Campbell, 1990). Second, we included three types of contextual performance: personal initiative (PI; Frese, Kring, Soose, & Zempel, 1996), creativity (Amabile, 1996), and the helping dimension of organizational citizenship behavior (OCB; Smith, Organ, & Near, 1983). PI is one form of proactive behavior and is defined as "a behavior syndrome resulting in an individual's taking an active and self-starting approach to work and going beyond what is formally required in a given job" (Frese et al., 1996, p. 38). Creativity involves the generation of new and useful products, services, or procedures (Amabile, 1996). In our sample of employees working with persons with special needs, creativity is not part of the job and represents contextual performance (cf. Unsworth, Wall, & Carter, 2005). Helping behavior as a core dimension of OCB includes helping coworkers with tasks or problems as well as building and maintaining interpersonal relations (Podsakoff, MacKenzie, Paine, & Bachrach, 2000).

With regard to empirical evidence, two day-level studies showed that feeling recovered in the morning is positively related to daily task performance, PI, and OCB (Binnewies et al., 2009; Sonnentag, 2003). Furthermore, Trougakos et al. (2008) revealed that recovery during work breaks is positively related to subsequent performance. In addition, a week-level study over 4 weeks showed that being highly recovered after the weekend is associated with higher task performance, PI, and OCB during the week (Binnewies, Sonnentag, & Mojza, 2008). Taken together, we hypothesize that feeling recovered during leisure time is positively related to task performance (1a), PI (1b), creativity (1c), and OCB (1d) over time (Hypothesis 1).

Positive and Negative Work Reflection During Leisure Time and Job Performance

Previous research on thinking about work in the context of recovery mainly focused on rumination (Cropley & Purvis, 2003) and the (in)ability to cognitively switch off from work (i.e., psychological detachment; Etzion et al., 1998; Sonnentag & Bayer, 2005). Whereas rumination refers to unintentional preservative thoughts (Nolen-Hoeksema & Morrow, 1993), psychological detachment implies to refrain from work-related thoughts (Sonnentag & Bayer, 2005). Rumination and low psychological detachment during leisure time are related to impaired well-being (e.g., Cropley & Purvis, 2003; Sonnentag & Bayer, 2005). Relations with job performance have not been studied so far, but research examining rumination as an individual difference variable showed that rumination impairs concentration and performance on a variety of tasks (Davis & Nolen-Hoeksema, 2000; Lyubomirsky, Kasri, & Zehm, 2003).

Empirical studies on positively thinking about work during leisure time are sparse (Fritz & Sonnentag, 2005, 2006). This lack of research is surprising because research showed that capitalizing on positive events (e.g., by talking about positive experiences) is beneficial for individuals' health and well-being (Gable, Reis, Impett, & Asher, 2004; Langston, 1994). Positive work reflection comprises thinking about the positive aspects of one's job. Positively reflecting about one's job is assumed to be a resource-providing experience that benefits employees' well-being and performance (Fritz & Sonnentag, 2006). First, positive work reflection involves a positive reappraisal of work experiences and thus reduces the negative consequences of work-related stress (Lazarus & Folkman, 1984). Second, positively reflecting about work includes thinking about successfully accomplished tasks, pleasurable events, or supportive relations at work (Fritz & Sonnentag, 2006). Consequently, positive work reflection should increase employees' resources, such as positive affect and self-efficacy, which in turn should benefit job performance (Seo, Barrett, & Bartunek, 2004; Stajkovic & Luthans, 1998). Empirically, Fritz and Sonnentag (2005) showed a positive relation between positive work reflection during the weekend and pursuing learning activities after the weekend. In sum, we propose that positive work reflection during leisure time is positively related to task performance (2a), PI (2b), creativity (2c), and OCB (2d) over time (Hypothesis 2).

Negative work reflection refers to thinking about the negative aspects of one's job and is assumed to be a resource-consuming experience (Fritz & Sonnentag, 2006). Reflecting about the negative aspects of one's job, such as failures or negative events at work should deplete resources, because demands are put on the individual and job stressors remain mentally present during leisure time. The individual may experience prolonged activation when negatively reflecting about work (Brosschot, Pieper, & Thayer, 2005). In addition, because negative work reflection is a negative experience in itself it should increase negative affect and reduce self-efficacy (Bandura, 1997). Research on rumination showed that repetitive intrusive thinking about negative experiences is associated with negative self-evaluations, diminished feelings of control and increased feelings of helplessness

(Lyubomirsky et al., 2003). Furthermore, rumination is related to intrusive off-task thoughts (Sarason, Pierce, & Sarason, 1996) that may reduce an individual's attentional capacity and subsequent performance (Lyubomirsky et al., 2003). Summing it up, we propose that negative work reflection during leisure time is negatively related to task performance (3a), PI (3b), creativity (3c), and OCB (3d) over time (Hypothesis 3).

The Mediating Role of Self-Efficacy

Self-efficacy is a core dimension of individuals' psychological capital (Luthans et al., 2007). We examined self-efficacy as a mediator in the relation between nonwork-experiences and job performance. Specifically, we focused on *occupational self-efficacy*, which is defined as an individual's "belief in one's own ability and competence to perform successfully and effectively in different situations and across different tasks in a job" (Schyns & von Collani, 2002, p. 227).

Researchers proposed to focus on domain-specific conceptualizations of self-efficacy and Bandura (1998, p. 53) underlined this approach stating that "comparative studies show that domain-specific measures of self-efficacy are good predictors of motivation and action." Occupational self-efficacy is a domain-specific self-efficacy that enables researchers investigating differences in job-related self-efficacy across persons that do not perform the same tasks (Schyns & von Collani, 2002) —as was the case in our study.

According to Bandura (1997), physiological and affective states constitute one source of efficacy beliefs. Individuals partly rely on the information conveyed by physical and emotional states when judging their capabilities. As feeling recovered during leisure time indicates successful recovery and denotes being physically and mentally fit (cf. Binnewies et al., 2009), it should affect an individual's judgment of his or her capabilities, that is self-efficacy beliefs. Feeling highly recovered during leisure time should be associated with an increase in self-efficacy beliefs, including the belief to successfully accomplish work-related tasks. As self-efficacy facilitates the allocation of work-related effort and persistence (Chen, Goddard, & Casper, 2004), self-efficacy should in turn facilitate job performance. Therefore, we propose that occupational self-efficacy mediates the relation between feeling recovered during leisure time and task performance (4a), PI (4b), creativity (4c), and OCB (4d) (Hypothesis 4).

Bandura (1997) proposed performance accomplishments as an important source of self-efficacy stating that "research on self-modeling provides evidence suggesting that efficacy is enhanced by selective focus on personal attainments" (p. 86). As positive work-reflection involves thinking about accomplishments at work, that is feelings of mastery and competence (cf. Bandura, 1997), it should be related to a higher level of occupational self-efficacy. Similarly, negative work reflection should be associated with decreased occupational self-efficacy as it includes thinking about failures at work. Thus, we propose that occupational self-efficacy mediates the positive relation between positive work reflection during leisure time and task performance (5a), PI (5b), creativity (5c), and OCB (5d) (Hypothesis 5) and the negative relation between negative work reflection during leisure time and task performance (6a), PI (6b), creativity (6c), and OCB (6d) (Hypothesis 6).

Control Variables

We included a number of control variables in our study. First, because we had to rely on self-report measures, we controlled for an individual's negative affect. Thus, we ruled out that relations between predictors and outcomes are due to a person's tendency to view things in a positive or negative way (Podsakoff, MacKenzie, Jeong-Yeon, & Podsakoff, 2003). Second, as we conducted our study with employees who performed emotion work (Zapf, Vogt, Seifert, Mertini, & Isic, 1999), we controlled for the stressor emotional dissonance. Emotional dissonance is defined as a work requirement to display unfelt emotions and to suppress felt but organizationally undesired emotions (Zapf & Holz, 2006). Controlling for this stressor, we precluded that relations between predictors and job performance are due to the level of stress resulting from emotional dissonance perceived at work. In addition, we controlled for participants' employment status (0 = part-time employment, 1 = full-time employment) as this may affect the relation between nonwork experiences and job performance. Moreover, as physical and cognitive resources usually decrease with age (Kanfer & Ackerman, 2004), it may be more difficult for older employees to show high levels of performance. Consequently, we included age as a control variable. Finally, we controlled for an individual's job performance at Time 1. Thereby third variables, such as self-serving bias, can be controlled for as these variables should also be related to performance at Time 1.

Method

We used a longitudinal design to examine the relations between predictors and job performance over 6 months. Although we cannot draw conclusions about causality from a longitudinal study, we can test and rule out alternative interpretations, such as the influence of potential third variables and reverse causation (Zapf, Dormann, & Frese, 1996).

Sample

Our sample consisted of employees from nonprofit organizations working with people with special needs (i.e., persons who were physically or mentally disabled). Participating organizations included residential establishments, sheltered workshops, educational facilities, and facilities for daytime care of disabled persons. We chose this sample because for employees performing stressful emotion work (Zapf & Holz, 2006), successful recovery during leisure time should be critical for showing a high level of performance over time.

We presented our study to 180 organizations by telephone. In total, 134 organizations agreed on supporting our study (74.4%). In 127 organizations, employees received a letter including information about the study and a return form for registration. In the other seven organizations, questionnaires were distributed among all employees who met participation criteria (i.e., who worked with disabled persons and worked at least half-time). To encourage participation, we offered organization-specific feedback, provided a booklet on recovery and announced a lottery prize. Participants could answer a paper-based or a Web-based questionnaire, except for participants from the seven organizations who all received paper-based questionnaires.

In sum, 877 persons received a questionnaire at Time 1, including 419 persons from the seven organizations and 458 individually registered persons. The majority of the latter (71.6%) received a paper-based questionnaire, while 28.4% received a link to the Web-based questionnaire. At Time 1, we received 392 questionnaires from individually registered participants (response rate: 85.6%). From the seven organizations we received 149 questionnaires (response rate: 35.6%).[1] At Time 2, questionnaires were sent to all Time 1 respondents. We received 414 questionnaires including 327 questionnaires from individually registered participants (response rate: 72.2%) and 87 questionnaires from the seven organizations (response rate: 68.4%). Usable data was received from 523 persons at Time 1, and from 401 persons at Time 2. Data from Time 1 and Time 2 could be matched from 368 persons. After excluding persons with incomplete data (6 persons) and persons who answered one Web-based and one paper-based questionnaire (4 persons), our final sample consisted of 358 persons.

The majority of our sample was female (66.5%). Participants' average age was 40.5 years ($SD = 9.5$), average job tenure was 16.5 years ($SD = 11.3$), and participants worked on average 34.7 hours per week ($SD = 6.8$). Our sample included social workers (e.g., remedial teachers, 51.1%), persons working in the area of education or psychology (e.g., pedagogues, 23.7%), health care workers (e.g., nurses, 11.2%), and persons holding other jobs (e.g., teachers, 10.2%; missing data from 3.9%). About one quarter (25.4%) had a supervisory position.

Analyses testing for a systematic dropout from Time 1 and Time 2 showed no differences in participants' age, gender, tenure, or working time per week. However, the Time 2 sample included less shift workers ($\chi^2 = 5.18$, $df = 1$, $p < .05$) and night workers ($\chi^2 = 6.82$, $df = 1$, $p < .01$). Furthermore, we tested for differences between participants who filled in paper-based versus Web-based questionnaires. With respect to demographic variables, we found no differences. Regarding study variables, participants who answered Web-based surveys reported higher task performance ($t = -3.38$; $p < .01$), higher PI ($t = -3.05$; $p < .01$), higher creativity ($t = -3.40$; $p < .01$), more positive work reflection ($t = -2.16$; $p < .05$), but lower occupational self-efficacy at Time 2 ($t = 6.31$; $p < .001$). As we predicted changes in outcomes, we do not think that these mean differences affect our results. Nevertheless, we included data type (1 = paper-based survey, 2 = Web-based survey) as a control variable in our analyses.

Measures

All measures were assessed at Time 1 and Time 2, except for control variables and demographic data that were only assessed at Time 1. All items had to be answered on 5-point Likert scales (except for occupational self-efficacy items). Scales developed in English were translated into German by the first author and translated back to English by an

[1] Due to lacking information about organizations' number of employees, the response rate for individually registered persons is based on the number of registered participants. The response rate for the seven organizations is based on the number of organizations' employees. Therefore, the response rates are not directly comparable.

interpreter. Cronbach's alphas for all scales are displayed in Table 1.

Feeling recovered during leisure time was assessed with a four-item scale of Sonnentag and Kruel (2006). The scale refers to how recovered and well rested a person feels during leisure time. A sample item was: "During leisure time, I feel well rested."

Positive and negative work reflection during leisure time was measured with the scales developed by Fritz and Sonnentag (2005, 2006). We complemented the three-item scales with one additional item per scale. *Positive work reflection* assesses the degree to which an individual positively thinks about his or her job during leisure time. Sample items were "During leisure time, I think about the good sides of my work" and "During leisure time, I realize what I like about my job" (new item). *Negative work reflection* involves the degree to which an individual thinks about his or her work in a negative way. Sample items were "During leisure time, I consider the negative aspects of my job" and "During leisure time, I think about the negative sides of my work" (new item).

Occupational self-efficacy was assessed with the eight-item scale of Schyns and von Collani (2002). Items had to be answered on a 6-point Likert scale ranging from 1 (*not true at all*) to 6 (*very true*). A sample items was "I feel prepared to meet most of the demands in my job."

Job performance included task performance, PI, creativity and OCB. As we examined changes in performance over time, in the Time 2 questionnaire, participants were instructed to rate their job performance considering the last 3 months.

Task performance was measured with six items from the performance scale of Roe, Zinovieva, Dienes, and Horn (2000) that assesses how well a person accomplishes his or her tasks at work. A sample item was "The results of my work could be better than they presently are" (reverse coded).

Personal initiative was gauged with the seven-item scale of Frese, Fay, Hilburger, Leng, and Tag (1997) that captures how much an individual takes initiative at work and actively solves problems. A sample item was "I actively attack problems."

Creativity was measured with seven items from the scale of creative behavior developed by George and Zhou (2001). Items assess the degree an individual develops and brings in new ideas at work. A sample item was "I come up with creative solutions to problems."

Organizational citizenship behavior (OCB) was measured with five items from the helping behavior scale developed by Staufenbiehl and Hartz (2000). This scale assesses helping behavior toward coworkers. A sample item was "I help colleagues to improve their work."

We ran Confirmatory Factor Analyses (CFAs) to test if Time 1 job performance measures (task performance, PI, creativity, OCB) were best represented by four factors and if Time 2 performance measures and occupational self-efficacy were best represented by five factors. The four-factor model with Time 1 performance items ($\chi^2 = 790.2$, $df = 269$, $p < .001$, RMSEA = 0.075, CFI = .95, NNFI = .94) fit the data better than a one-factor model ($\Delta\chi^2 = 954.2$, $df = 6$, $p < .001$) and all possible three-factor ($\Delta\chi^2 \geq 205.6$, $df = 3$, $p < .001$) and two-factor models ($\Delta\chi^2 \geq 654.9$, $df = 5$, $p < .001$). The five-factor model with Time 2 performance and occupational self-efficacy items ($\chi^2 = 1130.0$, $df = 485$, $p < .001$, RMSEA = 0.063, CFI = .96, NNFI = .96) fit the data better than a one-factor model ($\Delta\chi^2 = 3232.3$, $df = 10$, $p < .001$), all possible four-factor ($\Delta\chi^2 \geq 331.5$, $df = 4$, $p < .001$) and three-factor models ($\Delta\chi^2 \geq 677.3$, $df = 5$, $p < .001$), and a two-factor model with all performance items loading on one factor and all self-efficacy items loading on a second factor ($\Delta\chi^2 = 1122.4$, $df = 9$, $p < .001$).

Control variables included negative affect, emotional dissonance, employment status and age. We assessed *negative affect* with 10 items (sample items "distressed," "upset") from the PANAS (Watson, Clark, & Tellegen, 1988). *Emotional dissonance* was measured with five items from the Frankfurt Emotion Work Scales (Zapf et al., 1999). A sample item is "How often does it occur in your job that one has to display positive emotions that do not correspond to what is felt in this situation?"

We conducted CFAs to confirm that our predictor variables (feeling recovered, positive and negative reflection during leisure time) and control variables (negative affect, emotional dissonance) represent distinct constructs. CFAs showed a satisfactory five-factor model ($\chi^2 = 658.5$, $df = 314$, $p < .001$, RMSEA = 0.057, CFI = .95, NNFI = .95) fitting the data better than a one-factor model ($\Delta\chi^2 = 3619.6$, $df = 10$, $p < .001$) and a four-factor model ($\Delta\chi^2 = 1010.1$, $df = 4$, $p < .001$), where items from positive and negative work reflection measures were specified to load on a first factor, items from feeling recovered during leisure time on a second, emotional dissonance items on a third, and negative affect items on a fourth factor.

Table 1
Means, Standard Deviations, and Zero-Order Correlations

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. Data type[a]	1.17	0.38																					
2. Employment status[b]	0.52	0.50	−.14																				
3. Age	40.49	9.48	−.05	.05	(.85)																		
4. Negative affect at t_1	1.59	0.48	−.08	−.01	.02	(.85)																	
5. Emotional dissonance at t_1	2.70	0.82	.05	.06	−.01	.33	(.91)																
6. Feeling recovered during leisure time at t_1	2.54	0.83	.06	−.10	.00	−.22	−.12	(.84)															
7. Positive work reflection at t_1	2.76	0.71	.03	−.02	.01	−.09	−.11	.17	(.84)														
8. Negative work reflection at t_1	2.40	0.71	−.04	−.04	−.02	.34	.25	−.12	.27	(.87)													
9. Occupational self-efficacy at t_1	4.10	0.70	−.30	.03	.10	−.38	−.17	.22	.12	−.14	(.87)												
10. Task performance at t_1	3.97	0.49	.10	−.04	.14	−.28	−.12	.06	.08	−.10	.41	(.74)											
11. Personal initiative at t_1	3.76	0.50	.13	.05	.07	−.24	.02	.13	.20	−.05	.40	.48	(.79)										
12. Creativity at t_1	3.58	0.60	.10	−.02	.08	−.13	.07	.06	.17	.04	.32	.41	.65	(.88)									
13. OCB at t_1	3.97	0.51	.05	−.10	.04	−.08	−.09	.13	.17	−.03	.22	.23	.33	.23	(.74)								
14. Feeling recovered during leisure time at t_2	2.50	0.81	.05	−.04	.09	−.17	−.13	.41	.08	−.09	.12	.06	.02	−.09	.03	(.92)							
15. Positive work reflection at t_2	2.78	0.73	.11	−.11	−.02	−.09	−.08	.16	.65	.09	.08	.06	.16	.11	.20	.10	(.85)						
16. Negative work reflection at t_2	2.41	0.75	.04	.00	−.04	.32	.24	−.12	.16	.52	−.18	−.07	.02	.12	.03	−.16	.21	(.91)					
17. Occupational self-efficacy at t_2	4.17	0.77	−.32	.04	.11	−.32	−.14	.21	.05	−.17	.68	.29	.28	.25	.10	.19	.09	−.27	(.89)				
18. Task performance at t_2	4.00	0.50	.18	−.06	.12	−.32	−.04	.17	.08	−.05	.33	.61	.45	.32	.20	.11	.12	−.14	.40	(.78)			
19. Personal initiative at t_2	3.68	0.53	.16	.02	.10	−.21	.07	.11	.23	.01	.31	.36	.67	.51	.33	.06	.26	.02	.33	.51	(.83)		
20. Creativity at t_2	3.42	0.65	.18	.04	.06	−.17	.09	.07	.22	.09	.25	.33	.57	.69	.16	.04	.23	.09	.30	.42	.66	(.89)	
21. OCB at t_2	3.55	0.69	.07	.03	.03	−.06	−.01	.06	.25	.10	.13	.13	.30	.26	.46	.06	.35	.06	.22	.24	.42	.40	(.73)

Note. $N = 358$. Cronbachs alphas are displayed in parentheses on the diagonal. $r \geq .11$: $p < .05$; $r \geq .14$: $p < .01$; $r \geq .20$: $p < .001$. OCB = organizational citizenship behavior.
[a] 1 = paper-based survey; 2 = Web-based survey. [b] 0 = part-time employment; 1 = full-time employment.

Results

Means, standard deviations, Cronbach's alphas, and zero-order correlations are displayed in Table 1. To test our hypotheses, we conducted four sets of hierarchical regression analyses for our four performance outcomes. Results can be seen in Tables 2 and 3.

For task performance as outcome (see Table 2), regression analysis showed that task performance at Time 1 and data type entered in Step 1 positively predicted task performance at Time 2, while negative affect was a negative predictor. In Step 2, feeling recovered during leisure time at Time 1 emerged as a significant positive predictor of task performance at Time 2. Individuals feeling more recovered during leisure time at Time 1 increased their in task performance after 6 months. However, neither positive nor negative work reflection predicted task performance at Time 2. Taken together, these results confirmed Hypothesis 1a, but not Hypotheses 2a and 3a.

Results for PI as outcome (see Table 3) showed that PI at Time 1 and emotional dissonance were positive predictors of PI at Time 2, while negative affect was a significant negative predictor. In Step 2, positive work reflection at Time 1 was the only predictor. Individuals with higher positive work reflection at Time 1 increased their PI over the following 6 months. Thus, results confirmed Hypothesis 2b, but not Hypotheses 1b and 3b. Regarding creativity (see Table 3) as outcome, results from Step 1 showed that creativity at Time 2 was positively predicted by creativity at Time 1 and by data type, while it was negatively predicted by negative affect. In Step 2, positive work reflection at Time 1 emerged as a significant predictor. Individuals with higher positive work reflection at Time 1 increased their creativity after 6 months. In sum, Hypothesis 2c was confirmed, but Hypotheses 1c and 3c were not. Results for the outcome OCB showed that OCB at Time 1 positively predicted OCB at Time 2. Step 2 revealed that positive work reflection at Time 1 was positively related to OCB at Time 2. Individuals with higher positive work reflection at Time 1 increased their OCB over the following 6 months. Thus, Hypothesis 2d was supported, but we found no support for Hypotheses 1d and 3d.

According to Baron and Kenny (1986), testing mediation requires three preconditions: (1) the predictor has to be related to the mediator, (2) the mediator has to be related to the outcome, and (3) the predictor has to be related to the outcome variable. From testing Hypotheses 1a-3d, we know that the third precondition was only met for the relations between feeling recovered with task performance and between positive work reflection with PI, creativity, and OCB. For testing the first precondition, we ran a regression analysis regressing occupational self-efficacy at Time 2 on feeling recovered, positive and negative work reflection at Time 1 (using the same control variables as in all other analyses). Only feeling recovered was related to occupational self-efficacy. In sum, the first and third precondition was only met for the relationship between feeling recovered, occupational self-efficacy and task performance (Hypothesis 4a) and thus Hypotheses 4b-6d have to be rejected. With regard to Hypotheses 4a, an additional regression analysis also confirmed the second precondition that occupational self-efficacy at Time 2 was positively related to task performance at Time 2.[2]

To examine if the relationship between feeling recovered and task performance is actually mediated by occupational self-efficacy we tested if this relationship significantly decreases when entering occupational self-efficacy as an additional predictor in the

Table 2
Multiple Linear Regression Model Predicting Task Performance at Time 2

Variable	Step 1	Step 2	Step 3
Data type[a]	.10*	.10*	.21***
Employment status[b]	−.03	−.02	−.02
Age	.05	.05	.03
Negative affect	−.19***	−.18***	−.12***
Emotional dissonance at t_1	.08	.07	.07
Task performance at t_1	.55***	.56***	.48***
Feeling recovered during leisure time at t_1		.11*	.06
Positive work reflection at t_1		−.02	−.02
Negative work reflection at t_1		.07	.09*
Occupational self-efficacy at t_2			.30***
F	42.60***	29.72***	33.98***
R^2	.42	.44	.50
ΔF		2.72*	41.32***
ΔR^2		.01	.06

Note. $N = 358$.
[a] 1 = paper-based survey; 2 = Web-based survey. [b] 0 = part-time employment; 1 = full-time employment.
* $p < .05$. *** $p < .001$.

[2] Additional tables testing mediation preconditions are available from the first author. Following the recommendation of Cole and Maxwell (2007), we also tested if occupational self-efficacy at Time 1 predicted task performance at Time 2. This relation was also supported.

Table 3
Multiple Linear Regression Models Predicting Personal Initiative, Creativity, and Organizational Citizenship Behavior (OCB) at Time 2

Outcome variable	Personal initiative		Creativity		OCB	
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2
Data type[a]	.07	.07	.11**	.11**	.05	.05
Employment status[b]	−.01	.00	.07	.07	.08	.08
Age	.06	.06	.01	.01	.02	.02
Negative affect	−.08	−.09	−.10*	−.12**	−.03	−.05
Emotional dissonance at t_1	.09*	.09*	.07	.06	.04	.04
Outcome variable at t_1	.63***	.61***	.66***	.64***	.46***	.44***
Feeling recovered during leisure time at t_1		.01		.00		−.02
Positive work reflection at t_1		.10*		.08*		.16**
Negative work reflection at t_1		.02		.07		.08
F	49.70***	34.51***	58.01***	40.56***	16.46***	13.41***
R^2	.46	.47	.50	.51	.22	.26
ΔF		2.70*		3.34*		5.92**
ΔR^2		.01		.01		.04

Note. $N = 358$.
[a] 1 = paper-based survey; 2 = Web-based survey. [b] 0 = part-time employment; 1 = full-time employment.
* $p < .05$. ** $p < .01$. *** $p < .001$.

regression analysis (see Step 3, Table 2). Results showed that feeling recovered during leisure time was no longer a significant predictor, but occupational self-efficacy at Time 2 positively predicted task performance at Time 2. Moreover, negative work reflection at Time 1 emerged as a significant positive predictor of task performance at Time 2. A Sobel test confirmed a significant mediating effect of occupational self-efficacy ($z = 3.53$, $p < .001$). In addition, we applied the procedure developed by Preacher and Hayes (2008) and calculated bias-corrected bootstrap confidence intervals (with 1,000 bootstrap samples) while entering our control variables as covariates. The lower bound of the 95% bias-corrected confidence interval was .013, and the upper bound was .054. Thus, results indicated a significant indirect effect of feeling recovered during leisure time at Time 1 on task performance at Time 2 through occupational self-efficacy at Time 2. In sum, we found support for Hypothesis 4a.

We also ran regression analyses testing for reverse causation. Specifically, we predicted feeling recovered, positive and negative work reflection during leisure time at Time 2 from performance variables at Time 1. Results can be seen in Table 4. In general, results did not support reverse causation with one exception: Individuals who engaged more in OCB at Time 1 showed an increase in positive work reflection after 6 months. Therefore, we found evidence for a reciprocal relation between positive work reflection and OCB. In addition, analyses revealed that creativity at Time 1 negatively predicted feeling recovered and positively predicted negative work reflection at Time 2.

Discussion

Our study examined the lagged relations between specific nonwork experiences, namely feeling recovered, and positive and negative work reflection during leisure time with job performance over a 6-month period. Furthermore, we tested if occupational self-efficacy mediates these relations. Our results showed that feeling recovered during leisure time predicted an increase in task performance over time but not in contextual performance. Occupational self-efficacy mediated the relation between feeling recovered during leisure time and task performance. Positive work reflection predicted an increase in contextual performance (PI, creativity, OCB), but not in task performance. Occupational self-efficacy was no mediator in the relationship between positive work reflection and contextual performance. Under some circumstances, negative work reflection emerged as a positive predictor of task performance and creativity.

The finding that feeling recovered during leisure time is related to an increase in task performance is in line with the assumption that being recovered is associated with a high level of restored resources which benefit task accomplishment at work. Our results showed that

Table 4
Multiple Linear Regression Models Testing for Reverse Causation Effects

Outcome variable	Feeling recovered during leisure time		Positive work reflection		Negative work reflection	
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2
Data type[a]	.03	.04	.08	.08	.07	.06
Employment status[b]	.00	.00	−.09*	−.09*	.03	.03
Age	.10*	.10*	−.02	−.01	−.03	−.04
Negative affect	−.06	−.07	−.03	−.03	.15**	.17**
Emotional dissonance at t_1	−.06	−.04	.01	.01	.07	.06
Outcome variable at t_1	.39***	.40***	.65***	.64***	.46***	.45***
Task performance at t_1		.05		−.02		−.03
Personal initiative at t_1		.03		.04		.00
Creativity at t_1		−.16**		−.06		.12**
OCB at t_2		−.02		.09*		.05
F	13.70***	9.17***	46.29***	28.45***	25.57***	16.27***
R^2	.19	.21	.44	.45	.30	.32
ΔF		2.10		1.39		1.91
ΔR^2		.02		.01		.02

Note. $N = 358$. OCB = organizational citizenship behavior.
[a] 1 = paper-based survey; 2 = Web-based survey. [b] 0 = part-time employment; 1 = full-time employment.
* $p < .05$. ** $p < .01$. *** $p < .001$.

highly recovered individuals showed increased task performance after 6 months because they felt more capable of successfully accomplishing work-related tasks. Feeling recovered during leisure time was unrelated to an increase in contextual performance over time. Having more resources available may not be sufficient to increase contextual performance. As contextual performance is a discretionary behavior it should strongly depend on an individual's motivation (Smith et al., 1983). An individual's state of being recovered may determine the degree of performance an individual *can* show, but not the degree of motivation an individual *is willing to* show.

Our study revealed that positive work reflection is related to increased contextual performance, namely PI, creativity and OCB over time. However, occupational self-efficacy was not the underlying mechanism. Positive affect (Amabile, Barsade, Mueller, & Staw, 2005; Fritz & Sonnentag, in press; George, 1991) or developing future-oriented, creative goals (Shalley, 1995) might play a mediating role in the relation between positive work reflection and contextual performance. Contrary to our expectations, positive work reflection was not related to an increase in task performance over time. Task performance may depend primarily on employees' availability of resources than on the assumed affective and motivational benefits associated with positive work reflection.

We found no evidence that negative work reflection was negatively related to task and contextual performance. We even found a positive effect of negative work reflection on task performance when entering occupational self-efficacy into the regression equation (i.e., when partialing out occupational self-efficacy that was slightly negatively related to negative work reflection). Thus, our results imply that negative work reflection may not be equated with rumination (Nolen-Hoeksema & Morrow, 1993) and may not always impair job performance. Segerstrom et al. (2003) argued that in addition to the distinction between positive and negative thoughts, individuals further distinguish different forms of negative thoughts according to their purpose (i.e., searching for meaning vs. problem solving; Segerstrom et al., 2003). Different forms of negative thoughts showed distinct relations with individuals' well-being, although results did not clearly support one form of negative thinking to be better than the other (Segerstrom et al., 2003).

In general, we could rule out reverse causation with the exception of a reciprocal relation between positive work reflection and OCB. This finding is in line with research demonstrating that individuals who show more helping behavior toward coworkers receive more acknowledgment and social support (Bowling et al., 2004) what in turn fosters an increase in positive affect (e.g., Neely et al., 2006). Receiving more social support and experiencing a higher level

of positive affect may be responsible for the positive relation between OCB and positive work reflection over time. Moreover, our analyses revealed that creativity was related to a decrease in feeling recovered and an increase in negative work reflection during leisure time over time. An explanation may be that developing and bringing in new ideas at work may be exhausting because individuals may face some resistance to change and refusal from supervisors and coworkers (Grant, Parker, & Collins, in press).

Two additional findings need some discussion. First, although one may assume that positive and negative work reflection are mutually exclusive they were positively correlated. This finding suggests that some persons prefer to reflect about work during leisure time while others prefer to avoid work-related thoughts during leisure time. Future research should examine the relation and interplay between positive and negative work reflection more in detail. Second, we found some differences between participants answering paper-based versus Web-based questionnaires, but only with regard to performance outcomes and self-efficacy at Time 2. As previous research on the equivalence of paper-and-pencil versus Web-based surveys showed mixed findings (for a recent overview see De Beuckelaer & Lievens, in press) studies using both assessments modes should test and control for differences. Research explaining why and under which circumstances differences are found would be helpful for considering and avoiding potential problems when using different assessment modes.

In sum, our study was one of the first that examined relations between nonwork experiences and performance with a longitudinal design. By controlling for the respective performance variable at Time 1, we focused on predicting changes in performance over time instead of predicting the general level of performance. As our performance outcomes showed relatively high stability over time (stability coefficients ranged between .46 and .69), one would not expect our predictor variables to explain a great amount of variance in our outcomes.

Limitations

Our study has several limitations. First, our performance measures were assessed by self-reports. Self-ratings of performance may be subject to social desirability or a self-serving bias. However, as we included performance measured at Time 1 as a control variable and therefore predicted change over time, the influence of third variables, such as social desirability or self-serving bias was ruled out. Nevertheless, future research should examine if similar results are found when measuring performance by objective data or by supervisor or peer ratings.

Second, common method variance might be a problem (Podsakoff et al., 2003). We tried to minimize this problem by temporally separating predictor and outcome variables and by including negative affectivity as a control variable. As occupational self-efficacy and outcomes were measured concurrently, the relations may be increased by common method variance.

Moreover, we conducted our study with a sample of employees performing emotion work. We chose this sample because we thought that recovery may be especially important for these employees. The relations may be different (e.g., smaller) for employees who do not work with customers or clients. Future studies should aim at replicating our results with other samples in order to establish the generalizability of these results.

Implications for Future Research and Practice

As occupational self-efficacy was found to be a mediator only in the relation between feeling recovered during leisure time and task performance, future studies should investigate other mediating mechanisms that explain the positive relations of positive work reflection with PI, creativity and OCB. A recent study showed that role-breadth self-efficacy (i.e., "the extent to which people feel confident that they are able to carry out a broader more proactive role"; Parker, 1998, p. 835) predicted proactive behavior, whereas job self-efficacy did not (Ohly & Fritz, 2007). Thus, role-breadth self-efficacy may be the mediator in the relation between positive work reflection and contextual performance. Another potential mediator may be positive affect because it has been shown as a resource that is built up during the recovery process (Sonnentag, Binnewies, & Mojza, 2008) and because it is related to all outcome variables (Amabile et al., 2005; Fritz & Sonnentag, in press; George, 1991).

Another area for future research is to refine the concept of negative work reflection, for example, by distinguishing between a "ruminative form" (Cropley & Purvis, 2003; Nolen-Hoeksema & Morrow, 1993) and a "problem-focused form" of negative work reflection. Whereas the ruminative form of negative work reflection should be negatively related to an individual's job performance because it should be associated with decreased resources and negative outcomes (e.g., Lyubomirsky & Nolen-Hoeksema, 1995), the problem-focused form may be positively related to job performance because it motivates the individual to solve

work-related problems during leisure time. However, problem-focused negative work reflection may still be associated with decreased health and well-being as it further draws on individuals' resources during leisure time.

Our study also yields implications for practice. First, as we found a positive relation between feeling recovered during leisure time and task performance, our study implies that employees should be supported to recover from work during leisure time. Previous research on recovery showed that the engagement in specific recovery experiences during leisure time, such as relaxation and mastery experiences, is related to successful recovery (Sonnentag & Fritz, 2007). Therefore, employees can be encouraged to engage in such experiences. Furthermore, organizations and researches could also develop recovery trainings to actively support employees' recovery.

In addition, our results imply that positive work reflection should be fostered because it promotes contextual performance. Supervisors and organizations could stimulate employees to think about the positive aspects of work. Providing positive feedback may highlight a sense of achievement and competence (cf. Battmann, 1988) making it more likely that employees think positively about work during leisure time. Rewarding employees for special achievements and promoting a supportive team climate may also contribute to employees' positive work reflection as employees may perceive their environment as more positive and supportive (Elovainio, Kivimäki, Eccles, & Sinervo, 2002).

Conclusion

Our study showed that positive nonwork experiences, specifically feeling recovered during leisure time and positive work reflection, were related to an increase in performance over time. Therefore, in order to promote high performance over time, it is beneficial for employees to take care of their recovery and to engage in positive work reflection during leisure time that is a form of capitalizing on positive experiences.

References

Amabile, T. M. (1996). *Creativity in context: Update to "The social psychology of creativity."* Boulder, CO: Westview Press.

Amabile, T. M., Barsade, S. G., Mueller, J. S., & Staw, B. M. (2005). Affect and creativity at work. *Administrative Science Quarterly, 50,* 367–403.

Bandura, A. (1997). *Self-efficacy: The exercise of control.* New York, NY: Freeman.

Bandura, A. (1998). Personal and collective efficacy in human adaptation and change. In J. G. Adair, D. Belanger, & K. L. Dion (Eds.), *Advances in psychological science, Vol. 1: Personal, social and cultural aspects* (pp. 51–71). Hove, UK: Psychology Press.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51,* 1173–1182.

Battmann, W. (1988). Feedback seeking as a means of self-assessment and affect optimization. *Motivation and Emotion, 12,* 57–74.

Beal, D. J., Weiss, H. M., Barros, E., & MacDermid, S. M. (2005). An episodic process model of affective influences on performance. *Journal of Applied Psychology, 90,* 1054–1068.

Binnewies, C., Sonnentag, S., & Mojza, E. J. (2008). *Full of energy or still tired after the weekend? Feeling recovered after the weekend and weekly job performance*. Paper presented at the 23rd Annual Conference, Society of Industrial and Organizational Psychology (SIOP), April 2008, San Francisco, CA.

Binnewies, C., Sonnentag, S., & Mojza, E. J. (2009). Daily performance at work: Feeling recovered in the morning as a predictor of day-level job performance. *Journal of Organizational Behavior, 30,* 67–93.

Bowling, N. A., Beehr, T. A., Johnson, A. L., Semmer, N. K., Hendricks, E. A., & Webster, H. A. (2004). Explaining potential antecedents of workplace social support: Reciprocity or attractiveness? *Journal of Occupational Health Psychology, 9,* 339–350.

Brosschot, J., Pieper, S., & Thayer, J. (2005). Expanding stress theory: Prolonged activation and perseverative cognition. *Psychoneuroendocrinology, 30,* 1043–1049.

Campbell, J. P. (1990). Modeling the performance prediction problem in industrial and organizational psychology. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (2nd ed., Vol. 1, pp. 687–732). Palo Alto, CA: Consulting Psychologists Press, Inc.

Chen, G., Goddard, T. G., & Casper, W. J. (2004). Examination of the relationships among general and work-specific self-evaluations, work-related control beliefs, and job attitudes. *Applied Psychology: An International Review, 53,* 349–370.

Cole, D. A., & Maxwell, S. E. (2007). Bias in cross-sectional analyses of longitudinal mediation. *Psychological Methods, 12,* 23–44.

Craig, A., & Cooper, R. E. (1992). Symptoms of acute and chronic fatigue. In A. P. Smith & D. M. Jones (Eds.), *Handbook of human performance, Vol 3: State and trait* (pp. 289–339). San Diego, CA: Academic Press, Inc.

Cropley, M., Dijk, D.-J., & Stanley, N. (2006). Job strain, work rumination, and sleep in school teachers. *European Journal of Work and Organizational Psychology, 15,* 181–196.

Cropley, M., & Purvis, L. J. M. (2003). Job strain and rumination about work issues during leisure time: A diary study. *European Journal of Work and Organizational Psychology, 12,* 195–207.

Davis, R. N., & Nolen-Hoeksema, S. (2000). Cognitive inflexibility among ruminators and nonruminators. *Cognitive Therapy and Research, 24,* 699–711.

De Beuckelaer, A., & Lievens, F. (in press). Measurement

equivalence of paper-and-pencil and internet organizational surveys: A large scale examination in 16 countries. *Applied Psychology: An International Review.*

Demerouti, E., Taris, T. W., & Bakker, A. B. (2007). Need for recovery, home-work interference and performance: Is lack of concentration the link? *Journal of Vocational Behavior, 71,* 204–220.

Edwards, J. R., & Rothbard, N. P. (2000). Mechanisms linking work and family: Clarifying the relationship between work and family constructs. *Academy of Management Review, 25,* 178–199.

Elovainio, M., Kivimäki, M., Eccles, M., & Sinervo, T. (2002). Team climate and procedural justice as predictors of occupational strain. *Journal of Applied Social Psychology, 32,* 359–374.

Etzion, D., Eden, D., & Lapidot, Y. (1998). Relief from job stressors and burnout: Reserve service as a respite. *Journal of Applied Psychology, 83,* 577–585.

Ford, M. T., Heinen, B. A., & Langkamer, K. L. (2007). Work and family satisfaction and conflict: A meta-analysis of cross-domain relations. *Journal of Applied Psychology, 92,* 57–80.

Frese, M., Fay, D., Hilburger, T., Leng, K., & Tag, A. (1997). The concept of personal initiative: Operationalization, reliability and validity of two German samples. *Journal of Occupational and Organizational Psychology, 70,* 139–161.

Frese, M., Kring, W., Soose, A., & Zempel, J. (1996). Personal initiative at work: Differences between East and West Germany. *Academy of Management Journal, 39,* 37–63.

Fritz, C., & Sonnentag, S. (2005). Recovery, health and job performance: Effects of weekend experiences. *Journal of Occupational Health Psychology, 10,* 187–199.

Fritz, C., & Sonnentag, S. (2006). Recovery, well-being and performance-related outcomes: The role of work load and vacation experiences. *Journal of Applied Psychology, 91,* 936–945.

Fritz, C., & Sonnentag, S. (in press). Antecedents of day-level proactive behavior: A look at job stressors and positive affect during the workday. *Journal of Management.*

Gable, S. L., & Haidt, J. (2005). What (and why) is positive psychology? *Review of General Psychology, 9,* 103–110.

Gable, S. L., Reis, H. T., Impett, E. A., & Asher, E. R. (2004). What do you do when things go right? The intrapersonal and interpersonal benefits of sharing positive events. *Journal of Personality and Social Psychology, 87,* 228–245.

George, J. M. (1991). State or trait: Effects of positive mood on prosocial behaviors at work. *Journal of Applied Psychology, 76,* 299–307.

George, J. M., & Zhou, J. (2001). When openness to experience and conscientiousness are related to creative behavior: An interactional approach. *Journal of Applied Psychology, 86,* 513–524.

Grant, A. M., Parker, S. K., & Collins, C., G. (in press). Getting credit for proactive behavior: Supervisor reactions depend on what you value and how you feel. *Personnel Psychology.*

Hammer, L. B., Cullen, J. C., Neal, M. B., Sinclair, R. R., & Shafiro, M. V. (2005). The longitudinal effects of work-family conflict and positive spillover on depressive symptoms among dual-earner couples. *Journal of Occupational Health Psychology, 10,* 138–154.

Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist, 44,* 513–524.

Hobfoll, S. E., & Shirom, A. (Eds.). (2001). *Conservation of resources theory: Applications to stress and management in the workplace.* New York, NY: Marcel Dekker.

Ilies, R., Schwind, K. M., Wagner, D. T., Johnson, M. D., DeRue, D. S., & Ilgen, D. R. (2007). When can employees have a family life? The effects of daily workload and affect on work-family conflict and social behaviors at home. *Journal of Applied Psychology, 92,* 1368–1379.

Jansen, N. W. H., Kant, I., & van den Brant, P. A. (2002). Need for recovery in the working population: Description and associations with fatigue and psychological distress. *International Journal of Behavioral Medicine, 9,* 322–340.

Kanfer, R., & Ackerman, P. L. (2004). Aging, adult development, and work motivation. *Academy of Management Review, 29,* 440–458.

Langston, C. A. (1994). Capitalizing on and coping with daily-life events: Expressive responses to positive events. *Journal of Personality and Social Psychology, 67,* 1112–1125.

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping.* New York, NY: Springer.

Luthans, F., Avolio, B. J., Avey, J. B., & Norman, S. M. (2007). Positive psychological capital: Measurement and relationship with performance and satisfaction. *Personnel Psychology, 60,* 541–572.

Luthans, F., & Youssef, C. M. (2007). Emerging positive organizational behavior. *Journal of Management, 33,* 321–349.

Lyubomirsky, S., Kasri, F., & Zehm, K. (2003). Dysphoric rumination impairs concentration on academic tasks. *Cognitive Therapy and Research, 27,* 309–330.

Lyubomirsky, S., & Nolen-Hoeksema, S. (1995). Effects of self-focused rumination on negative thinking and interpersonal problem solving. *Journal of Personality and Social Psychology, 69,* 176–190.

Meijman, T. F., & Mulder, G. (1998). Psychological aspects of workload. In P. J. D. Drenth & H. Thierry (Eds.), *Handbook of work and organizational, Vol. 2: Work psychology* (2nd ed., pp. 5–33). Hove, England: Psychology Press/Erlbaum Taylor & Francis.

Neely, L. C., Lakey, B., Cohen, J. L., Barry, R., Orehek, E., Abeare, C. A., et al. (2006). Trait and social processes in the link between social support and affect: An experimental, laboratory investigation. *Journal of Personality, 74,* 1015–1046.

Nolen-Hoeksema, S., & Morrow, J. (1993). Effects of rumination and distraction on naturally occurring depressed mood. *Cognition and Emotion, 7,* 561–570.

Ohly, S., & Fritz, C. (2007). Challenging the status quo: What motivates proactive behaviour? *Journal of Occupational and Organizational Psychology, 80,* 623–629.

Parker, S. K. (1998). Enhancing role breadth self-efficacy: The roles of job enrichment and other organizational interventions. *Journal of Applied Psychology, 83,* 835–852.

Podsakoff, P. M., MacKenzie, S. B., Jeong-Yeon, L., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature

and recommended remedies. *Journal of Applied Psychology, 88,* 879–903.

Podsakoff, P. M., MacKenzie, S. B., Paine, J. B., & Bachrach, D. G. (2000). Organizational citizenship behaviors: A critical review of the theoretical and empirical literature and suggestions for future research. *Journal of Management, 26,* 513–563.

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40,* 879–891.

Roe, R. A., Zinovieva, I. L., Dienes, E., & Horn, L. A. T. (2000). A comparison of work motivation in Bulgaria, Hungary, and the Netherlands: Test of a model. *Applied Psychology: An International Review, 49,* 658–687.

Rothbard, N. P. (2001). Enriching or depleting? The dynamics of engagement in work and family roles. *Administrative Science Quarterly, 46,* 655–684.

Sarason, I. G., Pierce, G. R., & Sarason, B. R. (Eds.). (1996). *Cognitive interference: Theories, methods, and findings.* Hillsdale, NJ: Erlbaum, Inc.

Schyns, B., & von Collani, G. (2002). A new occupational self-efficacy scale and its relation to personality constructs and organizational variables. *European Journal of Work and Organizational Psychology, 11,* 219–241.

Segerstrom, S. C., Stanton, A. L., Alden, L. E., & Shortridge, B. E. (2003). A multidimensional structure for repetitive thought: What's on your mind, and how, and how much? *Journal of Personality and Social Psychology, 85,* 909–921.

Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist, 55,* 5–14.

Seo, M.-G., Barrett, L. F., & Bartunek, J. M. (2004). The role of affective experience in work motivation. *Academy of Management Review, 29,* 423–439.

Shalley, C. E. (1995). Effects of coaction, expected evaluation, and goal setting on creativity and productivity. *Academy of Management Journal, 38,* 483–503.

Sluiter, J. K., van der Beek, A. J., & Frings-Dresen, M. H. W. (1999). The influence of work characteristics on the need for recovery and experienced health: A study on coach drivers. *Ergonomics, 42,* 573–583.

Smith, C. A., Organ, D. W., & Near, J. P. (1983). Organizational citizenship behavior: Its nature and antecedents. *Journal of Applied Psychology, 68,* 653–663.

Sonnentag, S. (2003). Recovery, work engagement, and proactive behavior: A new look at the interface between nonwork and work. *Journal of Applied Psychology, 88,* 518–528.

Sonnentag, S., & Bayer, U.-V. (2005). Switching off mentally: Predictors and consequences of psychological detachment from work during off-job time. *Journal of Occupational Health Psychology, 10,* 393–414.

Sonnentag, S., Binnewies, C., & Mojza, E. J. (2008). "Did you have a nice evening?" A day-level study on recovery experiences, sleep and affect. *Journal of Applied Psychology, 93,* 674–684.

Sonnentag, S., & Fritz, C. (2007). The recovery experience questionnaire: Development and validation of a measure for assessing recuperation and unwinding from work. *Journal of Occupational Health Psychology, 12,* 204–221.

Sonnentag, S., & Kruel, U. (2006). Psychological detachment from work during off-job time: The role of job stressors, job involvement, and recovery-related self-efficacy. *European Journal of Work and Organizational Psychology, 15,* 197–217.

Stajkovic, A. D., & Luthans, F. (1998). Self-efficacy and work-related performance: A meta-analysis. *Psychological Bulletin, 124,* 240–261.

Staufenbiel, T., & Hartz, C. (2000). Organizational Citizenship Behavior: Entwicklung und erste Validierung eines Messinstruments [Organizational Citizenship Behavior: Development and validation of a measurement instrument]. *Diagnostica, 46,* 73–83.

Trougakos, J. P., Beal, D. J., Green, S. G., & Weiss, H. M. (2008). Making the break count: An episodic examination of recovery activities, emotional experiences, and affective delivery. *Academy of Management Journal, 51,* 131–146.

Unsworth, K. L., Wall, T. D., & Carter, A. (2005). Creative requirement: A neglected construct in the study of employee creativity? *Group and Organization Management, 30,* 541–560.

Van der Linden, D., Frese, M., & Meijman, T. F. (2003). Mental fatigue and the control of cognitive processes: Effects on perseveration and planning. *Acta Psychologica, 113,* 45–65.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS-scales. *Journal of Personality and Social Psychology, 54,* 1063–1070.

Zapf, D., Dormann, C., & Frese, M. (1996). Longitudinal studies in organizational stress research: A review of the literature with reference to methodological issues. *Journal of Occupational Health Psychology, 1,* 145–169.

Zapf, D., & Holz, M. (2006). On the positive and negative effects of emotion work in organizations. *European Journal of Work and Organizational Psychology, 15,* 1–28.

Zapf, D., Vogt, C., Seifert, C., Mertini, H., & Isic, A. (1999). Emotion work as a source of stress: The concept and development of an instrument. *European Journal of Work and Organizational Psychology, 8,* 371–400.