

Psychological detachment from work during off-job time: The role of job stressors, job involvement, and recovery-related self-efficacy

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Previous research has suggested that psychological detachment from work during off-job time is important in order to recover from stress encountered at the job. Psychological detachment refers to an individual's experience of being mentally away from work, to make a pause in thinking about work-related issues, thus to "switch off". This study examines job stressors, job involvement, and recovery-related self-efficacy as predictors of psychological detachment in a sample of 148 school teachers. Psychological detachment was assessed by self-reports and by ratings provided by family members. Multiple regression analysis showed that workload, job involvement, and recovery-related self-efficacy were significant predictors of both self-rated and family-rated psychological detachment. The study findings suggest that with respect to practical implications it is crucial to manage workload and to increase recovery-related self-efficacy.

Research has shown that stressors encountered at the job have a negative effect on employees' mental and physical health (cf. for reviews, de Lange, Taris, Kompier, Houtman, & Bongers, 2003; Kahn & Byosiene, 1992; Sonnentag & Frese, 2003). Particularly during the past decade researchers became increasingly interested in the question of how employees use their off-job time to recover and unwind from stressful work. This research

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We are grateful to Charlotte Fritz, Sandra Ohly, Saskia Weh, and anonymous reviewers for very helpful comments on earlier versions of this article.

addressed both relatively long off-job time periods such as vacations and relatively short periods such as free evenings during normal work weeks (cf. for reviews, Eden, 2001a, 2001b).

These studies on recovery processes showed that employee well-being improves during off-job time (Strauss-Blasche, Ekmekcioglu, & Marktl, 2000; Westman & Eden, 1997; Westman & Etzion, 2001). Moreover, recovery experiences were found to be positively related to subsequent on-the-job behaviour (Sonnentag, 2003). In addition, studies illustrated that recovery issues are closely linked to features of the work situation. Particularly, employees who face highly stressful work situations express a high need for recovery (Sluiter, Frings-Dresen, van der Beek, & Meijman, 2001; Sluiter, van der Beek, & Frings-Dresen, 1999; Sonnentag & Zijlstra, in press). This high need for recovery is experienced as the desire for being—temporarily—relieved from demands in order to replenish one's resources.

Research suggests that psychological detachment from work during off-job time is highly relevant for recovery to occur (Etzion, Eden, & Lapidot, 1998; Sonnentag & Bayer, 2005). Individual well-being benefits more from off-job time when individuals are able to mentally “switch off”. Until now, predictors of psychological detachment from work have not been examined systematically. However, first studies suggest that job stressors and high job strain situations make it difficult to detach from work during off-job time (Cropley & Millward Purvis, 2003; Grebner, Semmer, & Elfering, 2005; Sonnentag & Bayer, 2005). Other factors including individual difference variables that might also be relevant for psychological detachment were largely neglected in previous studies. In our study, we aim at a more comprehensive examination of predictors of psychological detachment. Specifically, we will focus on a broader range of job stressors, as well as job involvement, and recovery-related self-efficacy.

THE DETACHMENT CONCEPT

One experience that is important for recovery to occur is psychological detachment from work during off-job time. Etzion et al. (1998) referred to psychological detachment as “sense of detachment from work routine” and defined it as “the individual's sense of being away from the work situation” (p. 579). It is important to note that psychological detachment is more than just being physically away from the workplace. Psychological detachment implies that one is not occupied by work-related duties. For example, being at home, but making job-related phone calls or completing other job-related tasks, will make psychological detachment impossible. For psychological detachment to occur it is necessary to disengage oneself psychologically from work. This disengagement implies ceasing to think about or ruminate on job-related issues. In every-day terms, psychological detachment from

work is often experienced as “switching off” when being away from one’s workplace (Sonnentag & Bayer, 2005).

Research has shown that psychological detachment helps in recovering from work stress. For example, Etzion et al. (1998) examined the effect of detachment from one’s job during a reserve military service. Analysis showed that during the reserve service burnout and stress decreased. Moreover, individuals who psychologically detached from their jobs during a reserve service that they experienced as “positive” reported greater relief from burnout and stress than those who continued to be closely connected to their jobs. Sonnentag and Bayer (2005) conducted a daily survey study over 3 working days and found that psychological detachment from one’s job during leisure activities resulted in a better mood and less fatigue at bedtime than continued thinking about job-related issues—even when controlling for preleisure positive mood and fatigue. Studies that more directly assessed involvement in job-related activities at home resulted in similar findings: The less time individuals spent on job-related activities during the evening, the better was their well-being at bedtime (Sonnetttag, 2001; Sonnetttag & Zijlstra, in press).

PREDICTORS OF DETACHMENT

Job stressors

We assume that job stressors are negatively related to psychological detachment from work during off-job time. One job stressor that is particularly detrimental to detachment is high workload. High workload implies that one has to accomplish a high amount of work within little time. Workload is often experienced as time pressure. There are several reasons why high workload should be negatively related to detachment: We assume that individuals who face a high amount of work may feel the necessity to take work home and to accomplish job-related tasks at home. When being still busy with job-related tasks, it is impossible to psychologically detach oneself from work. In addition, even when not taking work home or not deliberately working on job-related tasks at home, in case of high workload, it is likely that one has not completed all tasks during the day at work. Therefore, one will tend to continue thinking about these unfinished tasks and about how to complete them during the next days. Moreover, in high workload situations, one will feel strained from work when being at home and one might anticipate high workload for the future days. Therefore, it will be difficult to psychologically detach oneself from work.

Recent diary studies provide some support for the assumed negative relationship between workload and detachment. Cropley and Millward Purvis (2003) examined the degree of rumination about job-related issues among school teachers between 5 p.m. and 9 p.m. At 5 p.m. all teachers showed a

relatively high level of rumination. During the course of the evening, teachers in low strain jobs (i.e., jobs with low workload) showed a fast decrement in rumination, indicating that they were successful in psychologically detaching from work. Teachers in high strain jobs (i.e., jobs with high workload), however, showed a less prominent decline in rumination and were still ruminating about their job at 9 p.m. Similarly, in the daily survey study with individuals from different occupations, Sonnentag and Bayer (2005) found negative effects of chronic time pressure and the amount of daily work hours on psychological detachment from work during evening hours.

However, high workload is not the only stressor encountered at the workplace. Role stress theory argues that role ambiguity and role conflict are also relevant stressors in work situations (Katz & Kahn, 1978). Role ambiguity refers to unclear role information and unclear role expectations. In work situations with high role ambiguity, individuals do not know exactly what is expected from them and where to put their priorities while working. Individuals who experience role ambiguity report more negative affective reactions to their jobs (Jackson & Schuler, 1985). We assume that role ambiguity is negatively related to psychological detachment from work during off-job time. Individuals who lack information about their roles and the associated expectations cannot be completely sure about which tasks to accomplish and how to proceed. For example, in situations of high role ambiguity individuals do not get unequivocal answers to their (implicit) questions about which tasks to pursue. As a consequence, it is more likely that individuals will continue to ponder these questions during off-job time. In cases of low role ambiguity, however, individuals will know what to do and how to do it; there will be no need to be mentally preoccupied with one's job when away from the workplace.

Role conflict refers to conflicting role expectations. Individuals in a role conflict situation will face diverse or even contradictory expectations expressed by others in the environment (e.g., supervisors or co-workers). Role conflict was found to be associated with negative affective reactions to one's jobs (Jackson & Schuler, 1985). Being exposed to conflicting expectations from others is a stressful experience that may cause individuals to think about which expectation to satisfy—and which to disregard. Alternatively, individuals may reflect about how to reconcile the conflicting expectations. In any case, role conflict will make it more likely that an individual keeps thinking about his or her work. One can assume that individuals will continue to think about the conflicting expectations during their off-job time. Therefore, it will be difficult for them to psychologically detach from work when they are away from the workplace.

Hypothesis 1: Job stressors are negatively related to psychological detachment from work.

Job involvement

Job involvement is a specific belief about one's present job and refers to the degree to which one's job can satisfy one's needs (Kanungo, 1982). Individuals with high job involvement identify more with their jobs and regard their job as highly important for their lives. Compared to individuals with low job involvement, for highly job-involved individuals their job is more closely linked to their self-esteem (Lodahl & Kejner, 1965; Thoits, 1991). Job involvement has been found to be positively related to effort, various facets of job satisfaction, organizational commitment, and low turnover intention (Brown, 1996). However, job involvement may also have negative side effects. For example, individuals with high job involvement were found to react more negatively to job stressors (Frone, Russell, & Cooper, 1995).

At the *conceptual* level, job involvement has to be differentiated from psychological detachment. Job involvement refers to the relevance the job has for one's life. It is a relatively stable belief that links one's job to one's self-esteem. In contrast, psychological detachment refers to specific behaviours and cognitive activities in a given off-job situation, for example when being at home. With respect to the *empirical* relationship, we assume that job involvement is negatively related to psychological detachment from work during off-job time. As job involvement refers to an individual's identification with his or her job, high job involvement implies that one puts great emphasis on one's job and the job plays a core role in one's life—or as Janssen (2003) put it, “workers with greater job involvement have psychologically more at stake” (p. 351). This great importance of the job implies a substantial concern for job-related issues. This concern may not only be felt when at the workplace but also at home. As a consequence one will even think about one's job when at home. Therefore, it is less likely that individuals with high job involvement psychologically detach from their jobs during evening hours as compared to individuals with low job involvement.

Hypothesis 2: Job involvement is negatively related to psychological detachment from work.

Recovery-related self-efficacy

Eden (2001b) has argued that self-fulfilling prophecies may be highly relevant to recovery processes. The core assumption is that the expectations individuals hold about their recovery episodes (e.g., vacations, weekends, free evenings) influence the probability of the event they expect. For example, when an individual expects that his or her well-being will improve when spending a nice evening with friends it is more likely that this

individual will have a pleasurable evening and will recover from work stress than when this individual expects that he or she will continue to feel strained.

We refer to an individual's expectation of being able to benefit from recovery time and recovery opportunities as *recovery-related self-efficacy* and assume that recovery-related self-efficacy is an important predictor of psychological detachment from work during off-job time. If one expects that one can adequately recover during off-job time then one is more likely to initiate activities that help to detach from work and to recover. Even if job-related thoughts come into mind, one will regard these thoughts as transient that can be "overcome" soon. Therefore, one is less likely to dwell on job-related thoughts. However, if one expects that one will not succeed in recovering during off-job time, one will be less likely to initiate helpful activities. In addition, one will interpret job-related thoughts as a sign that it is impossible to detach and recover. As a consequence, one will be more inclined to continue ruminating on job-related issues.

Hypothesis 3: Recovery-related self-efficacy is positively related to psychological detachment from work.

THE PRESENT STUDY

Previous research on recovery was largely based on self-report data. When interpreting findings from studies that use only self-report data, associations due to common method variance cannot be ruled out completely (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). To address this problem at least partially, we assessed psychological detachment not only by a self-report measure, but additionally collected family ratings of psychological detachment.

One might argue that psychological detachment from work may not only be predicted by job stressors, job involvement, or recovery-related self-efficacy but by other individual difference variables, too. One prime individual difference variable that might be related to psychological detachment from work during off-job time is action-state orientation (Kuhl, 1994b). Action-state orientation refers to an individual's ability to allocate attention to the present situation and the task at hand (action orientation). It is opposed to an individual's tendency to ruminate about past situations and failures (state orientation). Therefore, when examining the relationship between job stressors, job involvement, and recovery-related self-efficacy on the one hand, and psychological detachment on the other hand, we will control for action-state orientation.

In addition, individuals differ largely with respect to the number of hours they work. With respect to psychological detachment one can assume that

the number of hours worked differ substantially. Compared to the amount of time available to full-time employees, the time budget of part-time employees offers more hours to be devoted to other activities than to one's job. As a consequence, part-time employees might find it easier to psychologically detach from work during off-job time. In addition, it has been found that job involvement differs between part- and full-time employees (Thorsteinson, 2003). To rule out that relationships between our predictor variables on the one hand and psychological detachment on the other hand are attributable to differences in work hours between full-time and part-time employees, we will control for contract working hours in our analyses.

Finally, demographic variables might also be related to psychological detachment from work. For example, younger individuals might find it more difficult to psychologically detach from work because they might lack successful coping strategies that help in dealing with work-related problems. Women and individuals with children might find it easier to detach because they are more involved in household and childcare activities (e.g., Sonnentag, 2001) which might offer a distraction from work-related thoughts. Therefore, we will also control for age, gender, and number of children in our analyses.

METHOD

Sample

We collected data in 14 schools in the northern part of Germany. To recruit teachers for participation, we first approached the heads of the schools and explained the overall goal of the study. Subsequently, survey packages were distributed to a total of 332 teachers. These packages included a letter, a self-report questionnaire, a questionnaire to be completed by a family member, and a return envelope. The letter described the purpose of the study, emphasized voluntariness, anonymity, and confidentiality of responses. In each school a return box was installed. Study participants were asked to deposit the completed questionnaires in a sealed envelope in these boxes.

One-hundred-and-fifty-seven survey packages were returned, with a response rate of 47.2%. Due to missing data in some of the self-report variables the total sample size was reduced to 148. Out of these 148 study participants, 121 individuals (81.8%) returned family reports of psychological detachment. The majority (85.1%) of these family reports were provided by the spouse, the remaining family reports came from grown-up children (6.6%) or other persons (5.0%); 3.3% did not report their type of relationship.

On average, study participants were 47.5 years old ($SD = 8.8$); 67% of the sample were female, 33% were male. The majority of the participants

(82.4%) were living with a partner, 12.8% were living alone. Some participants (4.7%) were living as single parents with their children or were living with another person neither being their partner nor their child. In total, 26.4% of the participants had no children, 14.9% had one child, 42.6% had two children, and 16.3% had three or more children.

Overall, study participants were highly experienced in their jobs with a mean teaching experience of 20.9 years ($SD = 10.6$). Mean teaching hours per week were 21.4 hours ($SD = 5.6$). On average, study participants reported that they worked 5.6 days ($SD = 0.90$) per week for their job—although no one taught on Saturdays or Sundays. More specifically, 0.7% of the sample worked on three days, 8.1% worked on four days, 35.1% worked on five days, 37.2% worked on six days, and 18.9% worked on seven days.

We compared the subsample of teachers who provided family ratings of detachment with those who did not provide such a rating. There were no significant differences in gender, age, teaching experience, hours taught per week, or days worked for school per week. However, and not surprisingly, teachers who did not provide family ratings were more often living alone and had fewer children.

Measures

We used questionnaires to assess our data. Job stressors, job involvement, recovery-related self-efficacy, psychological detachment, and control variable measures were provided by the focal study participants. We assessed an additional detachment measure from one of the focal study participants' family members. All items were in German. Table 1 shows means, standard deviations, zero-order correlations, and Cronbach's α s for all study variables.

Job stressors. We assessed various aspects of job stressors: workload, role ambiguity, and role conflict. We measured workload with five 5-point Likert items from the time pressure scale developed by Semmer (1984) and Zapf (1993). This measure is frequently used in German-speaking countries for assessing quantitative workload (Frese, 1985; Garst, Frese, & Molenaar, 2000; Semmer, Zapf, & Greif, 1996). Sample items were "How often do you work under time pressure?" and "How often does it happen that you do not take a break or take a break late because of a high amount of work?" Cronbach's α was .83. We assessed role ambiguity with five 5-point Likert items from the measure developed by Semmer (1984) and Zapf (1993). A sample item was: "How often do you have to make decisions at your job without having sufficient information available?" Cronbach's α was .68. For measuring role conflict we used eight items from Rizzo, House, and Lirtzman's (1970) role conflict scale. A sample item was: "I receive incompatible requests from two or more people". Cronbach's α was .86.

TABLE 1
Means, standard deviations, zero-order correlations, and Cronbach's alpha for study variables

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12
1. Gender	0.67	0.47	–											
2. Age	47.53	8.81	-.12	–										
3. Number of children	1.54	1.16	-.04	.39	–									
4. Action-state orientation	0.45	0.28	-.14	-.00	.01	.82								
5. Job involvement	4.30	0.94	.10	-.01	-.07	-.00	.86							
6. Recovery-related self-efficacy	3.60	1.38	-.16	.13	.19	.34	-.25	.90						
7. Teaching load	21.43	5.57	-.13	-.09	-.15	.02	-.18	-.08	–					
8. Workload	3.14	0.83	.07	-.14	-.22	-.16	.31	-.41	.10	.83				
9. Role ambiguity	1.98	0.61	-.09	-.17	-.23	-.06	.12	-.28	.10	.37	.68			
10. Role conflict	2.62	0.77	-.07	-.14	-.21	.01	.13	-.26	-.10	.41	.58	.86		
11. Self-reported detachment	2.81	0.83	-.11	.15	.23	.23	-.29	.62	-.13	-.46	-.21	-.21	.84	
12. Family-reported detachment	2.77	0.78	-.14	.08	.17	.14	-.29	.40	-.04	-.43	-.16	-.22	.44	.82

N = 148 (except for correlations with family-reported detachment). *N* = 121 for correlations with family-reported detachment. Correlations greater than .16 are significant with *p* < .05 (except for family-reported detachment). Correlations greater than .21 are significant with *p* < .01 (except for family-reported detachment).

Gender: 1 = male, 2 = female.

Job involvement. We assessed job involvement with four items from the scale developed by Kanungo (1982) and adapted by Frone, Russell, and Cooper (1992). A sample item was: "I am very much personally involved with my job". Cronbach's α was .86.

Recovery-related self-efficacy. To assess recovery-related self-efficacy we used a 6-item scale developed by Kodja (2003). These items refer to an individual's confidence to be able to recover from work even under adverse circumstances. The items were: "I feel confident to be able to recover during off-job time even when ... I am tired", "... when I feel depressed", "...when I am worrying", "...when I am angry about something", "... when I have a lot of things to do", and "... when something unexpected happens". Respondents were asked to answer these items on a 7-point Likert scale. Cronbach's α was .90.

Psychological detachment. We measured self-reported psychological detachment with four items from the Recovery Questionnaire developed by Sonnentag and Fritz (2005). Items had to be answered on a 5-point Likert scale. Sample items were: "During evenings, I gain distance to my job requirements" and "During evenings, I don't think about work at all." Cronbach's α was .84.

One might argue that psychological detachment, recovery-related self-efficacy, and job involvement show substantial conceptual overlap. Therefore, we conducted an exploratory factor analysis with varimax rotation. This factor analysis resulted in a clear three-factor solution with Eigenvalues of the three factors greater than 1. All items loaded on their respective factors with factor loadings $\geq .60$ and cross-loading not exceeding .42. Therefore, we are confident that psychological detachment, recovery-related self-efficacy, and job involvement are distinct concepts.

In addition to the self-report measure of psychological detachment we collected family-report measures of psychological detachment. More specifically, we asked our study participants to hand a one-page questionnaire to another person with whom the study participant had close contact on an every-day basis. We suggested that this other person should be someone like the spouse or partner, or a grown-up child living in the same household. This other person was asked to report whether the focal person detaches from work during leisure time. Specifically, the family member was asked to complete four 5-point Likert-type items that were identical to the self-report items (sample item: "During evenings he/she gains distance to his/her job requirements"). Cronbach's α was .82. The correlation between this family-reported detachment measure and self-reported detachment was $r = .44, p < .001$.

To examine whether psychological detachment matters with respect to recovery, we collected a more direct measure of recovery. Specifically,

study participants had to answer four 5-point Likert items that assessed the subjective recovery experience (sample items: “During evenings I feel recovered mentally” and “During evenings I am full of new energy”). Cronbach’s α of this scale was .87. We tested the factor structure of the (self-reported) psychological detachment and this recovery measure with an exploratory factor analysis with varimax rotation. This factor analysis resulted in a two-factor solution with all detachment items loading on one and all recovery items loading on the other factor. Next, we correlated the two detachment measures with the recovery measure. Zero-order correlations were $r = .62$ ($p < .001$) for self-reported detachment and $r = .26$ ($p < .01$) for family-reported detachment. This analysis shows that psychological detachment is positively related to the recovery experience.

Control variables. As control variables we assessed age, gender, and number of children with single items. In addition, we assessed action-state orientation with the 12-item preoccupation subscale of the Action Control Scale (ACS-90) developed by Kuhl (1990, 1994a). A sample item was “If I’ve worked for four weeks on one project and then everything goes completely wrong: (a) It takes me a long time to adjust to it. (b) It bothers me for a while, but then I don’t think about it any more.” with (a) indicating a state-oriented answer and (b) indicating an action-oriented answer. Some items were recoded so that high scores represented high action orientation. Cronbach’s α was .82. As an additional control variable we measured teaching load. Specifically, we assessed the number of hours spent on teaching with a single item directly asking: “How many hours do you teach in class per week?” This measure of teaching load differs from the workload measure. Teaching load refers to the contract hours of teaching but does not include the hours needed for other job-related activities such as preparing lessons. Workload refers to the subjective experience of having too much to do.

RESULTS

Test of hypotheses

We tested our hypotheses with a multiple regression approach in which we entered control variables (gender, age, number of children, action orientation, teaching load) in Step 1, and our core predictor variables (i.e., job involvement, recovery-related self-efficacy, workload, role ambiguity, and role conflict) in Step 2. For self-reported detachment results are displayed in Table 2; for family-reported detachment, results are displayed in Table 3.

TABLE 2
Results from multiple regression analysis predicting self-reported detachment

	Step 1		Step 2	
	Beta	t	Beta	t
Gender	-.069	-0.855	.004	0.055
Age	.050	0.584	.025	0.364
Number of children	.199	2.333*	.077	1.096
Action-state orientation	.221	2.802**	.033	0.480
Teaching load	-.107	-1.343	-.082	-1.197
Job involvement			-.121	-1.764 ^a
Recovery-related self-efficacy			.489	6.518***
Workload			-.204	-2.646**
Role ambiguity			.048	0.606
Role conflict			-.002	-0.030
R ²		.13		.46
F		4.128**		11.953***
ΔR ²		.13		.34
F		4.128**		17.410***

* $p < .05$, ** $p < .01$, *** $p < .001$. ^a $p = .080$.

TABLE 3
Results from multiple regression analysis predicting family-reported detachment

	Step 1		Step 2	
	Beta	t	Beta	t
Gender	-.119	-1.244	-.121	-1.395
Age	.010	0.104	-.036	-0.410
Number of children	.148	1.526	.017	0.183
Action-state orientation	.119	1.297	-.011	-0.124
Teaching load	-.045	-0.480	-.044	-0.504
Job involvement			-.174	-2.029*
Recovery-related self-efficacy			.244	2.592*
Workload			-.279	-2.859**
Role ambiguity			.070	0.695
Role conflict			-.093	-0.904
R ²		.06		.30
F		1.489		4.595***
ΔR ²		.06		.23
F		1.489		7.293***

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 2 shows that the control variables gender, age, number of children, action-state orientation, and teaching load accounted for 13% of the variance in self-reported detachment. Number of children and action-state orientation were significant predictors of psychological detachment. Job

involvement, recovery-related self-efficacy, and the three job stressors entered in Step 2 contributed significantly to the prediction of self-reported detachment. Workload showed a significant negative relationship and recovery-related self-efficacy showed a significant positive relationship with self-reported detachment. The negative regression weight of job involvement was marginally significant. Role ambiguity and role conflict were no significant predictors of self-reported detachment.

With respect to family-reported detachment the control variables showed no significant relationships with psychological detachment (Table 3). The core predictor variables entered in Step 2 contributed to a significant increase in R^2 . Job involvement, recovery-related self-efficacy, and workload were significant predictors of family-reported detachment with job involvement and workload showing a negative and recovery-related self-efficacy showing a positive regression weight.

Taken together, workload was a significant negative predictor of both self-reported and family-reported detachment. Neither role ambiguity nor role conflict was significantly related to psychological detachment. Thus, Hypothesis 1 received partial support. Job involvement was a negative predictor of both self-reported and family-reported detachment, lending support for Hypothesis 2. Recovery-related self-efficacy was significantly related to both self-reported and family-reported detachment indicating support for Hypothesis 3.

Additional analyses

One might assume that recovery-related self-efficacy and low job involvement are not only directly related to psychological detachment from work during off-job time. Recovery-related self-efficacy and job involvement may also moderate the relationship between job stressors and psychological detachment. More specifically, it can be argued that recovery-related self-efficacy attenuates the proposed negative relationship between job stressors and psychological detachment because individuals with high recovery-related self-efficacy may be successful in distancing themselves from work during off-job time, even when they have been confronted with job stressors. High job involvement may even strengthen the negative relationship between job stressors and psychological detachment. Individuals with a high degree of job involvement take their job very seriously and therefore job stressors might be more important for them than for individuals low on job involvement. Therefore, it will be more difficult for them to mentally “switch off” when facing job stressors.

In additional multiple regression analyses we tested for these interaction effects. We computed interaction terms between recovery-related

self-efficacy and the three job stressor variables (i.e., Recovery-related self-efficacy \times Workload, Recovery-related self-efficacy \times Role ambiguity, Recovery-related self-efficacy \times Role conflict) and between job involvement and the three job stressor variables (i.e., Job involvement \times Workload, Job involvement \times Role ambiguity, Job involvement \times Role conflict) and entered these interaction terms in an additional step in the regression equations. To minimize problems of multicollinearity, we entered the interaction terms with recovery-related self-efficacy and with job involvement in two distinct steps. Explained variance in self-reported detachment did not increase after entering interaction terms with recovery-related self-efficacy, $\Delta R^2 = .01$, $F = 0.500$, *ns*, nor after entering interaction terms with job involvement, $\Delta R^2 = .02$, $F = 2.003$, *ns*. Also variance explained in family-reported detachment did not improve after entering interaction terms with recovery-related self-efficacy, $\Delta R^2 = .03$, $F = 1.581$, *ns*, nor after entering interaction terms with job involvement, $\Delta R^2 = .03$, $F = 1.729$, *ns*. Therefore, one has to conclude that neither recovery-related self-efficacy nor job involvement moderate the relationship between job stressors and detachment.

DISCUSSION

This study addressed the relationship between job stressors, job involvement, recovery-related self-efficacy on the one hand and psychological detachment from work during evening hours on the other hand. Analyses showed a negative relationship between a high workload and psychological detachment. Moreover, individuals with high job involvement and low recovery-related self-efficacy were less likely to psychologically detach from work during off-job time. Job involvement and recovery-related self-efficacy did not moderate the relationship between job stressors and psychological detachment.

With respect to workload, this study confirms findings from earlier studies that revealed that quantitative workload and high strain jobs were related to low detachment during off-job time (Sonnentag & Bayer, 2005) and continued rumination about one's job during evening hours (Cropley & Millward Purvis, 2003). Interestingly, role ambiguity and role conflict were not significant predictors of psychological detachment. There are several reasons why workload rather than role ambiguity and role conflict is related to low detachment. First, workload scores were higher and therefore workload might be experienced as more stressful than role ambiguity and role conflict. Thus, workload might matter more for the teachers. As a consequence, they may continue thinking about their job during off job time. Second, it might be that teachers feel that they can deal with workload only by working longer hours or by working faster. Therefore, they may

experience a permanent pressure to be mentally busy with their job—even during off-job time. The reduction of role conflict and role ambiguity, however, may be attributed to external sources such as school management and policy makers and therefore, the need to keep oneself occupied with job-related issues is lower. Third, it might be that all three types of role stressors (workload, role conflict, role ambiguity) might be associated with stressful job-related thoughts at home. However, it might be more likely that one is more likely to work long hours at home when facing workload than when facing role conflict or role ambiguity. Thus, it might be that the fact of working a great deal at home makes detachment difficult because work-related issues are very salient when at home. Fourth, when interpreting the findings it has to be taken into account that most teachers in our sample had long years of experience. Thus, average role ambiguity was particularly low, implying that teachers knew rather well what was expected from them. Therefore, it was unlikely that ambiguous role expectations kept study participants thinking about their job during off-job time.

Our study showed a negative relationship between job involvement and psychological detachment from work during off-job time. Individuals who are highly involved are less able or less willing to psychologically detach from work during off-job time. This finding adds to other research that pointed to a potential dark side of high job involvement. For example, studies have shown a stronger relationship between job stressors and poor psychological health in highly job-involved than in low job-involved individuals (Frone et al., 1995). In addition to the identity-based interpretation of this differential relationship offered in earlier research, our study suggests that low psychological detachment from work during off-job time might be the mediator underlying relationship between job involvement and impaired psychological health in highly job-involved individuals. Although our cross-sectional study does not warrant a causal interpretation of the relationship between job involvement and low psychological detachment, one may speculate that high job involvement might have some drawbacks in individuals' personal lives. In addition, it has to be noted that contingent on the specific sources of high job involvement the health-related consequences of job involvement may differ.

Recovery-related self-efficacy turned out to be a powerful predictor of psychological detachment. Individuals who are confident they can use their off-job time to recover, even under adverse conditions, report more psychological detachment from work during off-job time. This finding is in line with numerous research findings on the positive effects of task-related self-efficacy (Bandura, 1997) and supports the theoretical argument put forward by Eden (2001b).

Most of the findings were rather stable for the two detachment measures, namely self-reported and family-reported detachment. Therefore, we can be

sure that the relationships found between workload, job involvement, and recovery-related self-efficacy on the one hand and psychological detachment on the other hand cannot be attributed to common method variance. By having included a family rating of psychological detachment in our analysis, we have overcome one of the shortcomings of many previous studies on recovery. However, it has to be noted that self-reported and family-reported detachment were only moderately related, suggesting that the focal person and his or her family member did not completely agree in their perception of psychological detachment. Nevertheless, the correlation between self-reported and family-reported detachment is within the usual range of correlations between self-report and peer-report measures (Harris & Schaubroeck, 1988; Mabe & West, 1982).

Additional analyses have shown that neither recovery-related self-efficacy nor job involvement moderated the relationship between job stressors and psychological detachment. This finding implies that workload is related to low self-reported and low family-reported detachment—irrespective of an individual's level of recovery-related self-efficacy or his or her job involvement.

Limitations and avenues for future research

This study is not without limitations. First, we used a cross-sectional study design. Therefore, we may not draw any conclusions about causality. For example, correlations between study variables might be attributable to third variables. Moreover, it might not only be that workload or job involvement lead to low psychological detachment but also that the experience of low psychological detachment might affect perceptions of workload and job involvement. With respect to the relationship between recovery-related self-efficacy and psychological detachment, it is plausible to assume reciprocal effects with recovery-related self-efficacy enhancing psychological detachment and with psychological detachment in turn affecting recovery-related self-efficacy. To rule out the explanation referring to third variables we controlled for a range of demographic and other variables. Nevertheless, we admit that with our cross-sectional design we cannot address all causality issues satisfactorily. Here, longitudinal or experimental studies are required.

Second, we conducted our study with participants from one single profession what might limit the generalizability of our findings. Teachers are a specific group as they regularly accomplish job-related tasks in their homes. Thus, they spend many hours at home and at the same time they use their home as part of their working environment. This situation might make psychological detachment particularly difficult—even after having finished work. However, although it is reasonable to assume relatively low mean detachment scores in teachers, it is less plausible to assume that the

relationship patterns between our study variables differ between teachers and other occupational groups. Clearly, future research should study other professions and should examine whether findings generalize across different work settings.

Third, we assessed job-stressors with a self-report measure. Therefore, our study does not provide a clear answer to the question whether actual workload or perceived workload is related to low psychological detachment. Future studies should aim at additionally assessing job stressors with more objective measures (cf. Semmer, Grebner, & Elfering, 2004).

Our assumption is that psychological detachment from work is a positive experience and that it promotes psychological well-being. However, one might argue that staying “attached” to one’s job during evening hours may also have a positive side and may not necessarily impede well-being (Fritz & Sonnentag, 2005). For example, after having encountered a pressing problem at school, it might be necessary to continue thinking about this problem and to develop ideas about how to solve it while at home. Coming up with an innovative solution might not only have a positive effect for the persons involved in the problem, it might also provide some relief for the person who is thinking about the problem and who does not detach. This might be particularly the case for individuals with high job involvement. Therefore, future research should examine under which conditions low psychological detachment has positive as opposed to negative effects. However, based on past research (Etzion et al., 1998; Sonnentag & Bayer, 2005) and the positive correlation between psychological detachment and subjective feelings of recovery found in the present study, we assume that negative correlates of low psychological detachment are more widespread than positive ones.

In this study, we focused on job stressors, job involvement, and recovery-related self-efficacy as predictors of psychological detachment. In addition, more family-related experiences might also be relevant for psychological detachment from work. Positive experiences at home such as having an enjoyable evening with one’s partner or joyfully playing with one’s children may help in psychologically detaching from work. Paradoxically, more negative off-job experiences may also foster psychological detachment from work. For example, having an argument with one’s partner or conflicts with the children may distract from job-related thoughts and therefore may enhance psychological detachment—without having a recovering effect. Therefore, we suggest that future studies put more emphasis on the family situation as a potential predictor of psychological detachment and recovery. One may speculate that distraction might help in psychologically detaching from work but that psychological detachment only unfolds its recovery potential when associated with a positive rather than a stressful experience.

Practical implications

Our study offers some practical implications. Because the study does not provide an unequivocal answer to the question of causality, these conclusions should be regarded as preliminary. To improve psychological detachment from work during off-job time, it is crucial to address the issue of high workload. First, objective workload should be kept within moderate limits and time pressure should be reduced. These measures will allow teachers to spend less time on job-related tasks at home, which will probably foster psychological detachment. In addition, by reducing workload and time pressure, work will be experienced as less stressful, thus making it less likely that one has to think about job-related problems during off-job hours. Second, if objective workload and time pressure cannot be reduced substantially, it is important to teach time management skills so that individuals will be able to handle their workload more easily (Koch & Kleinmann, 2002; Peeters & Rutte, 2005). It can be expected that time management skills will help to finish work tasks more quickly what in turn will help in detaching from work during off-job time.

Moreover, to improve psychological detachment during off-job time it seems promising to increase recovery-related self-efficacy. We assume that—similar to factors that increase task-related self-efficacy (Bandura, 1997)—enactive mastery experience, vicarious experience, and verbal persuasion are important here. However, as long as an individual finds it difficult to psychologically detach from work and to recover during off-job time, it is not very likely that mastery experience and vicarious learning occur. Rather, these individuals may end up in a vicious cycle: Individuals with low recovery-related self-efficacy will expect that they cannot sufficiently recover during off-job time. As a consequence, psychological detachment from work when being at home will be low. Low detachment will make recovery unlikely and therefore, they will miss the opportunity to experience that they can recover. Recovery-related self-efficacy will remain low. To overcome this vicious cycle, trainings and counselling approaches that foster recovery-related self-efficacy might be necessary and beneficial.

Conclusion

Recovery from job stress is a complex phenomenon. In this study, we focused on psychological detachment from work during off-job time—an experience that has been shown to be important for recovery (Etzion et al., 1998; Sonnentag & Bayer, 2005). The study showed that psychological detachment is not an arbitrary event but closely related to individual and job-related factors. We hope that this study adds a little to our understanding of the recovery phenomenon and will stimulate further

research in order to understand more fully how individuals can recover successfully from job stress.

REFERENCES

- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Brown, S. P. (1996). A meta-analysis and review of organizational research on job involvement. *Psychological Bulletin*, *120*, 235–255.
- Cropley, M., & Millward Purvis, L. J. (2003). Job strain and rumination about work issues during leisure time: A diary study. *European Journal of Work and Organizational Psychology*, *12*, 195–207.
- De Lange, A. H., Taris, T. W., Kompier, M. A. J., Houtman, I. L. D., & Bongers, P. M. (2003). “The very best of the millennium”: Longitudinal research and the demand–control–(support) model. *Journal of Occupational Health Psychology*, *8*, 282–305.
- Eden, D. (2001a). Job stress and respite relief: Overcoming high-tech tethers. In P. L. Perrewé & D. C. Ganster (Eds.), *Research in occupational stress and well-being: Exploring theoretical mechanisms and perspectives* (pp. 143–194). Amsterdam, The Netherlands: JAI Press.
- Eden, D. (2001b). Vacations and other respites: Studying stress on and off the job. In C. L. Cooper & I. T. Robertson (Eds.), *International review of industrial and organizational psychology* (pp. 121–146). Chichester, UK: Wiley.
- 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.
- Frese, M. (1985). Stress at work and psychosomatic complaints: A causal interpretation. *Journal of Applied Psychology*, *70*, 314–328.
- Fritz, C., & Sonnentag, S. (2005). Recovery, health, and job performance: Effects of weekend experiences. *Journal of Occupational Health Psychology*, *10*, 187–199.
- Frone, M. R., Russell, M., & Cooper, M. L. (1992). Antecedents and outcomes of work-to-family-conflict: Testing a model of work–family interface. *Journal of Applied Psychology*, *82*, 65–78.
- Frone, M. R., Russell, C. J., & Cooper, M. L. (1995). Job stressors, job involvement and employee health: A test of identity theory. *Journal of Occupational and Organizational Psychology*, *68*, 1–11.
- Garst, H., Frese, M., & Molenaar, P. C. M. (2000). The temporal factor of change in stressor–strain relationships: A growth curve model on a longitudinal study in East Germany. *Journal of Applied Psychology*, *85*, 417–438.
- Grebner, S., Semmer, N. K., & Elfering, A. (2005). Working conditions and three types of well-being: A longitudinal study with self-report and rating data. *Journal of Occupational Health Psychology*, *10*, 31–43.
- Harris, M. M., & Schaubroeck, J. (1988). A meta-analysis of self–supervisor, self–peer, and peer–supervisor ratings. *Personnel Psychology*, *41*, 43–62.
- Jackson, S. E., & Schuler, R. S. (1985). A meta-analysis and conceptual critique of research on role ambiguity and role conflict in work settings. *Organizational Behavior and Human Performance*, *33*, 1–21.
- Janssen, O. (2003). Innovative behavior and job involvement at the price of conflict and less satisfactory relations with co-workers. *Journal of Occupational and Organizational Psychology*, *76*, 347–364.
- Kahn, R. L., & Byosiére, P. (1992). Stress in organizations. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (2nd ed., Vol. 3, pp. 571–650). Palo Alto, CA: Consulting Psychologists Press.

- Kanungo, R. N. (1982). Measurement of job and work involvement. *Journal of Applied Psychology, 67*, 341–349.
- Katz, D., & Kahn, R. L. (1978). *The social psychology of organizations* (2nd ed.). New York: Wiley.
- Koch, C. J., & Kleinmann, M. (2002). A stitch in time saves nine: Behavioural decision-making explanations for time management problems. *European Journal of Work and Organizational Psychology, 11*, 199–217.
- Kodja, S. (2003). *Erholung von der Arbeit. Die Untersuchung von Selbstwirksamkeit und weiteren Moderatorvariablen*. Unpublished diploma thesis, Technical University of Braunschweig, Braunschweig, Germany.
- Kuhl, J. (1990). *Der Fragebogen zur Erfassung von Handlungskontrolle nach Erfolg, Mißerfolg und prospektiv HAKAMP 90*. Osnabrück, Germany: University of Osnabrück.
- Kuhl, J. (1994a). Action versus state orientation: Psychometric properties of the action control scale (ACS-90). In J. Kuhl & J. Beckmann (Eds.), *Volition and personality: Action versus state orientation* (pp. 47–59). Seattle, WA: Hogrefe & Huber.
- Kuhl, J. (1994b). A theory of action and state orientations. In J. Kuhl & J. Beckmann (Eds.), *Volition and personality: Action versus state orientation* (pp. 9–46). Seattle, WA: Hogrefe & Huber.
- Lodahl, T. M., & Kejner, M. (1965). The definition and measurement of job involvement. *Journal of Applied Psychology, 49*, 24–33.
- Mabe, P. M., & West, S. G. (1982). Validity of self-evaluations of ability. *Journal of Applied Psychology, 67*, 180–196.
- Peeters, M. A. G., & Rutte, C. G. (2005). Time management behavior as a moderator for the job demand–control interaction. *Journal of Occupational Health Psychology, 10*, 64–75.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & 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.
- Rizzo, J. R., House, R. J., & Lirtzman, S. I. (1970). Role conflict and ambiguity in complex organizations. *Administrative Science Quarterly, 15*, 150–163.
- Semmer, N. (1984). *Streßbezogene Tätigkeitsanalyse* [Stress-oriented analysis task-analysis]. Weinheim, Germany: Beltz.
- Semmer, N. K., Grebner, S., & Elfering, A. (2004). Beyond self-report: Using observational, physiological, and situation-based measures in research on occupational stress. In P. L. Perrewé & D. C. Ganster (Eds.), *Research in occupational stress and well-being: Emotional and physiological processes and positive intervention strategies* (Vol. 3, pp. 205–263). Amsterdam, The Netherlands: Elsevier.
- Semmer, N., Zapf, D., & Greif, S. (1996). “Shared job strain”: A new approach for assessing the validity of job stress measurements. *Journal of Occupational and Organizational Psychology, 69*, 293–310.
- Sluiter, J. K., Frings-Dresen, M. H. W., van der Beek, A. J., & Meijman, T. F. (2001). The relation between work-induced neuroendocrine reactivity and recovery, subjective need for recovery, and health status. *Journal of Psychosomatic Research, 50*, 29–37.
- 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.
- Sonnentag, S. (2001). Work, recovery activities, and individual well-being: A diary study. *Journal of Occupational Health Psychology, 6*, 196–210.
- Sonnentag, S. (2003). Recovery, work engagement, and proactive behavior: A new look at the interface between non-work 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., & Frese, M. (2003). Stress in organizations. In W. C. Borman, D. R. Ilgen, & R. J. Klimoski (Eds.), *Comprehensive handbook of psychology: Vol. 12. Industrial and organizational psychology* (pp. 453–491). New York: Wiley.
- Sonnentag, S., & Fritz, C. (2005). Recovery Questionnaire. University of Konstanz and Bowling Green State University. *Manuscript in preparation*.
- Sonnentag, S., & Zijlstra, F. R. H. (in press). Work characteristics and off-job time activities as predictors of need for recovery, well-being and fatigue. *Journal of Applied Psychology*.
- Strauss-Blasche, G., Ekmekcioglu, C., & Marktl, W. (2000). Does vacation enable recuperation? Changes in well-being associated with time away from work. *Occupational Medicine*, 50, 167–172.
- Thoits, P. A. (1991). On merging identity theory and stress research. *Social Psychology Quarterly*, 54, 101–112.
- Thorsteinson, T. J. (2003). Job attitudes of part-time versus full-time workers: A meta-analytic review. *Journal of Occupational and Organizational Psychology*, 76, 151–177.
- Westman, M., & Eden, D. (1997). Effects of a respite from work on burnout: Vacation relief and fade-out. *Journal of Applied Psychology*, 82, 516–527.
- Westman, M., & Etzion, D. (2001). The impact of vacation and job stress on burnout and absenteeism. *Psychology and Health*, 16, 595–606.
- Zapf, D. (1993). Stress-oriented analysis of computerized office work. *The European Work and Organizational Psychologist*, 3, 85–100.