Being engaged at work and detached at home: A week-level study on work engagement, psychological detachment, and affect

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Although earlier research has shown that work engagement is associated with positive outcomes for the employee and the organization, this paper suggests that employees also need time periods for temporarily disengaging (i.e., psychological detaching) from work. We hypothesized that work engagement and psychological detachment from work during off-job time predict high positive affect and low negative affect and that psychological detachment is particularly important when work engagement is high. Over the course of four working weeks, 159 employees from five German organizations from various industries completed surveys twice a week, at the beginning and the end of four consecutive working weeks. Hierarchical linear modelling showed that a person's general level of work engagement and the week-specific level of psychological detachment from work during off-job time jointly predicted affect at the end of the working week. As expected, work engagement moderated the relationship between psychological detachment and positive affect. These findings suggest that both engagement when being at work and disengagement when being away from work are most beneficial for employees' affective states.

Keywords: Diary study; Affect; Psychological detachment; Recovery; Work engagement

Introduction

Work influences individuals' affective states and well-being. Past research focusing on working conditions as prime causes of affect and well-being has shown that employees who face a high degree of job stressors react with more negative affect in the short run (Gryzwacz, Almeida, Neupert, & Ettner, 2004; Zohar, Tzischinski, & Epstein, 2003) and an impairment of well-being in the long run (De Lange, Taris, Kompier, Houtman, & Bongers, 2003). In this paper, we argue that not only job stressors as environmental factors impact on a person's affective state, but that also the way the person approaches his or her work matters for this person's affective state. For example, an employee who enjoys his or her work and is generally highly dedicated to it most probably experiences higher levels of positive affect after a working period than a person who lacks this enjoyment and dedication. However, if a person continuously thinks and ruminates about his or her work (including when the working day is over) this person's affective state might be impacted in a negative way. In this paper, we examine if experiences of work engagement (i.e., vigour, dedication, and absorption; Schaufeli & Bakker, 2004) and disengagement (i.e., psychological detachment from work during off-job time; Sonnentag & Bayer, 2005) are related to a person's affective state at the end of a working

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week. In line with earlier research (Rothbard, 2001), we differentiate between positive and negative affect as two distinct affective states.

During the past decade, researchers have increasingly examined affective correlates and consequences of work engagement (e.g., De Lange, De Witte, & Notelaers, 2008; Demerouti, Bakker, de Jonge, Janssen, & Schaufeli, 2001; Hakanen, Schaufeli, & Ahola, 2008; Rothbard, 2001; van den Broeck et al., 2008) and of temporary disengagement from work during off-job time (Sonnentag & Bayer, 2005; Sonnentag, Binnewies, & Mojza, 2008). However, work engagement and disengagement from work have been addressed in rather separated literatures. The effects of work engagement and disengagement from work during non-work time might not be independent from each other, but may interact. Psychological detachment might matter only for employees with high work engagement. Therefore, it is important to combine the investigation of work engagement and psychological detachment in one single study. Our study addresses this gap in the literature.

Engagement at work and psychological detachment from work during off-job time are not opposites. We view work engagement and psychological detachment from work as two distinct experiences representing two distinct constructs. Empirical evidence suggests that they are positively correlated (Kühnel, Sonnentag, & Westman, 2008).

In our study, we use a within-person study approach in order to predict weekly fluctuations of affect from work engagement and psychological detachment from work during off-job time. We focus on a person's general level of work engagement as a relatively durable individual attribute (Macey & Schneider, 2008) and on week-specific levels of psychological detachment from work during off-job time. This approach enables us to test the cross-level interaction between work engagement and psychological detachment from work. Examining this cross-level interaction provides an answer to the question whether psychological detachment from work during off-job time is equally important for all individuals.

Our study adds to the increasing body of studies that examined individual-level variation of affect (e.g., Elfering et al., 2005; Ilies, Schwind, & Heller, 2007). Not only do we address largely neglected predictors, but also extend the time frame covered in this research by choosing longer time intervals (i.e., weeks) than have most of the earlier studies (i.e., days; for an exception see Totterdell, Wood, & Wall, 2006). Moreover, we contribute to research on the interface between work and non-work (e.g., Ford, Heinen, & Langkamer, 2007). Until now, most studies in this area have investigated how one life domain impacts the other. Our study goes one step further and examines if predictors from the work domain (work engagement) and predictors from the non-work domain (psychological detachment from work during off-job time) jointly predict affective states at the end of the working week.

We examine affect at the end of the working week as core outcome variables for two main reasons. First, affect at the end of the working week is a very proximal outcome of the processes happening during the week and reflects rather immediate responses to these processes. Therefore, affect at the end of the working week most probably is a more sensitive indicator of affect-relevant experiences than are more general indicators of affect or well-being. Second, affect at the end of the working week should influence a person's functioning during the weekend, that is at the work–family interface (Geurts & Demerouti, 2003). When a person experiences high negative affect and low levels of positive affect, the quality of social interactions in the family and other non-work areas might suffer (Story & Repetti, 2006). Our study is also practically relevant. If it turns out that work engagement predicts favourable affective states (i.e., high positive affect and low degrees of negative affect), then organizations have to find ways to improve their employees' work engagement, for example

by increasing job resources (Bakker & Demerouti, 2007). If psychological detachment from work during off job time predicts favourable affective states, then employees should be encouraged to disengage themselves from their job during off-job time.

Affect

In our study, we focus on the core differentiation between positive and negative affect as two distinct higher-order dimensions (Watson, Wiese, Vaidya, & Tellegen, 1999) that refer to the fundamental distinction between pleasure and displeasure (Feldman Barrett, Mesquita, Ochsner, & Gross, 2007). In terms of other affect models (e.g., Russell & Carroll, 1999), this conceptualization of positive affect refers to states of pleasure and activation (i.e., arousal), whereas negative affect refers to states of displeasure and negative activation. In line with the conceptualization of Watson et al. (1999), we examine positive affect as high positive activation and negative affect as high negative activation. Positive affect includes experiences of enthusiasm, alertness, and excitement. Negative affect comprises experiences such as distress, fear, and nervousness. In concentrating on these two affective states, we follow earlier research that has shown that positive and negative affect are highly relevant for behaviour at work (Dalal, 2005; Ilies, Scott, & Judge, 2006) and for experiences at home (Ilies et al., 2007).

Work engagement

Work engagement is a broad concept that comprises as core features high involvement, affective energy, and self presence at work (Britt, Dickinson, Greene-Shortidge, & McKibben, 2007; Macey & Schneider, 2008). Here, we use the engagement concept as introduced by Schaufeli and Bakker and their colleagues (Bakker, Schaufeli, Leiter, & Taris, 2008; Schaufeli & Bakker, 2004; Schaufeli, Salanova, Gonzáles-Romá, & Bakker, 2002) who have defined work engagement as "a positive, fulfilling work-related state of mind that is characterized by vigour, dedication, and absorption" (Schaufeli, Bakker, & Salanova, 2006). Vigour refers to high levels of energy and mental resilience at work. It is characterized by the motivation to invest effort and to persist, even in case of difficulties. Dedication means to be strongly involved in one's work and to experience significance, enthusiasm, inspiration, pride, and challenge. Absorption refers to full immersion in and concentration on one's work. When employees feel absorbed in their work, they experience that time passes quickly and they find it difficult to detach themselves from work (Schaufeli et al., 2006). Work engagement should be differentiated from workaholism, which is characterized by working excessively and working compulsively (Schaufeli, Taris, & Bakker, 2006; Schaufeli, Taris, & van Rhenen, 2008). Being energetic, dedicated, and absorbed at work does not mean to work extremely long hours or to experience an uncontrollable need to work. Empirical research has shown that work engagement and workaholism are distinct constructs (Schaufeli et al., 2008).

There is some indication that work engagement fluctuates within individuals over time (Sonnentag, 2003). However, variance attributable to between-person variation exceeds variance attributable to within-person variation (Sonnentag, 2003; Xanthopoulou, Bakker, Demerouti, & Schaufeli, in press). Therefore, in this study, we follow the view of Macey and Schneider (2008) who discussed engagement as an experience that is "relatively durable over time" (p. 13) and examine work engagement as a person characteristic. This approach is in line with the dominant view on work engagement as an individual difference variable (Schaufeli & Salanova, 2007) and allows for testing trait-state interactions (for a similar idea see Ilies et al., 2006).

We propose that a person's general level of work engagement is positively related to positive affect and negatively related to negative affect at the end of the working week. Work engagement characterized by vigour, dedication, and absorption is a positive experience in itself. Persons who enjoy a generally high level of engagement at work should therefore have more experiences that are positive. Positive experiences and pleasant events are known to promote high positive affect (Gable, Reis, & Elliot, 2000; Kanner, Coyne, Schaefer, & Lazarus, 1981). Moreover, persons high in work engagement are more proactive at work (Hakanen, Perhoniemi, & Toppinen-Tammer, 2008; Salanova & Schaufeli, 2008), implying that they strive to improve working procedures that in turn should reduce negative affect because there are less reasons that could trigger it. As high work engagement implies to be absorbed in one's work, highly work-engaged persons should be less "distracted" by negative events (e.g., social conflicts) that might occur at work. Consequently, they are less likely to concentrate on such negative events and their negative affect should remain low. Finally, high work engagement may enable successful task completion (cf., Halbesleben & Wheeler, 2008; Salanova, Agut, & Peiró, 2005), whereas low work engagement may hinder performance because effort and concentration are lacking. Highly engaged employees will be more likely to complete their tasks and to successfully perform at work (Xanthopoulou et al., in press). Successful performance in turn is known to foster positive affect and to reduce negative affect (Fisher & Noble, 2004).

Studies focusing on between-person differences suggest that work engagement is positively related to positive affect and negatively related to physical symptoms and other indicators of poor well-being. For example, Rothbard (2001) showed that attention to one's work (as one aspect of engagement) was positively associated with positive affect. A longitudinal study over a period of three months showed that engagement predicted well-being and a low level of physical symptoms, also when controlling for initial levels of well-being and symptoms (Britt, Castro, & Adler, 2005). We assume that work engagement is not related only to a person's general level of affect, as shown in earlier research (Rothbard, 2001). We expect to find this relation also when assessing positive and negative affect at the week level.

Hypothesis 1: A person's general level of work engagement is positively related to positive affect and negatively related to negative affect at the end of the working week.

Psychological detachment from work during off-job time

Although the experience of being engaged fully at work is assumed to be related to high positive affect and low levels of negative affect, continued immersion in one's job might be detrimental for a person's affective state. This should be particularly the case when intense preoccupation with job-related thoughts and activities continues after the end of the (formal) working day (Schaufeli et al., 2008; Snir & Zohar, 2008). Specifically, we argue that a lack of detaching oneself psychologically from work during off-job time is related negatively to positive affect and related positively to negative affect at the end of the working week.

Psychological detachment from work has been described as an "individual's sense of being away from the work situation" (Etzion, Eden, & Lapidot, 1998, p. 579). It implies not engaging in job-related activities during off-job time and refraining also from job-related thoughts and worries while off work. Psychological detachment is an experience of leaving one's work behind when returning home from work. It means to disengage oneself mentally from work while not being at the workplace (Sonnentag & Fritz, 2007).

Low detachment from one's job during off-job time, however, implies that the functional systems (e.g., neuroendocrine and cardiovascular systems) remain in a state of prolonged activation (Brosschot, Gerin, & Thayer, 2006). Prolonged activation and continued preoccupation with job-related problems and thoughts drain energy resources and increase negative affect (Thomson, 2006). Not detaching from work and keeping thinking about job-related issues after work also reduces the likelihood of becoming immersed fully in family or leisure-time experiences. For example, a recent study showed that employees were less involved in social behaviours at home when they experienced high levels of work–family conflict (e.g., when they were preoccupied with job-related issues while being at home; Ilies et al., 2007). Being still mentally busy with job-related topics makes it difficult to enjoy and capitalize on these other, probably more positive, experiences (Lyobomirsky & Nolen-Hoeksema, 1993). Not engaging in such more positive experiences implies missing opportunities to increase positive affect (Gable et al., 2000).

Lack of psychological detachment from one's work might seem to be typical for persons high on workaholism. Conceptually, lack of psychological detachment is distinct from workaholism as the latter implies working extensively and being busy with actual work-related activities all the time, whereas lack of psychological detachment means to be mentally preoccupied with work-related issues and, thus, can occur during other types of activities (e.g., leisure time activities). Empirical research has shown that persons who detach from work during off-job time experience higher levels of life satisfaction and well-being (Sonnentag & Fritz, 2007), whereas continued preoccupation with one's job during after-work hours and inability to switch off from one's job is part of an unhealthy pattern characterized by high levels of fatigue, sleep complaints, and other indicators of poor well-being (Grebner, Semmer, & Elfering, 2005; van Hooff, Geurts, Kompier, & Taris, 2007). In addition, research that focused on day-to-day processes within persons revealed that on days when individuals succeeded in detaching themselves from their job after work, they enjoyed higher levels of positive and lower levels of negative affective states (Sonnentag & Bayer, 2005; Sonnentag et al., 2008). This previous research on within-person processes analyzed psychological detachment at the day level. However, it is unclear how lack of detachment unfolds over longer periods. Therefore, the present study examines the relationship between psychological detachment from work and subsequent affective states at the week level. Specifically, we examine in a within-person study design whether individuals experience more favourable affective states after working weeks when they succeeded in psychologically detaching from work during evening hours, compared to weeks when they were less successful in detaching from work.

Hypothesis 2: Psychological detachment from work throughout off-job time during the working week is positively related to positive affect and negatively related to negative affect at the end of the working week.

Work engagement as a moderator in the detachment-affect relationship

Psychological detachment from work during off-job time might not be equally relevant for all individuals. For example, one might argue that psychological detachment does not matter for highly engaged employees because for them, work is a positive experience. Not detaching from such a positive experience might even have beneficial effects on affective states, because this positive experience remains psychologically present during after-work hours. However, we argue that persons high on work engagement benefit more from psychological detachment

from work during off-job time than do persons low on work engagement. Being highly work-engaged does not imply that work *per se* is a more positive experience and that one encounters less stressors on the job (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007).

Moreover, there is empirical evidence that persons highly engaged at work are more negatively affected in their well-being by stressors and negative experiences encountered on the job (Britt et al., 2005), probably because these events at work are more meaningful for highly engaged persons and because high absorption in one's work also implies that one is highly absorbed in stressful situations. Together, these findings suggest that it is particularly important for highly work-engaged persons to detach themselves psychologically from work during off-job time. When highly engaged employees do not detach, the likelihood increases that stressors possibly encountered at work will also extend their negative effects during non-work hours. As a consequence, negative affect will increase and positive affect will decrease.

However, we argue that job stressors are not an essential condition for the assumed interaction between work engagement and psychological detachment. When not facing a high amount of job stressors, psychological detachment from work during off-job time should be particularly important for employees high on work engagement. There are at least two reasons for such a cross-level interaction between work engagement and psychological detachment from work during off-job time.

First, in line with Kahn (1990), it can be assumed that engagement at work and the associated positive experiences such as vigour or absorption do not imply that work is effortless (cf. Macey & Schneider, 2008). Rather, work engagement may be draining cognitive and affective resources. To avoid resource drain continuing during off-job time and maybe eventually resulting in poor affective states, psychological detachment from work during off-job time is particularly important for persons experiencing high work engagement. Second, as the experience of work engagement implies high positive activation (e.g., vigour), engaged employees' activation level is probably also high at the time when returning home from work. When highly engaged employees continue to think about job-related issues or even continue with job-related activities (i.e., do not psychologically detach from work), their activation level will remain high. Such a high activation level, although it might be associated with a positive affective valence, will make it difficult to relax, to fall asleep later, and to enjoy good sleep quality (cf., Brosschot, Pieper, & Thayer, 2005; van Hooff, Geurts, Kompier, & Taris, 2006). Poor sleep will have detrimental effects on subsequent affect (Scott & Judge, 2006; Totterdell, Reynolds, Parkinson, & Briner, 1994). To reduce this high activation level during after-work hours, it is important for highly engaged employees to disengage mentally from job-related thoughts and activities. In contrast, as employees with low work engagement are generally less negatively affected by their unfavourable experiences at work (Britt et al., 2005), psychologically detaching from these experiences will not matter much. Moreover, they will be less absorbed in their job experiences and therefore, they need less psychological detachment from work.

> *Hypothesis 3:* Work engagement moderates the relationship between psychological detachment from work during off-job time and positive and negative affect. The relationship between psychological detachment from work during off-job time and affect is stronger for employees high on work engagement than for employees low on work engagement.

Control variables

We included gender, age, and leadership position as demographic control variables in the analyses. In addition, we took week-specific control variables into account. First, experiences

and events happening during the weekend may influence an employee's approach to work and affect during the week. Therefore, we controlled for affect at the start of the working week (i.e., when predicting positive affect at the end of the week, we controlled for positive affect at the start of the week, and when predicting negative affect at the end of the week, we controlled for negative affect at the start of the week). Second, as job stressors such as time pressure or workload might impact on affect (Ilies et al., 2007; Totterdell et al., 2006), we controlled for time pressure experienced during the week. Finally, affect at the end of the working week might not only be influenced by what happened during the past week; it might also be affected by the anticipation of events and experiences to come. Therefore, we included anticipation of a nice weekend as an additional control variable.

Method

Sample

We collected our data from employees of five German organizations from various industry sectors including (1) electrical engineering (e.g., industrial automation, information technology, and communications), (2) media (e.g., daily newspapers, printing, and logistics), (3) design and distribution of sports equipment and sport apparel, (4) aluminium manufacturing and supply, and (5) energy supply and public local transportation services. To recruit participants, we first presented the study to the management of the organizations during face-to-face meetings and then contacted potential participants. We sent information packages to potential participants with a letter describing the study and requirements for participation and a return form for registration. The letter stressed that participation required access to the Internet at the workplace and that data collection would include responding to a general survey, four weekly surveys to be responded to on Monday morning and four weekly surveys to be responded to on Friday afternoon, during four consecutive working weeks. Upon registration, participants received a link to the general online survey. Every week, mostly on Monday morning and Friday afternoon, participants were sent links to the online surveys to be answered on the respective days (because of holidays, some of the working weeks started on Tuesdays or ended on Thursday; in these cases, participants completed the weekly surveys on Tuesday mornings and Thursday afternoons, respectively).

A total of 193 employees agreed to participate. However, 34 persons failed to provide the necessary data or did not respond to the weekly survey at the requested days and times, resulting in a final sample size of 159 persons (52% female) providing data from 432 weeks (effective response rate at the person level: 82%).

Average age of study participants was 40.7 years ($SD = 8.8$), average job tenure was 16.8 years ($SD = 9.3$), and organizational tenure was 12.5 years ($SD = 8.7$). Participants worked in a broad variety of jobs including managers (29.6%), economists (15.7%), technicians (8.8%), engineers (8.2%), journalists (5.7%), computer scientists (5.0%), and administrative jobs (13.2%). Mean working time per week was 39.9 hours ($SD = 10.3$). About a quarter of the sample (27.7%) held a supervisory position.

Measures

We collected our data with a set of online surveys comprising a general survey, a Monday morning survey, and a Friday afternoon survey. The general survey had to be completed once (before starting to complete the weekly surveys) and assessed trait work engagement and demographic data. The Monday and the Friday survey had to be completed during four

consecutive working weeks. In the Monday survey, we measured the control variables positive and negative affect at the beginning of the working week. In the Friday survey, we gathered data on psychological detachment from work during evening hours throughout the week, positive and negative affect experienced on Friday, and the control variables time pressure and weekend anticipation. All items were in German. If not otherwise reported, participants responded to all items on 5-point Likert scales. Table 1 reports means, standard deviations, Cronbach's alphas, and zero-order correlations.

General survey variables

We assessed trait work engagement with the 9-item version of the Utrecht Work Engagement Scale (Schaufeli, Bakker, & Salanova, 2006) using a 7-point Likert scale (ranging from 0 = *never* to 6 = *always, every day*). A sample item was "I feel happy when I am working intensively." As person-level control variables we assessed gender, age, and leadership position with single items.

Week-level predictor variable

As week-level predictor variable, we measured *psychological detachment from work* with four items from the Recovery Experience Questionnaire (Sonnentag & Fritz, 2007). We adapted the items so that they assessed detachment during the work of data collection (e.g., "During this week, I forgot about my work during leisure time").

Week-level outcome variables

Our outcome variables were positive and negative affect on Friday afternoon. *Positive affect on Friday* was assessed with six positive-affect items from the PANAS ("active," "interested," "excited," "strong," "inspired," "alert"; Watson, Clark, & Tellegen, 1988) in its German version (Krohne, Egloff, Kohlmann, & Tausch, 1996). *Negative affect on Friday* was assessed with six negative-affect items from the PANAS ("distressed," "upset," "irritable," "nervous," "jittery," "afraid"; Krohne et al., 1996; Watson et al., 1988). Participants were instructed to indicate whether the items described their momentary state "now, on Friday evening." We decided not to use the full PANAS scales to keep the weekly surveys short. We examined if the week-level predictor and outcome variables (psychological detachment, positive and negative affect on Friday) represented distinct constructs. Following the suggestions for examining construct validity of within-person data (Bolger, Davis, & Rafaeli, 2003), we conducted Confirmatory Factor Analyses with the person-mean centred data. Analyses showed that a three-factor model with all items loading on their designated factors had a better fit than a one-factor model ($\Delta\chi^2 = 1074.44$; $df = 3$; $p < .001$) and than a two-factor model with negative and positive affect items loading on one common factor ($\Delta\chi^2 = 318.55$; $df = 2$; $p < .001$).

Week-level control variables

We measured *positive and negative affect on Monday*, with the same items as used for assessing affect on Friday. The instructions were to respond to the items with respect to one's state "now, on Monday morning." Confirmatory Factor Analyses with person-mean centred scores showed that a two-factor model with all positive-affect items loading on one factor and all negative-affect items loading on another factor fit the data better than a one-factor model

Table 1. Means, standard deviations, and correlations between study variables.

	M	SD	Alpha	1	2	3	4	5	6	7	8	9	10	11
1 Age	40.74	8.78	–											
2 Gender [a]	1.48	0.50	–	.37										
3 Leadership position [b]	1.28	0.45	–	.21	.37									
4 Trait work engagement	3.60	1.28	.96	−.18	−.12	.15								
5 Positive affect on Monday morning	3.12	0.67	.86	.08	.07	.12	.55		−.34	.03	.20	.12	.49	−.22
6 Negative affect on Monday morning	1.32	0.40	.82	−.04	−.04	−.01	−.30	−.37		.05	−.25	−.26	−.13	.45
7 Time pressure	3.18	0.88	.86	−.04	−.07	.07	.08	.08	−.02		−.13	−.27	−.16	.17
8 Weekend anticipation	3.90	0.69	.86	.03	−.11	.01	.22	.32	−.34	.03		.23	.24	−.31
9 Psychological detachment from work	3.20	0.98	.96	.06	−.16	−.25	.02	.12	−.34	−.21	.29		.26	−.27
10 Positive affect on Friday afternoon	2.89	0.71	.89	.07	−.07	−.01	.27	.52	−.15	−.11	.28	.26		−.37
11 Negative affect on Friday afternoon	1.45	0.46	.81	.03	.02	−.00	−.26	−.28	.63	.13	−.29	−.32	−.38	

Note: Correlations below the diagonal are person-level correlations ($N = 159$) with correlations $r \geq |.20|$ being significant at $p < .05$ and $r \geq |.15|$ being significant at $p < .01$. Correlations above the diagonal are day-level correlations ($N = 432$) with correlations $r \geq |.13|$ being significant at $p < .01$.
For week-level variables, mean alphas averaged for four weeks of data collection are reported.
[a] 1 = Female. 2 = Male. [b] 1 = No leadership position. 2 = Leadership position.

Table 2. Multilevel estimates for models predicting positive affect on Friday afternoon.

	Model 1			Model 2			Model 3			Model 4		
	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t
Intercept	3.149	0.215	14.657	3.137	0.215	14.591	3.189	0.204	15.632	3.188	0.204	15.627
Gender	−0.178	0.124	−1.435	−0.178	0.124	−1.435	−0.117	0.119	−0.983	−0.114	0.119	−0.958
Age	0.008	0.007	1.143	0.008	0.007	1.143	0.013	0.007	1.857	0.013	0.007	1.857
Leadership position	−0.002	0.133	−0.015	0.008	0.133	0.060	−0.104	0.129	−0.806	−0.106	0.129	−0.821
Positive affect on Monday morning				0.160	0.060	2.667 **	0.139	0.057	2.439*	0.132	0.059	2.237*
Week-specific time pressure				−0.136	0.041	−3.317***	−0.116	0.041	−2.819**	−0.118	0.041	−2.878**
Weekend acticipation				0.119	0.045	2.644**	0.104	0.044	2.364*	0.110	0.044	2.500*
Trait work engagement (WE)							0.170	0.043	3.953***	0.169	0.043	3.930***
Week-specific detachment (D)							0.148	0.048	3.083**	0.141	0.048	2.938**
WE x D										0.089	0.041	2.171*
−2*log (lh)			865.338			838.340			814.280			809.630
Diff -2*log [a]			2.799			26.998***			24.060***			4.650*
df			3			3			2			1
Level 1 Intercept Variance (SE)			0.241 (0.021)			0.218 (0.019)			0.212 (0.018)			0.209 (0.018)
Level 2 Intercept Variance (SE)			0.377 (0.054)			0.386 (0.054)			0.341 (0.049)			0.341 (0.049)

Note: *$p < .05$; **$p < .01$; ***$p < .001$.

a. Model 1 was compared to a null model with the intercept as the only predictor ($\gamma = 2.884$; $SE = 0.056$; $t = 51.400$; −2*log = 868.137; Level 1 Intercept Variance = 0.240; $SE = 0.021$; Level 2 Intercept Variance = 0.387; $SE = 0.055$).

Table 3. Multilevel estimates for models predicting negative affect at Friday afternoon.

	Model 1			Model 2			Model 3			Model 4		
	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t
Intercept	1.370	0.140	9.786	1.380	0.140	9.857	1.351	0.135	10.007	1.351	0.135	10.007
Gender	0.042	0.081	0.519	0.039	0.081	0.481	0.007	0.078	0.090	0.005	0.078	0.064
Age	0.000	0.004	0.000	0.000	0.004	0.000	−0.003	0.004	−0.750	−0.003	0.004	−0.750
Leadership position	0.011	0.086	0.128	0.006	0.086	0.070	0.069	0.085	0.812	0.068	0.085	0.800
Negative affect on Monday morning				0.040	0.070	0.571	0.021	0.070	0.300	0.021	0.070	0.300
Week-specific time pressure				0.076	0.036	2.111*	0.065	0.037	1.757	0.065	0.037	1.757
Weekend anticipation				−0.091	0.039	−2.333*	−0.083	0.039	−2.128*	−0.081	0.039	−2.077*
Trait work engagement (WE)							−0.098	0.028	−3.500**	−0.099	0.028	−3.536**
Week-specific detachment (D)							−0.085	0.043	−1.977*	−0.087	0.043	−2.023*
WE X D										0.034	0.036	0.944
−2*log (lh)			649.068			637.048			621.707			620.865
Diff −2*log [a]			0.384			12.020**			15.341***			0.842
df			3			3			2			1
Level 1 Intercept Variance (SE)			0.179 (0.015)			0.172 (0.015)			0.169 (0.014)			0.168 (0.014)
Level 2 Intercept Variance (SE)			0.128 (0.023)			0.131 (0.023)			0.118 (0.021)			0.119 (0.022)

Note: *$p < .05$; **$p < .01$; ***$p < .001$.

a. Model 1 was compared to a null model with the intercept as the only predictor ($\gamma = 1.446$; $SE = 0.036$; $t = 40.167$; −2*log = 649.452; Level 1 Intercept Variance = 0.179; $SE = 0.015$; Level 2 Intercept Variance = 0.129; $SE = 0.023$).

week. To test this assumption, we computed additional multi-level models with psychological detachment (assessed on Friday afternoons) as outcome variable and positive and negative affect experienced on Monday mornings (person-mean centred) as predictor variables. The inclusion of positive and negative affect did not improve model fit over a null model with the intercept as the only predictor ($\Delta\ -2*\log = 3.257$; $\chi^2 = 3.257$; $df = 2$; n.s.). The estimates of positive and negative affect ($\gamma = 0.047$; $SE = 0.078$; $t = 0.628$ and $\gamma = -0.152$; $SE = 0.105$; $t = -1.448$, n.s., respectively) were both non-significant. Also, when entering the two affect variables separately or when additionally including control variables (gender, age, leadership position, time pressure during the week, weekend anticipation, and trait work engagement), the picture did not change and the estimates of positive and negative affect were always non-significant. Thus, there is no reason to believe that affect on Monday influences psychological detachment from work throughout the week.

Discussion

Researchers have argued that experiences from one life domain spill over into the other, for example experiences at work impact on experiences at home (Edwards & Rothbard, 2000; Greenhaus & Powell, 2006). Our study extends this knowledge by demonstrating that engagement at work and disengagement from work during off-job time jointly predict employees' affective states at the end of a working week. Moreover, our study showed that psychological detachment from work during off-job time is particularly important when work engagement is high. Highly engaged employees need time off the job where they can distance themselves from their work, most probably by focusing on activities and responsibilities not related to work. The overall pattern of our findings suggests that a balance between high engagement at work and high disengagement from work during non-work time is highly relevant for protecting employees' well-being. In more detail, we found that employees who generally experience high levels of work engagement report higher levels of positive affect and lower levels of negative affect at the end of the working week. As highly engaged employees generally experience lower levels of exhaustion (Schaufeli & Bakker, 2004), it might be that they have more cognitive and emotional resources (Hobfoll, 1998) to deal with daily job stressors and maybe also to capitalize on positive events at work (Gable, Reis, Impett, & Asher, 2004).

The finding that psychological detachment during off-job time throughout the week predicts affective states at the end of the working week adds to earlier studies that examined relations between psychological detachment and well-being by using different study designs (Sonnentag & Bayer, 2005; Sonnentag & Fritz, 2007). Although we should not derive causal conclusions from our study, our finding might suggest that psychological detachment from work during off-job time is crucial for regulating one's affect over the course of the working week (cf., Shimazu & Schaufeli, 2007). In addition, it has to be noted that not detaching from work might also have benefits, for example when trying to find a solution for a problem at work or when engaging in some reflection about positive events that happened at work (cf., Fritz & Sonnentag, 2005).

Work engagement moderated the relationship between psychological detachment from work during off-job time and positive affect, indicating that detachment is particularly important for highly work-engaged persons. Although one could also build a case that psychological detachment should be *less* relevant when work engagement is high (because there might be no need to disengage from a positive, enthusiastic experience), our data suggest the opposite is true. To stay alert and interested until the end of the working week,

highly engaged persons need to detach from work when they are at home. In other words, the finding might imply that work engagement unfolds its affective potential mainly when psychological detachment from work during off-job time is high. Work engagement, however, revealed no cross-level interaction with psychological detachment when predicting negative affect. It might be that negative affect at the end of the working week is influenced by the level of stressors a person generally encounters (as opposed to week-specific stressor levels) and that, in such a situation, psychological detachment during off-job time can do little to alleviate the negative effects of low work engagement.

In our study, a person's general level of work engagement was not related to week-specific experiences of psychological detachment from work during off-job time ($r = .02$, Table 1). This finding is in line with earlier research on work engagement and workaholism (Schaufeli et al., 2008; Snir & Zohar, 2008) and demonstrates that work engagement can be differentiated from a compulsive need to work. High engagement at work does not imply that one stays mentally attached to one's work during off-job time.

Limitations

This study is not without limitations. First, it has been proposed that work engagement is related conceptually to positive affect (Macey & Schneider, 2008). Therefore, one might argue that the relationship between work engagement and positive affect found in our study only reflects conceptual overlap between work engagement and positive affect. Indeed, the vigour component of work engagement is linked to notions of energy and aliveness (Schaufeli, Bakker, & Salanova, 2006) that are also characteristic of high positive affect. However, for several reasons, we are convinced that this conceptual link does not invalidate the overall findings of our study. First, vigour is only one aspect of work engagement and is gauged with only a third of all work-engagement items. Second, work engagement was related not only to positive affect, but also (negatively) to negative affect. Third, while conceptual overlap might partially explain the direct relationship between work engagement and positive affect, it can not account for the interaction effect between work engagement and psychological detachment. Taken together, the conceptual closeness between work engagement and positive affect does not put into question this study's overall findings.

Second, as we used self-report measures, one might argue that common method variance accounts for our findings (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). In addition, because psychological detachment and affect were collected at the same points in time, occasion factors might have influenced the findings. We tried to reduce threats of common method variance and occasion factors by including control variables (affect at the beginning of the week, time pressure during the week, weekend anticipation). If the relationships discovered in this study were based exclusively on a common method or an occasion factor, then the relationships between the predictor and outcome variables would break down when controlling for variables that most probably are also influenced by this assumed common method or occasion factor (e.g., weekend anticipation, retrospective assessment of time pressure). However, work engagement and psychological detachment strongly predicted affect on Friday, over and above the control variables that themselves were empirically related to affect on Friday. Thus, although future studies should opt for the inclusion of multi-source measures and for the separation of measurement points, the inclusion of control variables in our analyses suggests that common method and occasion bias can not account for our core study findings.

Third, our study design does not warrant conclusions about causality. For example, one might argue for reversed causation with affect influencing (perceptions of) psychological detachment or for third variables having influenced both predictor and outcome variables. We tried to meet these challenges in a number of ways. First, we assessed work engagement in the general survey before measuring affect on Friday afternoon. Therefore, affect experienced at the weekly times of data collection could not have influenced work engagement data. Second, we controlled for positive and negative affect at the start of the working week. Thus, if there are stable individual-difference variables that affect both the assessment of psychological detachment and state affect, these variables would have also impacted affect on Monday (and we controlled for this potential effect in our analyses). Third, we tested for reverse causation and found that Monday affect did not predict psychological detachment assessed on Friday. Thus, all these procedural steps do not support alternative causal interpretations referring to reverse causation and third variables. However, to arrive at less tentative conclusions about causality, future studies should try to manipulate psychological detachment from work during off-job time and examine its affective consequences.

Implications for future research and for practice

Our study focused on affect at the end of the working week as outcome variable. It would be interesting to examine if work engagement and psychological detachment from work during off-job time are related also to other affective states (e.g., serenity, fatigue), job satisfaction, task performance, or proactive behaviour. Moreover, future studies may choose different periods for examining the relationships between work engagement, psychological detachment, affect, and other outcome variables. One option would be to examine how the relationships unfold at the day level. For example, it could be tested if psychological detachment during the evenings is equally important on all weekdays or if high levels of detachment on one day can compensate for low levels on other days. Another option would be to address longer-term associations in longitudinal studies with time lags of several months.

Although causal interpretations of our data must remain tentative, the findings point to promising directions for interventions. Our findings suggest that it is important to increase work engagement and to encourage psychological detachment from one's job during after-work hours. Research has identified resources at work as core predictors of work engagement (Bakker & Demerouti, 2007). Therefore, organizations should provide job control and supervisory support in order to stimulate employee engagement (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007; Mauno, Kinnunen, & Ruokolainen, 2007). Psychological detachment can be enhanced by advising employees to separate their work life from their non-work life (Rothbard, Philips, & Dumas, 2005). One specific threat to a successful segmentation between work and non-work life is the use of communication technologies (e.g., email, pagers, and mobile phones; Boswell & Olson-Buchanon, 2007) that make it difficult to mentally switch off from one's job during after-work hours. Interventions may address explicit organizational policies and implicit norms of unlimited availability in order to help employees to detach from their jobs—at least temporarily.

Conclusion

Organizations want fully engaged employees, as work engagement is associated with positive organizational outcomes (Salanova et al., 2005). Our study suggests that employee affect also

benefits from high work engagement and that being engaged at work and being detached from work during non-work time are not mutually exclusive. Rather, when high levels of work engagement combine with high levels of detachment during off-job time, employees enjoy the highest levels of positive affect. Therefore, continuous preoccupation with work as a 24/7 approach to one's job is a double-edged sword that in the end might threaten employee health and well-being.

Acknowledgements

This study was funded by the German Research Community (DFG; SO 295/4-1, 4-2). This grant is gratefully acknowledged. We would like to thank Franziska Bertram, Claudius Bornemann, Stefanie Ernst, Verena Hahn, Till Kastendieck, Nadja Metzler, Frithjof Müller, Christian Lorenz, Sonja Riefer, Julia Schweda, and Ines Spitzner for support during data collection and Jana Kühnel, Arnold Bakker, and two anonymous reviewers for helpful comments on earlier versions of this paper.

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