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RESEARCH ARTICLE

Leader support for recovery: A multi-level approach to employee psychological detachment from work

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Abstract

This research examines the role of leaders for employee recovery. We hypothesize that leader support for recovery (empathy for recovery, respect for boundaries, and role modelling) relates positively to employees' psychological detachment from work during non-work time that, in turn, predicts well-being outcomes. We argue that leader support for recovery can only be effective when the leader-member exchange (LMX) relationship quality is sufficiently high. In a series of scale-development and scale-validation studies, we demonstrated the construct and content validity of a new measure of leader support for recovery. We tested our hypotheses with diary data collected from 152 employees. Respect for boundaries was positively related to employees' psychological detachment from work during non-work time at the person level. Psychological detachment from work was positively related to low emotional exhaustion and a high morning recovery state, both at the person and the day level. LMX moderated the relationship between leader support for recovery (overall measure), empathy for recovery, and respect for boundaries on the one hand and psychological detachment on the other hand, such that the relationships became non-significant when LMX was lower. The study suggests that leaders in high-quality relationships can contribute to employee recovery – a process that helps to maintain employee well-being.

KEYWORDS
leadership, multilevel methods, recovery, well-being

Practitioner points

- Leaders play an important role in employees' recovery.
- Employees can better psychologically detach from their work during non-work time when leaders respect boundaries between work and non-work life. Respecting boundaries should be a top priority for leaders.
- Leader support for recovery cannot be effective in low-quality LMX relationships. Leaders should support their employees' recovery and strive to build good relationships with them.

BACKGROUND

Recovery from daily work is crucial for employee health and well-being (Sonnentag et al., 2022; Steed et al., 2021). During stressful times, it is particularly important that employees mentally detach from work during after-work hours and that they gain some mental distance from work so that they can start the next workday refreshed and with new energy (Clinton et al., 2017; Liu et al., 2021). Research has identified several factors that facilitate versus hinder psychological detachment from work, including specific leisure activities (Hahn et al., 2012; Liu et al., 2021), job demands (Germeys & De Gieter, 2018), and interpersonal job stressors (Rodríguez-Muñoz et al., 2017).

Although there are a few exceptions (Bennett et al., 2016; Tement et al., 2020), the role of leadership for employee recovery in general and for employee psychological detachment in particular has been largely neglected. Leaders, however, might be very important for employee recovery and psychological detachment, respectively, because they influence employees' perspectives on work and on work-home boundaries (Kim & Beehr, 2020; Liao et al., 2016). More specifically, leaders might facilitate their employees' recovery by being mindful of signs of strain and depletion in their employees, acknowledging their recovery needs, and by reminding them about the importance of recovery. However, leaders also might undermine their employees' recovery by violating boundaries between work and non-work life, for instance, by contacting them during leisure time.

To better understand the role leaders play in employee recovery we, first, develop and validate a scale to measure leader support for recovery, and, second, suggest and test a model that introduces leader support for recovery as an important predictor of employee recovery (Figure 1). Specifically, we propose that leader support for recovery is positively related to followers' psychological detachment from work during after-work hours and that psychological detachment, in turn, is associated with lower levels of exhaustion and higher levels of morning recovery states. We suppose that leader support for recovery may not be effective under all circumstances and examine leader-member exchange (LMX; Liden et al., 1997) as a moderator of the relationship between leader support for recovery and employee psychological detachment from work. To capture the substantial within-person variation in recovery-related constructs and well-being (Podsakoff et al., 2019), we collect daily survey data. We include leader support for recovery and LMX as person-level variables in the multi-level study design.

We seek to make several contributions. First, our study adds to the recovery literature by examining the role of leadership for employee recovery. Until now, the vast majority of studies investigating predictors of recovery focused on job demands and job resources (e.g., job control; Bennett et al., 2018; Steed et al., 2021). We extend the predictor space by showing that also the leader, as an important aspect of the interpersonal work environment, plays a core role in facilitating employees' recovery processes.

Second, we suggest leader support for recovery as a specific new multidimensional construct. As such, we highlight that leader support for recovery encompasses multiple facets that leaders need to consider when they want to support their followers' recovery processes. We build on earlier work by Bennett

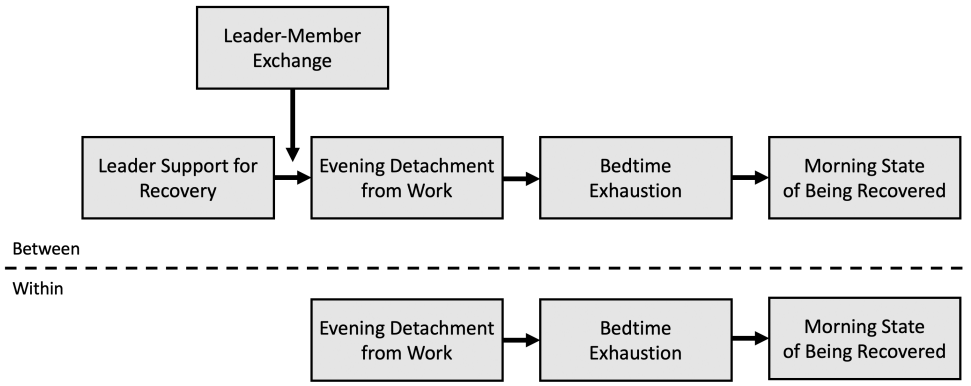


FIGURE 1 Conceptual model.

et al. (2016) that demonstrated that leaders' expectations that employees work during leisure time can undermine employee recovery. However, we go beyond Bennett et al.'s approach and argue that leader support for recovery is more than just not expecting employees to show excessive work commitment during non-work time. Rather, leader support for recovery includes behaviours that explicitly promote recovery, for instance by expressing empathy for recovery and acting as a role model. To be able to examine the multidimensional nature of leader support for recovery, we develop and validate short scales that capture various aspects of the construct.

Third, we contribute to the broader literature on leadership and well-being (Harms et al., 2017; Montano et al., 2017) by extending the knowledge about the benefits of leader-member exchange (LMX). While Bennett et al. (2016) reported a direct negative association between high LMX and employee recovery, we demonstrate that a more nuanced perspective on LMX is needed. Although a high LMX might lead to follower overcommitment and neglect of recovery (Bennett et al., 2016; Harris & Kacmar, 2006), a high LMX is needed so that followers can trust that their leader expresses support for recovery out of a benevolent motive.

CORE CONCEPTS

We define leader support for recovery as a leader's behaviours that "encourage employees to recover during nonwork time" (Bennett et al., 2016, p. 1644[1]). Building on this broad definition, we conceptualize leader's support for recovery as a multidimensional construct comprising empathy for recovery, respect for boundaries, and role modelling as three essential building blocks. We position our conceptualization of leader support for recovery within the broader literature on supervisor social support. Social support in general can be defined as the provision of "psychological or material resources … to a focal individual by partners in some form of social relationship" (Jolly et al., 2021, p. 292) and comprises emotional, informational, and instrumental support as its core dimensions (House et al., 1988; Jolly et al., 2021).

Emotional support refers to the expression of empathy and communicates that the target person is cared for and appreciated (Cobb, 1976; Semmer et al., 2008). In the context of leader support for recovery, emotional support means that leaders show empathy for their employees' recovery needs. Informational support refers to giving advice and cognitive guidance and thereby helping to define and understand difficult situations (Cohen & Wills, 1985). One important way by which leaders can

[1]Although Bennett et al.'s definition is very suitable for capturing the essence of leader support for recovery as a broad multi-dimensional concept, Bennett et al.'s measure is comparably narrow and focusses on just one aspect of the broader concept (i.e., expectation to work during personal time).

informationally support employee recovery is by providing a personal example about how they integrate recovery into a busy life, that is, by role modelling. Generally, instrumental support includes financial help and the provision of other resources and tangible support (Cohen & Wills, 1985). It may also include actions that give "the recipient increased time for activities such as relaxation or entertainment" (Cohen & Wills, 1985, p. 313). Applied to leader support for recovery, the most important instrumental support may not be the provision of any material resource, but to refrain from intruding into employees' free time, that is, to respect boundaries between work and non-work time.

Empathy for recovery

Empathy – the tendency to understand and experience internal states of other persons (Clark et al., 2019) – plays an important role in organizational life and is an important aspect of effective leadership (Burch et al., 2016). In line with a more general definition of leader empathy, we define leader empathy for recovery as a leader's "ability to accurately recognize and understand" (Meinecke & Kauffeld, 2019, p. 487) that employees need recovery. Empathy for recovery refers to the emotional aspects of leader social support. It means that leaders are attentive to their employees' recovery needs, that they acknowledge that recovery is important and that they let their employees know that they understand their recovery needs.

Respect for boundaries

Acknowledging employees' recovery needs is important, but it is not sufficient for effectively supporting employee recovery. To help employees recover, leaders need to respect the boundaries between employees' work and non-work lives. Per definition, recovery is impeded when work intrudes into non-work hours (Meijman & Mulder, 1998). These intrusions can take several forms, with completing work-related tasks and being contacted for work purposes belonging to the most prominent intrusions (Butts et al., 2015; Ten Brummelhuis & Trougakos, 2014). Obviously, leaders are an important source of these intrusions, as they set expectations about task accomplishment and establish norms about job-related communication during non-work hours. To enable recovery, leaders need to hold the boundaries around their subordinates' non-work time. Typically, leaders who respect boundaries refrain from assigning tasks that need to be completed literally "overnight" and do not contact their employees during after-work hours or on the weekend. Respect for boundaries is a core component of the instrumental aspect of leader social support. A leader's behaviour is most instrumental for employee recovery when the leader provides time and "peace of mind" by not intruding into employees' periods of rest. Bennett et al.'s (2016) measure of supervisory support for recovery captures this dimension of leader support for recovery as its main feature using items such as "I communicate with subordinates during non-work time" and "The more productive employees work during non-work time" (p. 1654; both items reverse-coded).

Role modelling

Role modelling is an important strategy by which leaders can influence their employees (Brown & Treviño, 2014; Yaffe & Kark, 2011). In the recovery context, role modelling means that leaders set a positive example for recovery practices, by communicating about their own recovery needs and activities. For instance, when role modelling recovery, leaders tell their followers about how they integrate recovery into their daily lives, how they manage to take time for recovery, and which recovery activities they enjoy. Role modelling corresponds to the informational aspect of leader social support. According to social learning theory (Bandura, 1977), employees observe how leaders speak

about their personal recovery, extract information from their leaders' reports about recovery, and draw conclusions about the value of recovery and how they themselves could implement recovery into their lives. Thus, leaders' role modelling of recovery will have a positive impact on employees' recovery. Benefits of leader role modelling have been demonstrated in the work-family literature: For instance, when supervisors role model work-family balance, employees experience less work-family conflict (Hammer et al., 2009).

Leader support for recovery as a person-level construct

In line with earlier research (Bennett et al., 2016; Nie et al., 2021), we treat leader support for recovery as a person-level variable. The degree to which leaders express empathy for recovery needs, respect employees' boundaries, and role model recovery differs from leader to leader. Of course, leaders must enact these behaviours on certain days, and the person-level degree of support for recovery is the aggregate of leader behaviours occurring on individual days. We assume that this overall person-level support for recovery is more relevant than what might happen on each individual day because leaders might not have contact with their employees every day (Barnes et al., 2015) and might not address the recovery topic every day. Most likely, leaders do not need to talk about recovery every day; for employees, it should be more important to know that their leader generally supports recovery. Leaders' support for recovery can also be effective on days when leaders and employees do not meet or do not talk about recovery.

HYPOTHESES DEVELOPMENT

Leader support for recovery and employee recovery at the person level

Leader support for recovery will help employees detach from work during non-work time. Psychological detachment from work during non-work time (i.e., temporal mental disengagement from work; Sonnentag & Fritz, 2007) is a core recovery experience and, as such, plays a crucial role for employee well-being (Steed et al., 2021). Psychological detachment does not only mean avoiding work during non-work hours but also refraining from work-related thoughts. Such thoughts would keep the psychobiological system activated (Brosschot et al., 2006) and therefore impede restoration.

Leader support for recovery will be positively related to employees' psychological detachment for several reasons. First, when leaders show empathy for recovery, they acknowledge that recovery is important. They give their employees the feeling that they understand their recovery needs and take them seriously. When employees experience that their recovery needs are taken seriously, they feel understood (Longmire & Harrison, 2018) so that they can see their own recovery needs as being legitimate. This experience, in turn, should help them to respond to these needs by prioritizing recovery during non-work periods. They know that they need not bother about work during after-work hours, which makes detachment from work more likely. When leader empathy for recovery is low, however, employees cannot be sure that their recovery needs are legitimate and that they are "allowed" to detach from work. Accordingly, they will be less likely to detach.

Second, respecting boundaries facilitates employees' psychological detachment from work. When leaders do not respect boundaries by, for instance, allocating urgent tasks shortly before the end of the workday or by contacting employees after work, they keep employees mentally connected to work and, consequently, employees' psychological detachment will be low. Importantly, not only leaders' actual boundary-violating behaviours but also the possibility that the leader might cross the boundary and intrude into non-work time may keep work-related thoughts activated and impede psychological detachment. However, when employees know that their leaders respect the boundaries, employees can fully disconnect from work during non-work time. Empirical findings from Bennett et al. (2016) support this assumption. When supervisors endorsed statements such as "I communicate with subordinates during

non-work time", employees were less likely to belong to a leaving-work-behind recovery profile (i.e., a profile characterized by a high level of psychological detachment).

Third, leader role modelling will help employees with psychological detachment from work. When leaders model putting attention on recovery, they convey that recovery is a desirable goal that will inspire employees to strive for recovery as well, for instance by refraining from job-related thoughts and activities during non-work time. Moreover, when role modelling recovery, leaders may even tell how they achieve a state of recovery, transmitting helpful information to their employees, who in turn will learn how to implement these strategies themselves (Morgenroth et al., 2015). Pursuing recovery goals and knowing how to recover will make it more likely that employees achieve psychological detachment from work during non-work time.

Hypothesis 1. At the person level, leader support for recovery is positively related to psychological detachment from work.

Leader support for recovery will not only be related to employees' psychological detachment from work but may be reflected in higher employee well-being, such as lower levels of exhaustion and higher levels of feeling recovered in the morning. Accordingly, we propose that leader support for recovery will have indirect effects on employee exhaustion and the morning state of being recovered via psychological detachment from work.

Exhaustion is a stress-related experience that "refers to feelings of being overextended and depleted of one's emotional and physical resources" (Maslach et al., 2001, p. 399). Psychological detachment from work during non-work time should relate negatively to exhaustion. Employees who detach from work forget about their work demands during non-work time. Thus, work is no longer mentally present for them, and their psychobiological systems that have been taxed during work are no longer activated and can return to their pre-stressor levels (Meijman & Mulder, 1998). As a consequence, exhaustion declines, resulting in lower exhaustion levels during after-work hours. In line with this prediction, research found negative person-level correlations between psychological detachment and exhaustion (Headrick et al., 2022). Taken together, because leader support for recovery should be positively related to psychological detachment from work and because psychological detachment from work should be negatively related to exhaustion, we expect a negative indirect effect from leader support for recovery to exhaustion via psychological detachment from work.

Hypothesis 2a. At the person level, leader support for recovery is negatively related to exhaustion via psychological detachment from work.

The state of being recovered is "an indicator of successful recovery resulting from activities or experiences pursued during previous leisure time" (Binnewies et al., 2009, p. 70). It results from the successful restoration of resources that had been depleted during work and expresses itself in a feeling of being refreshed and energetic. We propose that leader support for recovery will have a serial indirect effect on an employee's average morning state of being recovered, via psychological detachment from work and low exhaustion. When employees successfully detach from work and consequently experience lower exhaustion levels, they will benefit from the detachment process the next morning as well. Taken together, because leader support for recovery should be positively related to psychological detachment from work, psychological detachment from work should be negatively related to exhaustion, and exhaustion, in turn, should be negatively related to the morning state of being recovered, we expect a positive serial indirect effect from leader support for recovery to the morning state of being recovered via psychological detachment from work and exhaustion.

Hypothesis 2b. At the person level, leader support for recovery is positively related to the morning state of being recovered via psychological detachment from work and bedtime exhaustion.

The moderating role of leader-member-exchange

Research suggests that the relationship quality between leaders and their subordinates has an impact on how employees respond to their leader's behaviours (Greenbaum et al., 2018; Schriesheim et al., 1998). We propose that the relationship between leader and employee (leader-member exchange; LMX) moderates the association between leader support for recovery and employee psychological detachment from work during non-work time.

LMX is a leadership concept relying on core principles of social exchange (Dulebohn et al., 2012). According to the LMX approach, leaders develop distinct exchange relationships with their employees: Low-quality relationships focus on economic exchanges as prescribed in employment contracts. High-quality relationships go beyond these basic economic exchanges and include the exchange of a broader set of resources, such as "deep mutual affection and admiration" (Liden et al., 1997, p. 84). A high-quality relationship will not only have a positive impact on employees' job performance and satisfaction (Dulebohn et al., 2012; Martin et al., 2016), but it will also help leader support for recovery to unfold its full potential. Employees in high-quality LMX relationships trust their leaders, implying that they have "confidence in (the) character of (the) leader" (Dirks & Ferrin, 2002, p. 613). Applied to the context of recovery, they have confidence that the leader is sincere when expressing a positive view on recovery and when encouraging employees to take time for recovery and temporarily forget about work. This confidence implies that employees can allow themselves to take recovery seriously and to mentally detach from work when they are off the job. This trust in their leader being typical for employees in high-quality LMX relationships lets employees "accept vulnerability" (Rousseau et al., 1998, p. 398) when demonstrating that they do not think about their job 24/7 because they can trust that their leader will accept – or even welcome – this temporal detachment from work.

Therefore, the support the leader expresses for recovery will be more influential for the recovery processes of employees in high-quality relationships. Employees in low-quality relationships, however, will not necessarily trust that their leaders have good intentions when emphasizing the importance of recovery. Leaders' attitudes about recovery will be less relevant for them because they feel more distance towards the leader. Consequently, for employees in low-quality relationships, their leader's support for recovery will have less impact. Accordingly, we suggest that the quality of the LMX relationship is a moderator in the relationship between leader support for recovery and psychological detachment from work. In other words, the quality of the LMX relationship needs to be reasonably high so that employees' detachment from work can benefit from leader support for recovery.

> **Hypothesis 3.** At the person level, LMX moderates the relationship between leader support for recovery and psychological detachment from work such that the positive relationship between leader support for recovery and psychological detachment breaks down (i.e., becomes non-significant) when LMX is low.

Linking Hypotheses 2 and 3, we propose that the indirect relationship of leader support for recovery with exhaustion and the morning state of being recovered via psychological detachment depends on LMX. Employees in a high-quality LMX relationship benefit from leader support for recovery in the sense that they show higher detachment from work and, in turn, will experience lower levels of exhaustion and higher levels of being recovered in the morning. Because they trust in their leader, they will feel encouraged that it is psychologically safe to detach from work, and this higher level of detachment will result in more favourable levels of exhaustion and a state of being recovered. Employees in a low-quality LMX relationship, however, will not be able to take advantage of their leader's support for recovery. Consequently, their level of psychological detachment from work will not be affected by leader support for recovery. In turn, it will also be less likely that leader support for recovery is reflected in low exhaustion and a high morning recovery state. We propose:

Hypothesis 4. At the person level, we expect a conditional indirect effect such that the indirect effect between leader support for recovery and exhaustion and the morning state of being recovered via psychological detachment from work breaks down (i.e., becomes non-significant) when LMX is low.

Day-level processes: psychological detachment from work, bedtime exhaustion, and the morning state of being recovered

In addition to the person-level processes described in Hypotheses 1 to 4, recovery processes will be observed at the day level as well. Studies have shown that psychological detachment happening at the day level is associated with subsequent day-level well-being outcomes (Liu et al., 2021; Sonnentag et al., 2008). We propose that day-level psychological detachment from work is related to low bedtime exhaustion and, in turn, to a high morning state of being recovered.

As described above, when detaching from work during after-hours, strain symptoms that have emerged during the workday are alleviated and exhaustion decreases. Not detaching from work, however, means to continue thinking about work-related matters that will further draw on a person's energetic resources. Consequently, exhaustion levels will remain high. Indeed, day-level studies demonstrated negative associations between psychological detachment from work and exhaustion (Bredehorst et al., 2023) and similar outcomes (Germeys & De Gieter, 2018). We seek to replicate these findings in our study:

Hypothesis 5a. At the day level, psychological detachment from work is negatively related to bedtime exhaustion.

We propose that day-level psychological detachment from work should be associated with a high morning state of being recovered through low bedtime exhaustion. As argued with respect to Hypothesis 5a, psychological detachment from work should be negatively related to bedtime exhaustion. Low bedtime exhaustion, in turn, should contribute to the feeling of being refreshed in the next morning because it implies that one finishes the evening in a less depleted state that most probably translates into a relatively energetic state in the next morning. In contrast, high bedtime exhaustion reduces the likelihood of being fully recovered the next morning.

Hypothesis 5b. At the day level, psychological detachment from work is positively related to the morning state of being recovered via low bedtime exhaustion.

OVERVIEW OF STUDIES

To assess leader support for recovery, we followed principles of scale development and validation (Colquitt et al., 2019; Hinkin, 1998; Lambert & Newman, 2023). Specifically, we developed measures for empathy for recovery, respect for boundaries, and role modelling within a broader research project on leaders' role for recovery that also aimed at examining leaders' role for taking vacations, encouraging breaks at work, and providing break infrastructure at the workplace. We started the scale-development process by eliciting leaders' broader view on employee recovery in a qualitative study (Study 1). In Studies 2a, 2b, 3a, and 3b, we developed and tested the construct validity of the three specific scales assessing empathy for recovery, respect for boundaries, and role modelling, using a confirmatory factor analytic approach (Lambert & Newman, 2023). In Study 4, we tested content validity. Study 5 is our main study in which we tested our hypotheses.[2]

[2]This is the first publication from Studies 1, 2a, 2b, 3a, 4, and 5. Results from Study 3b focusing on a different research question and using different variables have been already published (Sonnentag & Schiffner, 2019).

STUDY 1

Sample

The sample comprised 62 experienced Israeli leaders (35.5% female), with a mean age of 42 years ($SD = 12.4$). The sample was highly educated and came from various types of organizations (public service, education, law enforcement, business sector, and customer service) and of widely varying organizational sizes. Participants' average managerial experience was 11.16 years ($SD = 8.03$).

Materials

Study participants completed a qualitative questionnaire. In the first section of the questionnaire, we employed the critical incident technique (Anisman-Razin et al., 2023; Flanagan, 1954) to collect narratives of leaders regarding situations in which they took responsibility for employees' recovery from work. After reporting critical incidents, participants responded to open-ended questions. These questions covered several topics, most relevant for the present research were (1) the leader's general attitude towards the subject of employee recovery, (2) the leader's general practices for fostering employee recovery (e.g., "What do you do to allow your employees to recover from work stress?"; "If you were to feel one of your employees is more tired than usual during the working day, what would you do?"; "how would you respond in a situation where one of your employees complaints that he or she is more stressed than usual?"), and (3) the leader's personal approach to recovery.

Data analysis

We analysed the data based on grounded theory (Glaser & Strauss, 2009) and theme analysis (Miles & Huberman, 1994), including three independent raters.

Results

From the qualitative data elicited from the participants, several themes and sub-themes emerged, covering a broad range of recovery topics. These themes included – but were not limited to – our three study concepts (i.e., empathy for recovery, respect for boundaries, and role modelling) as three core facets of leader support for recovery. Responses referring to empathy for recovery included reports such as "I told him that I personally don't feel good, due to his bad feeling, and that I won't let it persist this way" [participant41] and "I believe that mere listening, giving the opportunity to unload some stress, and not to be left alone with it, eased her feelings" [participant58]. With respect to respect for boundaries, participants emphasized the importance of boundaries with statements such as "I had a 'workaholic' employee. I put my foot down to make it clear that she is not answering any email while at home" [participant29] and "I told the employees not to work during weekends" [participant37]. Finally, role modelling was explicitly mentioned in statements such as "The manager's responsibility for recovery is derived, first and foremost, of his personal conduct in taking care of his own recovery" [participant28] and "I'm punctilious on not staying at office till late hours, from personal considerations, and also in order not to set a bad example for my employees" [participant46].

Building on the insights from the qualitative study, we developed a total of 56 items that covered various aspects of leaders' approach to employee recovery (e.g., leader support for taking vacations, for taking breaks at work, and provision of break infrastructure), including also 15 items for assessing our

three focal constructs (i.e., empathy for recovery, respect for boundaries, and role modelling with five items each). In a series of studies, we tested these 15 items and arrived at a total of 11 items to be used in our main study (Study 5). In the different studies, we used 5-point (Study Studies 3b and 5) and 7-point (Studies 2a, 2b, and 3a) Likert-type response formats. Tables reporting the findings from Study 2a to 4 are available online in the Supporting Information.

STUDIES 2A AND 2B

Studies 2a and 2b aimed at a first test of the construct validity of a 15-item version of the three-dimensional measure of leader support for recovery.

Samples

The sample of Study 2a included 169 employees (65.91% female) working in a diverse set of organizations in Israel. The mean age was 33.24 years ($SD = 9.33$) and types of jobs ranged from junior-level jobs to senior managers.

The sample of Study 2b comprised 276 employees (71.01% female) working in a diverse set of professional fields and jobs in Germany. Mean age was 40.08 years ($SD = 12.03$). Professional experience was long, with 43.48% of the participants having a professional experience of at least 10 years.

Data-analytic approach

Study 2a started with testing the factor structures of the 56 items, covering a broad range of leader approaches to recovery, using exploratory factor analysis. This exploratory factor analysis, including the broad set of 56 items, did not result in a clear factor structure. Because we had an a-priori theoretical understanding of the three-dimensional leader-support-for-recovery construct, we proceeded with a confirmatory factor analysis (Lambert & Newman, 2023). Specifically, we included the 15 items referring to our three support dimensions in this confirmatory factor analysis, using lavaan (Rosseel, 2012) in R. Similarly, we used a confirmatory approach with data collected in Study 2b.

Results

Table S1 shows the results of confirmatory factor analysis, testing the three-factor model (empathy for recovery, respect for boundaries, and role modelling) against alternative models. Table S2 shows the factor loadings, with the first two rows showing the findings of Study 2a and 2b for all 15 items. The three-factor model fit the data significantly better than all two-factor models and the one-factor model, providing preliminary support for the expected three-factor structure. All factor loadings were significant. As fit indices (particularly RMSEA) were not fully satisfactory, we proceeded by shortening the scales, mainly by omitting items with comparably low factor loadings. This resulted in an 11-item measure that we tested in Studies 3a and 3b.

STUDIES 3A AND 3B

In Studies 3a and 3b, we continued with testing construct validity, now using the 11-item version of the leader-support-for-recovery measure.

Samples

The sample for Study 3a comprised 357 persons (47.06% female) who participated in an online study conducted on the Israeli Midgam platform (similar to Mturk). The mean age was 41.47 years ($SD = 14.99$). Participants worked in different jobs, with 37.99% having work experience of more than 10 years.

The sample for Study 3b included 137 persons (59.9% female) with a mean age of 33.09 years ($SD = 10.42$). Participants worked in a diverse set of jobs in Germany (Sonnentag & Schiffner, 2019).

Data-analytic approach

As in the previous studies, we tested the three-factor models against alternative models using confirmatory factor analysis with lavaan (Rosseel, 2012) in R.

Results

As Table S1 shows, the three-factor model fits the data very well and significantly better than all two-factor models and the one-factor model. In both Study 3a and Study 3b, fit indices for the shortened scales were satisfactory and all factor loadings were significant (Table S2).

STUDY 4

To examine the content validity of our items, we followed the approach by Anderson and Gerbing (1991) as described by Colquitt et al. (2019). We asked naïve judges to rate the items of our three leader-support-for-recovery scales and of two scales assessing facets of transformational leadership. All judges evaluated the German version of the items.

Sample

The sample of naïve judges comprised 89 employed persons (84.27% female), recruited via the platform www.surveycircle.de. The mean age was 30.53 years ($SD = 10.87$), and the mean professional experience was 7.33 years ($SD = 7.52$). On average, judges were highly educated, with 64.05% having a university degree.

Procedure

We provided the judges with the definitions of the five constructs (three leader-support-for-recovery constructs, two transformational-leadership constructs). Judges were then presented with the 11 leader-support-for-recovery items and 6 transformational-leadership items. As two prototypical transformational-leadership constructs, we chose intellectual stimulation and inspirational communication as conceptualized by Rafferty and Griffin (2004) and used the German translation (Krause & Kobald, 2013) of the measure by Rafferty and Griffin. For every item, judges indicated how well the item assesses each of the five constructs (i.e., three leader-support-for-recovery constructs and two transformational leadership constructs), providing five ratings for every item on a 5-point Likert-type scale ranging from 1 = *not at all* to 5 = *very much*. Every item and its five randomized rating options were presented on a separate page, in randomized order. We computed the Hinkin Tracey correspondence (htc) score and the *Hinkin Tracey distinctiveness* (*htd*) *score* for every item. The htc score indicates how much an item corresponds to the definition of its underlying

construct, and the htd score indicates how much the construct-corresponding rating of an item differs from ratings of the other constructs (i.e., orbiting constructs). As orbiting constructs, we used the respective other two leader-support-for-recovery constructs and the two transformational leadership constructs.

Results

Table S3 displays the htc and htd ratings for the leader-support-for-recovery items. Htc ratings ranged from .88 to .94 with a mean of .91 ($SD = .12$), corresponding to a very strong htc rating, according to the overall evaluation criteria of Colquitt et al. (2019; not normed for correlation between focal orbiting scales). Htd ratings ranged from .35 to .49 with a mean of .43 ($SD = .25$), corresponding to a very strong htd rating. Taken together, this study provides support for the content validity of the leader-support-for-recovery items.

STUDY 5

In Studies 1 to 4, we have developed a three-dimensional measure to assess leader support for recovery and demonstrated construct and content validity. With this measure, we tested our hypotheses in Study 5.

Method

Procedure and sample

We recruited German-speaking participants from various industries and jobs via information provided on a work-related social media platform. Participants had to be employed and be part of a group of at least three employees reporting to the same leader. Participation was voluntary, and participants could opt out of data collection at any time. Participation involved answering a one-time entrance survey followed by daily surveys for two consecutive weeks (Monday to Friday, public holidays excluded). E-mail links to the evening and morning surveys were sent at 8:30 pm and 5:00 am, respectively. Surveys were available until 1:00 am and 11:30 am, respectively. Surveys were hosted at www.soscisurvey.de, and participants provided informed consent before registering for the study. Participants who responded to at least 80% of the daily surveys could take part in a raffle with the chance to win one of 25 vouchers for several leisure-time events (total value: 1000 Euros). Data collection took place in 2017 and received ethics approval from the University of Mannheim. As participants did not provide consent, data are not publicly available.

A total of 187 persons completed the entrance survey. Out of these 187 persons, 180 continued into the daily survey phase. Participants provided a total of 970 evening surveys and a total of 1238 morning surveys.[3] On some days, participants responded to the survey even when they did not work. We discarded these surveys completed on non-working days, retaining 871 evening surveys and 1063 morning surveys from 175 persons. We reorganized the data so that a day-level data point included an evening and a next-morning survey. To ensure that variables assessed in the daily surveys had some within-person variance, we deleted the data from all persons who had less than two day-level data points (including an evening or next-morning survey), resulting in a total of 1062 day-level data points from 152 persons. On average, evening surveys were completed at 9:47 pm, and next-morning surveys were completed at 07:54 am.

The final sample of 152 persons (67.8% female) was on average 36.56 years ($SD = 9.55$) old and had a professional tenure of 11.78 years ($SD = 9.06$). Mean contractual weekly working time was 35.87 hours

[3]Data collection included a third daily survey to be completed upon the end of the work. The third survey was not part of the present study.

(*SD* = 6.90). Participants worked in a broad range of different jobs and industries, including administrative jobs (32.0%), various professional jobs (21.3%), healthcare jobs (8.7%), sales and marketing jobs (8.7%), and others. Among all participants, 17.1% had a leadership position themselves.

Measures

We assessed our data with a general survey (entrance survey) and daily surveys to be completed in the evening before going to sleep (evening survey) and in the morning before work (morning survey). If not reported otherwise, response options ranged from 1 = *strongly disagree* to 5 = *strongly agree*. All items were in German. Table 1 shows means, standard deviations, zero-order correlations, and intraclass correlations for all study variables.

Person-level measures

In the entrance survey, we assessed employees' perceptions of the three aspects of leader support for recovery (empathy for recovery, respect for boundaries, and role modelling) and LMX. To assess empathy, respect for boundaries, and role modelling, we used the same set of 11 items as used in Studies 3a and 3b. Specifically, we assessed empathy with four items (sample item: "My manager gives me a feeling that he or she understands me when I need some time off in order to recover"), respect for boundaries with three items (sample item: "My manager sets boundaries between work and leisure time in order to protect employees' leisure time"), and role modelling with four items (sample item: "My manager lets us know when he/she is taking time to rest"). Confirmatory factor analysis showed that a three-factor model fit the data well and better than alternative models (Table S1). All factor loadings were significant (Table S2). Cronbach's alpha was .87 (empathy), .85 (respect for boundaries), and .77 (role modelling), respectively (see Appendix A for all items assessing leader support for recovery).

We assessed LMX with the German version (Schyns & Paul, 2014) of the seven-item scale from Graen and Uhl-Bien (1995; sample item: "How would you characterize your working relationship with your leader?"). We used 5-point response formats, with different anchors for the various items, as done in the original scale. Cronbach's alpha was .90.

Day-level measures

In the bedtime survey, we assessed psychological detachment from work in the evening with four items from Sonnentag and Fritz (2007), adjusted for day-level measurement (sample item: "Tonight, I forgot about work"). Within-person omega was .92 and between-person omega was .99. We measured exhaustion at bedtime with six items from the physical-fatigue measure from Shirom and Melamed (2006; sample items: "I feel tired", "I feel burned out"), instructing participants to report how they felt "right now". Within-person omega was .88 and between-person omega was .96.

We assessed state of being recovered in the morning survey, using four items from the scale of Sonnentag and Kruel (2006; sample item: "This morning I am full of new energy"). Within-person omega was .90 and between-person omega was .99.

Construct validity

We examined construct validity with an overall multi-level confirmatory factor analysis, using MPlus 7.4. At the person level, we specified the four leadership factors (empathy for recovery, respect for boundaries, role modelling, and LMX) and the between-person components of psychological

TABLE 1 Means, standard deviations, intraclass correlations, and zero-order correlations between study variables.

	M	*SD*	*M*	*SD*	ICC	1	2	3	4	5	6	7	8	9
1 Empathy for recovery	3.46	.92	–	–	–									
2 Respect for boundaries	3.71	1.03	–	–	–	.69								
3 Role modelling	2.90	.95	–	–	–	.75	.60							
4 Leader support for recovery (Overall measure)	3.36	.85	–	–	–	.91	.87	.88						
5 LMX	3.55	.84	–	–	–	.67	.57	.56	.68					
6 Psychological detachment	3.56	.91	3.58	1.11	.50	.14	.18	.06	.15	.02		−.28	.19	.01
7 Bedtime exhaustion	2.77	.83	2.72	1.01	.57	−.25	−.14	−.14	−.19	−.23	−.19		−.42	−.01
8 Morning state of being recovered	3.26	.80	3.25	.99	.54	.28	.21	.13	.23	.16	.22	−.53		.03
9 Day of data collection	4.71	1.34	5.06	2.82	–	−.27	−.14	−.21	−.23	−.27	.05	−.02	−.02	

Note: Means and standard deviations at the between-person level are displayed in columns 1 and 2; means and standard deviations at the within-person level are displayed in columns 3 and 4. Correlations below the diagonal are between-person correlations, and correlations above the diagonal are within-person correlations. Within-person correlations do not take into account the nested data structure. ICC = variance between persons/(variance between persons + variance within persons).

detachment from work, exhaustion, and state of being recovered. Specifically, we modelled the three factors capturing leader support for recovery as a higher-order person-level factor and LMX as a separate person-level factor. At the day level, we specified the within-person components of psychological detachment from work, exhaustion, and state of being recovered. The fit of this two-level model was good, $\chi^2 = 1233.671$, $df = 527$,[4] $p < .001$, CFI = .930, RMSEA = .036, SCF = .9872, AIC = 32,286.745, BIC = 32,972.316. This model fit the data better than alternative models such as an alternative (non-nested) model in which all four leadership variables loaded on one common person-level factor, $\chi^2 = 1444.395$, $df = 533$, $p < .001$, CFI = .910, RMSEA = .040, AIC = 32,486.251, BIC = 33,142.015, and an alternative model in which all variables assessed in the daily surveys loaded on one common factor at the day and the person level, $\chi^2 = 6034.064$, $df = 537$,[5] $p < .001$, CFI = .458, RMSEA = .098, SCF = .9796, AIC = 36,959.940, BIC = 37,595.832, Satorra-Bentler $\Delta\chi^2 = 8104.388$, $\Delta df = 10$, $p < .001$.

Analytic strategy

Because our data had a multi-level structure (i.e., days nested within persons) and because we wanted to make full use of the available data (Newman, 2014), we analysed our data with a two-level path model with Bayesian estimation, using Blimp 3.0.63 that allows for model-based imputation of missing data (Enders et al., 2020).

We tested Hypotheses 1 to 4 in the between-person part of the model (i.e., at the person level) and Hypotheses 5a and 5b in the within-person part of the model (i.e., at the day level). Because the high-order factor model of leader support for recovery fit the data reasonably well, we tested our hypotheses (1) with an overall measure of leader support for recovery, for which we averaged scores on its three aspects (empathy, respect for boundaries, and role modelling) weighted by the respective factor loadings and (2) separately for the three aspects of leader support for recovery.

To adequately test the day-level mediation proposed in Hypotheses 5a and 5b, we modelled the relationships between psychological detachment, evening exhaustion, and the morning state of being recovered at the person and day level (Preacher et al., 2010). At the person level, we used manifest person means of the variables assessed at the day level. At the day level, we included the day of data collection as a control variable because participating in the study might have an impact on respondents' everyday behaviour (Gabriel et al., 2019). For this purpose, we added a continuous variable with study day coded from 1 to 10 to the analysis. When predicting bedtime exhaustion and morning state of being recovered at the day (i.e., within-person) level, we controlled for bedtime exhaustion and the morning state of being recovered, respectively, from the previous day of data collection.[6] At the day level, we specified paths involving the control variables as fixed and all other paths as random. For testing indirect effects, we relied on the product of coefficient approach (MacKinnon et al., 2002).

Results

We started our hypotheses tests with a main-effect model without any interaction terms. As the upper part of Table 2 shows, the overall measure of leader support for recovery was unrelated to psychological detachment from work. Consequently, the indirect effects from the overall measure of leader support for recovery to exhaustion via psychological detachment, median = −.041, $SD = .032$, 95% CI [−.121,

[4]We fixed two negative non-significant residual variances to 0.

[5]We fixed the same residual variances to 0 as in the comparison model.

[6]When excluding all control variables from the analysis, results did not change.

TABLE 2 Unstandardized coefficients from multi-level modelling including main effects only.

	Psychological detachment				Bedtime exhaustion				State of being recovered			
	Median	***SD***	**2.5%**	**97.5%**	**Median**	***SD***	**2.5%**	**97.5%**	**Median**	***SD***	**2.5%**	**97.5%**
Person level												
Intercept	3.559	.077	3.406	3.708	2.777	.070	2.642	2.916	3.255	.066	3.128	3.387
Support for recovery (overall)	.272	.139	−.004	.544	.053	.123	−.187	.295	.131	.106	−.078	.335
LMX	−.140	.135	−.401	.127	−.282	.117	−.413	−.051	.012	.102	−.188	.216
Psychological detachment	–	–	–	–	−.168	.075	−.317	−.024	.089	.065	−.041	.214
Bedtime exhaustion	–	–	–	–	–	–	–	–	−.467	.072	−.607	−.323
Residual variance	.819	.102	.649	1.050	.638	.078	.507	.810	.464	.057	.370	.591
Variance explained by coefficients	3.5%				10.7%				31.0%			
Day level												
Intercept	3.559	.088	3.382	3.729	2.753	.079	2.595	2.906	3.210	.078	3.054	3.361
Day of data collection	.002	.010	−.019	.022	−.000	.008	−.017	.016	.011	.009	−.007	.028
Evening exhaustion (previous day)	–	–	–	–	.043	.051	−.056	.144	–	–	–	–
State of being recovered (previous day)	–	–	–	–	–	–	–	–	.023	.042	−.059	.105
Psychological detachment	–	–	–	–	−.212	.041	−.298	−.136	.014	.049	−.084	.107
Bedtime exhaustion	–	–	–	–	–	–	–	–	−.141	.053	−.248	−.038
Residual variance	.638	.034	.576	.710	.402	.023	.358	.445	.426	.027	.377	.481
Variance explained by coefficients	.0%				3.0%				1.4%			

Note: All relationships were tested in one overall model.

.003], and the morning state of being recovered via psychological detachment and exhaustion, median = .019, *SD* = .016, 95% CI [−.001, .059], were not significant.

When computing models for the three separate aspects of leader support for recovery,[7] we found that respect for boundaries was positively related to psychological detachment from work, median = .203, *SD* = .090, 95% CI [.025, .382]. The indirect negative effect from respect for boundaries to exhaustion via psychological detachment was significant, median = −.033, *SD* = .023, 95% CI [−.088, −.001]. The serial indirect positive effect from respect for boundaries to the morning state of being recovered via psychological detachment and exhaustion was significant, median = .015, *SD* = .011, 95% CI [.0004, .0435]. In contrast to respect for boundaries, both empathy and role modelling were unrelated to psychological detachment from work, and the indirect effects of empathy and role modelling, respectively, on exhaustion and the morning state of being recovered were non-significant. Taken together, we found partial support for Hypotheses 1 and 2: Results for respect for boundaries were in line with the hypotheses, but results for empathy, role modelling, and the overall measure were not.

In the next step, we included the interaction term between leader support for recovery and LMX in the model (Table 3). The interaction term between the overall measure of leader support for recovery and LMX was a significant predictor of psychological detachment from work. Simple slope analysis showed that when LMX was high (+1 *SD*), leader support for recovery was positively related to psychological detachment from work, median = .488, *SD* = .170, 95% CI [.166, .826], but when LMX was low (−1 *SD*), leader support for recovery was not, median = .079, *SD* = .163, 95% CI [−.244, .398]. This pattern of findings is in line with Hypothesis 3. Figure 2 (Panel a) shows the simple slopes.

The indirect negative effect from leader support for recovery to exhaustion via psychological detachment was significant when LMX was high (+1 *SD*), median = −.073, *SD* = .048, 95% CI [−.188, −.003], but non-significant when LMX was low (−1 *SD*), median = −.010, *SD* = .030, 95% CI [−.080, .045]. The serial indirect positive effect from leader support for recovery to the morning state of being recovered via psychological detachment and exhaustion was significant for high LMX, median = .034, *SD* = .023, 95% CI [.001, .091], and non-significant for low LMX, median = .004, *SD* = .014, 95% CI [−.021, .039]. Overall, the significant conditional indirect effects provide support for Hypothesis 4.

In addition to this analysis relying on the overall measure of leader support for recovery, we ran the moderator analysis for the three separate measures as well.[8] Testing Hypothesis 3 in separate analyses showed significant moderator effects for empathy, median = .190, *SD* = .088, 95% CI [.017, .363], and respect for boundaries, median = .226, *SD* = .085, 95% CI [.061, .394]. The interaction effect between role modelling and LMX was not significant, median = .175, *SD* = .095, 95% CI [−.016, .329].

Subsequent simple slope analysis showed that when LMX was high (+1 *SD*), empathy for recovery was positively related to psychological detachment from work, median = .378, *SD* = .143, 95% CI [.101, .664], but not when LMX was low (−1 *SD*), median = .058, *SD* = .137, 95% CI [−.212, .329]. Similarly, when LMX was high (+1 *SD*), respect for boundaries was positively related to psychological detachment from work, median = .464, *SD* = .134, 95% CI [.205, .732], but not when LMX was low (−1 *SD*), median = .082, *SD* = .102, 95% CI [−.118, .281]. Panels b and c in Figure 2 show the simple slopes.

Tests of conditional indirect effects for empathy for recovery were not significant. Specifically, the indirect negative effect from empathy for recovery to exhaustion via psychological detachment was not significant, neither for high (+1 *SD*), median = −.049, *SD* = .037, 95% CI [−.138, .003], nor for low (−1

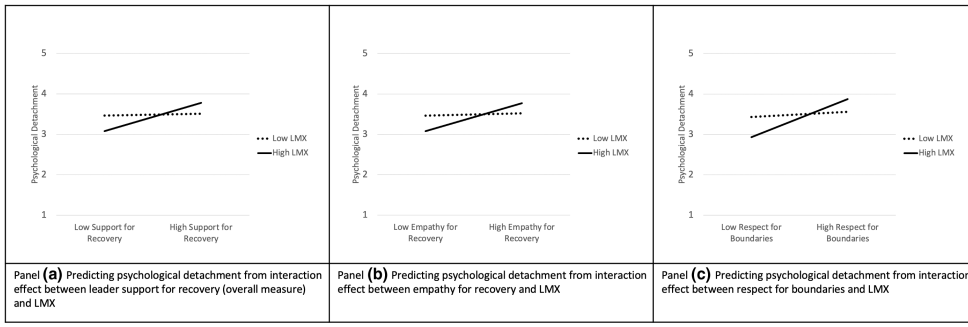
[7]Tables reporting main effects for the three separate aspects of leader support for recovery are available online in the Supporting Information (Tables S4–S6).

[8]Tables reporting the interaction effect for the three separate aspects of leader support for recovery are available online in the Supporting Information (Tables S7–S9).

TABLE 3 Unstandardized coefficients from multi-level modelling including the interaction effect between leader support for recovery (overall) and LMX.

	Psychological detachment				Bedtime exhaustion				State of being recovered			
	Median	***SD***	**2.5%**	**97.5%**	**Median**	***SD***	**2.5%**	**97.5%**	**Median**	***SD***	**2.5%**	**97.5%**
Person level												
Intercept	3.452	.090	3.276	3.629	2.783	.083	2.620	2.946	3.276	.076	3.128	3.423
Support for recovery (overall) (SUPREC)	.285	.140	.016	.558	.052	.124	−.189	.230	.133	.105	−.075	.338
LMX	−.073	.137	−.341	.193	−.284	.118	−.517	−.056	.001	.104	−.199	.209
SUPREC × LMX	.243	.107	.035	.454	−.015	.097	−.205	.175	−.035	.080	−.195	.120
Psychological detachment	–	–	–	–	−.162	.076	−.311	−.012	.086	.067	−.046	.218
Bedtime exhaustion	–	–	–	–	–	–	–	–	−.468	.072	−.611	−.327
Residual variance	.792	.097	.631	1.007	.642	.079	.510	.819	.465	.057	.372	.598
Variance explained by coefficients	7.9%				11.0%				31.1%			
Day level												
Intercept	3.560	.089	3.385	3.734	2.763	.081	2.596	2.917	3.206	.078	3.056	3.362
Day of data collection	.002	.010	−.018	.022	.000	.008	−.016	.017	.011	.009	−.007	.029
Evening exhaustion (previous day)	–	–	–	–	.040	.049	−.054	.137	–	–	–	–
State of being recovered (prev. day)	–	–	–	–	–	–	–	–	.023	.042	−.058	.105
Psychological detachment	–	–	–	–	−.212	.039	−.292	−.139	.015	.048	−.081	.106
Bedtime exhaustion	–	–	–	–	–	–	–	–	−.139	.054	−.247	−.034
Residual variance	.639	.034	.577	.710	.401	.023	.359	.449	.426	.026	.377	.479
Variance explained by coefficients	.0%				3.0%				1.3%			

Note: All relationships were tested in one overall model.



Panel **(a)** Predicting psychological detachment from interaction effect between leader support for recovery (overall measure) and LMX

Panel **(b)** Predicting psychological detachment from interaction effect between empathy for recovery and LMX

Panel **(c)** Predicting psychological detachment from interaction effect between respect for boundaries and LMX

FIGURE 2 Interaction effects.

SD) LMX, median = −.006, *SD* = .023, 95% CI [−.061, .036]. The serial indirect negative effect from empathy for recovery to the morning state of being recovered via psychological detachment and exhaustion was non-significant for both high, median = .022, *SD* = .017, 95% CI [−.002, .066] and low LMX, median = .003, *SD* = .011, 95% CI [−.017, .029].

Tests of conditional indirect effects for respect for boundaries were significant: The indirect negative effect from respect for boundaries to exhaustion via psychological detachment was significant when LMX was high (+1 *SD*), median = −.080, *SD* = .044, 95% CI [−.183, −.011], but not when LMX was low (−1 *SD*), median = −.013, *SD* = .021, 95% CI [−.063, .023]. The serial indirect negative effect from respect for boundaries to the morning state of being recovered via psychological detachment and exhaustion was positive and significant for high LMX, median = .037, *SD* = .022, 95% CI [.005, .089], and non-significant for low LMX, median = .006, *SD* = .010, 95% CI [−.011, .031]. For role modelling, none of the conditional indirect effects was significant.

To sum up, our analyses provide support for Hypothesis 3 when examining empathy for recovery, respect for boundaries, and the overall measure of leader support for recovery. Results for respect for boundaries and the overall measure were in line with Hypothesis 4. For role modelling, however, neither Hypothesis 3 nor Hypothesis 4 received empirical support.

Regarding the hypotheses specified for the day level, analysis showed that psychological detachment from work was negatively related to evening exhaustion, median = −.212, *SD* = .039, 95% CI [−.292, −.139]. Moreover, evening exhaustion was negatively related to the morning state of being recovered, median = −.139, *SD* = .054, 95% CI [−.247, −.034], and the indirect effect from psychological detachment to the morning state of being recovered via exhaustion was positive and significant, median = .029, *SD* = .013, 95% CI [.007, .057]. These findings are in line with Hypotheses 5a and 5b.

GENERAL DISCUSSION

In this paper, we examined the role of leader support for recovery for employees' psychological detachment from work and downstream exhaustion and state of being recovered. Based on a series of scale-development and scale-validation studies, we presented a short three-dimensional measure of leader support for recovery that has good construct and content validity. In our main study (Study 5), we found that respect for boundaries but neither overall support for recovery nor empathy or role modelling predicted employees' psychological detachment from work. LMX moderated the relationship between leader support for recovery and psychological detachment: Only when LMX was high, overall leader support for recovery was positively associated with psychological detachment from work. When LMX was low, however, leader support for recovery was unrelated to psychological detachment. Looking at

the different aspects of leader support for recovery, the same interaction pattern became evident for leader empathy and respect for boundaries, but not for role modelling.

Psychological detachment from work predicted low exhaustion and a high morning state of being recovered, both at the person and day level. The indirect effect of leader support for recovery to exhaustion via psychological detachment from work was significant when LMX was high but not when LMX was low. Similarly, the indirect effect of leader support for recovery to the morning state of being recovered via psychological detachment and low exhaustion was significant when LMX was high, but not when LMX was low.

Theoretical and practical implications

Our research offers important theoretical implications as it shows that a high-quality relationship between leader and follower (i.e., high LMX) is crucial so that leader support for recovery can unfold its positive potential for employee recovery. A high level of overall leader support for recovery alone was unrelated to employee detachment from work during non-work time. A high level of LMX, however, provides the necessary context within which leaders' support for employee recovery can become effective. Within high-quality relationships, leaders' attitudes and communication about recovery are more likely to actually "reach" the employee and to be taken seriously, resulting in higher levels of psychological detachment. Within low-quality relationships, however, employees discount leaders' attitudes and communication messages so that leaders are less influential for employees' behaviour.

A closer look at the three sub-dimensions of leader support for recovery brings more light into the role of LMX for employee recovery. We introduced leader support for recovery as a multi-dimensional concept comprising empathy for recovery, respect for boundaries, and role modelling. Our analyses showed that these three sub-dimensions – although highly correlated – show distinct result patterns in the prediction of employees' psychological detachment. These distinct patterns are particularly informative for understanding the role of LMX for employee recovery. Respect for boundaries was a powerful predictor of psychological detachment, irrespective of LMX. This finding implies that all employees benefit in terms of mentally detaching from work when their leader respects boundaries between work and non-work time and does not disturb their employees during non-work time. Empathy for recovery, however, did not show a significant direct association with psychological detachment from work, implying that – across all employees – empathy for recovery does not help to detach from work. The significant interaction effect between LMX and empathy for recovery suggests that a leader's empathy for recovery is only effective for employees who have a good relationship with their leader. Only when LMX is high, empathy for recovery can unfold its benefits because employees feel emotionally close to their leaders and can trust leaders' good intentions (Dulebohn et al., 2012). When LMX is low, however, empathy for recovery remains ineffective because when employees do not trust their leaders, employees may question if it is really in their own best interest to take time for recovery and fully detach from work.

Another possible explanation for the interaction effect between LMX and overall leader support for recovery can be derived from leaders' way of framing goals. Kakkar (2019) suggested that in low-quality LMX relationships, leaders frame goals in a manner that primes a prevention focus among subordinates, who then focus on their obligations, expectations, and survival in the workplace. This concern by employees in a low-quality relationship may lead to over-preoccupation and over-investment in work, which will result in less detachment and recovery after work hours, even when their managers verbalize support for recovery. Recently, Volmer et al. (2023) suggested that high-quality LMX will be associated with state positive affect at work that in turn will be associated with higher levels of recovery from work during the evening. This line of research implies that when managers support recovery, a high LMX along with its associated positive affect may result in higher levels of recovery. This possibility should further be explored in future studies.

With respect to the three sub-dimensions of leader support for recovery, respect for boundaries related directly to psychological detachment and showed the hypothesized interaction effect with

LMX. As explained above, respect for boundaries seems to be effective for all employees, even for low-LMX employees. Respect for boundaries might be so important because not only leaders' objective actual intrusions into their employees' non-work time can harm psychological detachment, but just employees expecting that leaders might intrude impair psychological detachment. Therefore, even very rare actual intrusions might reduce employees' psychological detachment on evenings when no intrusion occurs.

Our analysis further showed that empathy for recovery needs a high-LMX environment to be effective in stimulating detachment. In such an environment, however, empathy for recovery is important because it signals that employees can take the liberty to detach from work. Finally, role modelling turned out to be ineffective for employee recovery as it showed neither a main effect nor a significant interaction effect with LMX in predicting psychological detachment. Although general role modelling of work-life balance is a helpful leadership behaviour with respect to work-family conflict (Hammer et al., 2009) and employee work-home segmentation behaviour (Koch & Binnewies, 2015), in our research, role modelling of leisure and recovery activities did not help with psychological detachment, even not when LMX was high. This finding suggests that a leader who shows that they take time for leisure and recovery themselves does not help in employees' detachment from work. Maybe, a leader's role modelling encourages employees' engagement in leisure activities, but engagement in leisure activities may not translate into psychological detachment from work. Moreover, as the leader's life situation might differ largely from that of their employees (e.g., in terms of financial resources and leisure interests), employees might not identify sufficiently with their leader with respect to recovery processes, and this lack of identification may make role modelling ineffective (Morgenroth et al., 2015).

During the past decade, researchers increasingly identified approaches that leaders may use to foster employee health and well-being, such as valuing health and being aware of potential health problems (Franke et al., 2014). Whereas this line of research has started to examine how health-promoting leadership relates to other leadership constructs (Kaluza et al., 2021), our finding on the moderator effect of LMX may help to better understand the circumstances that are needed so that health promotion by leaders can be successful. Our findings can inspire this broader field of health-promoting leadership to conceptualize specific health-promoting behaviours, including leader support for recovery.

We examined leader support for recovery as a person-level variable. Accordingly, our findings imply that leader support for recovery can unfold its benefits – along with LMX – even on days when leaders and employees do not meet or when leaders do not express their support on a specific day. This result is important as it suggests that leaders do not need to show support for recovery every day – the employees' general perception that their leader is supportive of recovery does suffice.

In terms of practical implications, our research showed that employees' psychological detachment from work during non-work time is most likely when both overall leader support for recovery and LMX are high. With respect to leader support for recovery, particularly respect for boundaries is important. Thus, leaders may increase the likelihood that employees switch off from work during non-work time by strictly respecting boundaries between work and non-work life. First, leaders should refrain from contacting employees during the evening or on the weekend, for instance by avoiding phone calls or refraining from instant messaging. Second, leaders should allocate tasks and set deadlines in a way that employees do not need to spend after-hours on job tasks. In some companies, respecting boundaries may not be at the discretion of individual leaders but might require a change in company culture. Accordingly, top management should encourage managers to respect boundaries, implying that also leaders' boundaries are respected (Venz & Wöhrmann, 2023).

Although leader empathy for recovery was not directly related to employees' psychological detachment from work, it predicted psychological detachment in interaction with LMX. Thus, leaders should be aware of employees' recovery needs and should be understanding when recovery is needed. Similar to general approaches to health-oriented leadership (Franke et al., 2014), leaders might become more aware of employees' recovery needs when they are more aware of and responsive towards their own recovery needs. Moreover, leaders might be more empathetic towards employees' recovery needs when they cultivate compassion within their work setting (Dutton et al., 2014).

Having a good relationship with one's leader (i.e., high LMX) is important to take advantage of leader support for recovery. Thus, both leaders and employees may want to strive to improve their exchange relationship, for instance by focusing on similarity (Dulebohn et al., 2012), using delegation (Bauer & Green, 1996), and sharing personal experiences (Yaffe & Kark, 2011). Moreover, to establish a high-quality LMX, leaders should provide especially new employees with guidance and advice surrounding their jobs and their roles within the organization (Sluss & Thompson, 2012).

In terms of practical use of measures to assess leader support for recovery, our scales cover a broader construct space than does the Bennett et al. (2016) measure. Thus, when not only interested in respect for boundaries but also the leader's emotional underpinning of behaviours that should promote employee recovery, the assessment of empathy for recovery is important – also because results of this assessment could inform training interventions for leaders. Such interventions might not only emphasize respect for boundaries but incorporate a module that targets leader empathy. Regarding the respect-for-boundaries dimension, the Bennett et al. (2016) measure emphasizes leaders' views on highly performing employees and associated expectations, whereas our measure – in addition to its assessment of empathy and role modelling – more directly addresses leaders' behaviour of not intruding into employees' personal lives. Therefore, it could be seen as a measure that is conceptually closer to leader behaviour that deliberately supports employee recovery.

Limitations and directions for future research

Despite the new insights it provides, our research has some limitations. First, we assessed our variables with self-reported measures provided by employees. Obviously, this might raise concerns about common method bias (Podsakoff et al., 2003). Although we cannot fully rule out common method bias, our specific study design, including both person-level and day-level measures, reduces it. We assessed leader support for recovery and LMX with person-level measures in the entrance survey and all other variables with day-level measures, which we aggregated to the person level for person-level analyses. This approach implies that the measures of leader support for recovery and LMX on the one hand and measures of the remaining variables on the other hand were assessed at different time points and with different temporal referents, making an overestimation of the empirical association less likely. Moreover, one of our core findings refers to the moderator effect of LMX – a result pattern that is less susceptible to common method bias (Siemsen et al., 2010).

Second, related to measurement issues as well, we measured leader support for recovery from the employees' perspective, omitting the leaders' perspective. As often leaders and employees do not agree about leadership behaviour (Lee & Carpenter, 2018), it might be that leaders have a view on their support for recovery that differs from employees' perspective. However, we included leaders in Study 1 and used leaders' reports of critical recovery situations for developing our items. In a next step, it would be interesting to use our scales to assess leaders' views on how they support recovery – although employees' perception of leader support is probably the more relevant factor in driving employee recovery.

Third, our research focused on the direct relation between leader support for recovery and employee detachment from work, neglecting possible underlying pathways. Thus, it remains unclear how an employee's perception that their leader supports recovery translates into psychological detachment from work. In addition to explicit communication about the need to recover, a leader might shape low availability and response expectations for after-work hours that make it easier for employees to forget about work when being at home (Venz & Wöhrmann, 2023). In addition, leaders who support recovery possibly instil a recovery climate within their teams so that not only the leader endorses recovery during non-work time, but that team members mutually reinforce a positive view on recovery. Future studies should address the mechanisms by which leader support for recovery helps detachment from work.

Although role modelling of recovery was not a significant predictor of employee detachment from work in our research, future studies may want to continue to address this interesting facet of leader behaviour. For instance, it has been argued that leaders' engagement in serious leisure influences leader

performance (Bunea et al., 2023). Knowing that one's leader pursues a serious interest beyond work may inspire employees to explore a similar option for themselves, which, in turn, should help them to detach from work. In addition, it might be worthwhile to explore situational and personal circumstances under which leaders' recovery role modelling does play a role for employees' psychological detachment from work.

We focused on how leader support for recovery relates to employee psychological detachment from work and downstream exhaustion and state of being recovered. Future research might want to examine how leader support for recovery affects leaders' own recovery. Although an emphasis on recovery might also benefit leaders, less positive scenarios are possible as well. For instance, by protecting their employees from overwork and ensuring that employees get enough recovery, not all tasks might get completed and, consequently, leaders might cover up for any unfinished tasks, which, in turn, reduces leaders' own recovery (Syrek et al., 2017). Similarly, when respecting employees' boundaries, work processes might become more effortful and cumbersome from the leaders' perspective.

CONCLUSION

With ever-increasing demands on employees, it is important that employees detach from work and get enough recovery during non-work time so that they can start their workdays refreshed. Our research shows that leaders can support psychological detachment from work, particularly by showing empathy for recovery and respecting boundaries. Importantly, leader support for recovery works best in high LMX relationships. Overall, this research contributes to the accumulating evidence that leaders play a core role in protecting employee health and well-being.

AUTHOR CONTRIBUTIONS

Sabine Sonnentag: Conceptualization; funding acquisition; writing – original draft; formal analysis; data curation; methodology. **Ronit Kark:** Conceptualization; funding acquisition; writing – review and editing; methodology; formal analysis; data curation; methodology. **Laura Venz:** Investigation; writing – review and editing; data curation; methodology.

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CONFLICT OF INTEREST STATEMENT

The authors do not have any conflict of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

Table S1.–S9.

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APPENDIX A

Items for assessing leader support for recovery.

Scale	Items
Empathy for recovery	My manager gives me a feeling that he or she understands me when I need some time off to recover My manager is sensitive toward employees that need to recover from work My manager is empathic toward me when I need some break from work My manager is attentive to employees' recovery needs
Respect for boundaries	My manager sets boundaries between work and leisure time to protect employees' leisure time My manager respects employees' private off-work time My manager understands the importance of differentiating between work and leisure time
Role modelling	Looking at my manager encourages me to invest in recovery activities (such as learning, sports, leisure time) My manager is my role model with regards to taking time off for vacation My manager lets us know when he/she is taking time to rest It is important for my manager that others know that he/she invests time on leisure activities and not only work