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Leader Mindfulness and Employee Well-Being: The Mediating Role of Transformational Leadership

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Abstract Previous research has demonstrated that employee and leader mindfulness play a significant role for well-being at work. Yet, we lack a sufficient understanding of how leader mindfulness translates into subordinates' well-being. In this paper, we argue that transformational leadership serves as a mediating mechanism of the relationship between leader mindfulness and subordinates' well-being (i.e., positive and negative affect, job satisfaction, psychosomatic complaints, and emotional exhaustion) at work. Findings are reported from a cross-sectional multi-source study with 65 leaders and 153 employees from different industries. Multilevel mediation analyses showed that leader mindfulness was positively related to subordinates' positive affect as well as job satisfaction and negatively related to subordinates' psychosomatic complaints via transformational leadership. This study adds to the literature on mindfulness at work in underlining the importance of leader mindfulness for subordinates' well-being introducing transformational leadership as a mediating variable. We discuss the importance of reconciling research on mindfulness and leadership, and of promoting mindfulness in organizations.

Keywords Leader mindfulness · Transformational leadership · Employee well-being · Health outcomes · Multilevel mediation

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Introduction

Within the last decade, mindfulness, a conscious state of being non-judgmentally aware of and attentive to current experiences or present reality (Bishop et al. 2004; Brown and Ryan 2003) has received increased attention in the field of industrial and organizational psychology. In particular, numerous studies have examined the role of mindfulness for employee well-being (e.g., Glomb et al. 2011). These studies have hitherto mainly focused on investigating the relationship of mindfulness and well-being within individuals (Glomb et al. 2011; Hülsheger et al. 2013). Only recently, research has begun to take a look at the interpersonal correlates of mindfulness at work, in particular at the role of leader mindfulness for employee well-being (Reb et al. 2014). However, it is poorly understood *how* leader mindfulness relates to employee well-being. Particularly, the role of leaders' behavior through which leader mindfulness might translate into employee well-being did not receive much research attention. To better understand the beneficial potential of mindfulness in organizations, it is important to examine the mechanism that links leader mindfulness to employee well-being.

Mindfulness is a conscious state of being non-judgmentally aware of and attentive to current experiences or present reality (Bishop et al. 2004; Brown and Ryan 2003). As a multidimensional construct, it comprises different components, such as acceptance and non-judging of ongoing events, awareness of internal (thoughts, bodily sensation) and external (physical and social environment) stimuli, and openness to experience (Bergomi et al. 2014; Glomb et al. 2011). Mindfulness further involves a receptive, non-reactive stance towards both positive and negative experiences that allows a more objective observation of such experiences without attaching an evaluation to them (Hülsheger et al. 2013). Mindfulness has been conceptualized as a trait that varies from person to person

(e.g., Brown and Ryan 2003) and as a state that fluctuates within a person (e.g., Hülsheger et al. 2014). Furthermore, empirical evidence suggests that mindfulness can be increased with training and induced through brief exercises (e.g., Brown and Ryan 2003; Long and Christian 2015).

Within the last decade, a growing body of research has demonstrated the beneficial potential of mindfulness at the workplace. For example, it has been shown that employee mindfulness is positively related to positive indicators of employee well-being, such as positive affect (Giluk 2009), physical and psychological health (Glomb et al. 2011), and job satisfaction (Hülsheger et al. 2013). Moreover, studies indicate that employee mindfulness is negatively related to negative indicators of employee well-being, such as negative affect (Giluk 2009) or emotional exhaustion (Hülsheger et al. 2013). Recently, research has begun to investigate interpersonal correlates of mindfulness at the workplace. In an initial study, Reb et al. (2014) have demonstrated that leader mindfulness positively relates to different dimensions of subordinates' well-being. In a second study, these authors have shown that subordinates' psychological need satisfaction mediates the relationship between leader mindfulness and subordinates' job satisfaction. However, these findings leave unexplained if leader mindfulness finds expression in leaders' behavior through which leader mindfulness relates to subordinates' well-being.

One promising mediating mechanism that links leader mindfulness to subordinates' well-being is transformational leadership. Transformational leadership can be defined as a mutually stimulating relationship between leaders and subordinates. Transformational leadership supports, inspires, and motivates employees through several behaviors (Bass 1985). Specifically, transformational leadership is characterized by four dimensions, namely idealized influence, motivational inspiration, intellectual stimulation, and individual consideration (Bass 1985). Rafferty and Griffin (2004) further refined these subdimensions of transformational leadership and classified five behaviors of transformational leaders (see also Podsakoff et al. 1990). First, transformational leaders propose and formulate an inspiring outlook of the future (vision). Second, these leaders instill pride in their subordinates by conveying statements that build confidence and motivation (inspirational communication). Third, they encourage new ways of thinking and novel problem solving (intellectual stimulation). Fourth, transformational leaders acknowledge and commend outstanding performances and improvements in the quality of their subordinates' work (personal recognition). Finally, they show consideration and understanding of personal needs, concerns, desires, and values (supportive leadership). Performing such behaviors, transformational leaders motivate their subordinates to perform beyond expectations (Yukl 1999) and impact subordinates' attitudes, emotions, beliefs, and values (Bass 1985). These leaders further question the tried-and-true and step back from approaches of having everybody to do the same because these leaders are individually considerate (Bass and Avolio 1990).

As unveiled in the following paragraphs, leader mindfulness should enhance transformational leadership, because mindfulness facilitates attentive, stimulating, and inspiring behavior that characterizes transformational leadership. First of all, awareness, in relation to one's actions and the internal and external world (Dane 2010), should enable mindful leaders to better observe present states and exterior circumstances of their subordinates. Awareness, one core characteristic of mindfulness, should help leaders to consider subordinates' personal needs and wishes before acting, thus enhancing supportive leadership (Rafferty and Griffin 2004). Furthermore, a non-reactive stance towards inner and outer experiences (Bergomi et al. 2014; Dane 2010) allows leaders to experience circumstances more objectively (Bishop et al. 2004). This might further help leaders to adapt their reactions to subordinates' needs and wishes instead of being puppeteered by external circumstances, common practice or impulsive reactions (Baer et al. 2008).

Mindful leaders might further refrain from imposing labels or judgments on subordinates based on past experiences with subordinates or their work (Brown et al. 2007). Mindfulness should help to overcome automatic processes and cognitive filters that are dysfunctional (Brown et al. 2007) because it allows more adaptive, flexible reactions to experiences (Shapiro et al. 2006). Mindfulness should thereby enable leaders to recognize and acknowledge when the quality of their subordinates' work improves, thus, enhancing personal recognition.

Moreover, mindfulness comprises openness to experiences (Bergomi et al. 2014). A mindful orientation to experience is therefore characterized by curiosity and the willingness to face pleasant as well as unpleasant experiences instead of trying to avoid those (Bishop et al. 2004). Thus, mindful leaders might be better able to convey an open stance by role-modeling adaptive coping (Weinstein et al. 2009), thereby enhancing tolerance for uncertainty and intellectually stimulating their subordinates. Further, openness to experiences might help mindful leaders to approach challenging situations with curiosity, thus setting an example for their subordinates of how to deal with demanding situations.

Finally, mindful leaders are expected to understand and therefore to act in accordance with their values and goals (Brown and Ryan 2003; Glomb et al. 2011). Because of this, mindful leaders are better able to analyze information with regard to such values and goals and may therefore be better able to translate them into a viable picture of the future and to transport this vision to their subordinates. Relatedly, an open stance and a greater observation of inner states (i.e., of own emotions) enables mindful leaders to use inspirational appeals and emotional talks to clearly communicate goals and plans,

thus to engage in inspirational communication (Rafferty and Griffin 2004).

The multiple positive effects of transformational leadership for subordinates have been demonstrated in previous studies that found associations between transformational leadership and high levels of positive well-being indicators (Bono and Ilies 2006; Nielsen et al. 2008). Furthermore, although few studies have pointed to potential downsides of transformational leadership (e.g., Franke and Felfe 2011; Seltzer et al. 1989) or found no significant relations with negative well-being indicators (e.g., Stordeur et al. 2001), recent meta-analytic findings revealed a negative relationship between transformational leadership and negative indicators of subordinates' well-being (Montano et al. 2016). Moreover, transformational leadership has been shown to promote health across different nations by affecting psychological and physical health (Zwingmann et al. 2014).

Several underlying processes for the association between transformational leadership and positive indicators of subordinates' well-being are suggested in the leadership literature. First, one explanatory mechanism refers to a contagion hypothesis, according to which subordinates catch positive emotions experienced and expressed by transformational leaders (Bono and Ilies 2006; Johnson 2008). Second, transformational leaders stimulate processes contributing to higher subordinates' affective well-being such as fostering a supportive climate for individual growth (Avolio et al. 1999; Bass 1999), enhancing subordinates' self-efficacy (Morrison et al. 1997), and offering social support (Sosik and Godshalk 2000). Thus, subordinates might feel encouraged to deal with difficult tasks or situations (Shamir et al. 1993) and to be more optimistic about their work situation (Munir et al. 2010). Lastly, transformational leaders increase the experienced meaningfulness of their subordinates' work (Nielsen et al. 2008). Empirically, relationships between transformational leadership and improved affective well-being (Arnold et al. 2007; Kelloway et al. 2012), and job satisfaction (Bono et al. 2007; Nielsen et al. 2008) have been found.

Transformational leaders encourage their subordinates to develop new ideas, to think on their own, and to question existing operating rules (Bass and Avolio 1990). Consequently, subordinates might feel encouraged to adjust circumstances according to their own desires–instead of being exposed to them passively. This might facilitate better coping with demands, stressful or unpleasant situations and might lead to reduced strain. Experiencing supportive behavior from transformational leaders might release pressure from employees and convey the feeling that they can count on their leader when facing work-related problems or difficult personal circumstances. This should further decrease strain indicators such as emotional exhaustion or health complaints, which are assumed to result from high emotional and other work demands (Bakker and Demerouti 2007; Halbesleben and Buckley 2004). Moreover, transformational leaders reframe stressful situations as opportunities for development (Sosik and Godshalk 2000), thereby releasing pressure from subordinates that usually would lead to elevated strain.

The purpose of this study was to investigate the mediating role of transformational leadership for the relationship between leader mindfulness and subordinates' well-being. Thus, we hypothesized that leader mindfulness is positively related to transformational leadership (Hypothesis 1), which in turn relates to subordinates' well-being. Because well-being can be defined in terms of feeling good or feeling bad (Warr 2006), we expected that transformational leadership is positively related to positive indicators of subordinates' well-being (i.e., positive affect and job satisfaction, Hypothesis 2a) and negatively related to negative indicators of subordinates' well-being (i.e., negative affect, emotional exhaustion, psychosomatic complaints, Hypothesis 2b). Finally, we hypothesized that transformational leadership mediates the positive indirect effect of leader mindfulness on positive indicators of subordinates' well-being (Hypothesis 3a) and the negative indirect effect of leader mindfulness on negative indicators of subordinates' well-being (Hypothesis 3b). To investigate the mediating effect of transformational leadership, in this study we proceed in three major steps. First, we analyze how leader mindfulness relates to transformational leadership. Second, we examine the relationship between transformational leadership and different indicators of subordinates' well-being. Third, we investigate whether there is an indirect effect of leader mindfulness on positive and negative indicators of subordinates' well-being via transformational leadership. Indirect effects are a specific form of intervening effects whereby the independent variable (i.e., leader mindfulness) is only indirectly related to the dependent variable via another variable, which is significantly related to both the dependent variable and the independent variable itself (Mathieu and Taylor 2007).

Method

Participants

Leader sample. A total of 196 leaders registered for our study. Of these, 99 completed the survey, yielding a response rate of 50.5%. In line with Nezlek (2012) who recommended at least two Level-1 observations for each Level-2 unit, only those leaders were included for which we were able to match valid data sets of at least two of their employees. Thirty-four leaders were therefore excluded from the analyses. Dropout analysis showed that the excluded leaders did not differ from those leaders who remained in the analyses with respect to demographic variables (gender, age, education, organizational tenure, and working hours). There were also no differences with respect to mindfulness (M = 4.09, SD = 0.55 for included

leaders; M = 4.13, SD = 0.48 for excluded leaders), $t(97) = -.30$, *ns*, and with respect to transformational leadership (M = 3.91, SD = 0.39 for included leaders; M = 3.92, SD = 0.37 for excluded leaders), $t(97) = -.03$, *ns.* Thus, we are confident that attrition did not influence our study results. We also performed all our analyses including the 34 leaders with only one matching subordinate survey which left our results unchanged. The final leader sample comprised 65 leaders (75.4% men). Average age was 46.94 years (SD = 7.40), ranging from 32 years to 62 years. On average, leaders worked 50.25 h per week (SD = 8.57), and were employed in a broad range of sectors, including the industrial sector (16.9%), health and welfare (16.9%), education (13.8%), scientific and technical services (16.9%) as well as other services (10.8%), and information and communication (6.2%). Leaders' average organizational tenure was 10.8 years (SD = 6.99), their mean job experience was 15.63 years (SD = 9.03). On average, they were holding a leadership position for 11.5 years (SD = 7.36) and were responsible for 13.86 employees (SD = 17.642), ranging from two to 99 employees. The majority held a university degree (93.3%).

Subordinate sample. A total of 187 employees completed the subordinate survey. After matching the leadership surveys with at least two corresponding subordinate surveys, the final employee sample comprised 153 employees (51.6% men). Average age was 39.13 years (SD = 10.56), ranging from 21 years to 62 years. On average, participants worked 41.01 h per week (SD = 8.84). Employees' mean organizational tenure was 8.65 years (SD = 8.90), their mean job experience was 10.96 years (SD = 9.40). The majority held a university degree (72.5%).

Procedure

We collected data from two sources, namely leaders and their subordinates. To recruit study participants, we first approached persons holding a leadership position by using online social networks and by contacting organizations in Germany via e-mail and phone. We also directly contacted leaders through personal contacts. We distributed information about the study that included the registration link to the study. Prerequisite for participating in the study was to lead at least two employees.

After registration, we sent leaders the link to an online survey by e-mail. In this survey, they were asked to write down the e-mail-addresses of two to four of their subordinates. The link to the subordinate survey was thereby automatically sent to these two to four subordinates by email. To ensure anonymity of the subordinates, their e-mail-addresses were not accessible to the authors of this study because they were not saved in the data file. In the e-mail that contained the link to the survey, we informed the participants that their leader had nominated them to take part in the study and assured them that their leader would not have insight into their participation status or data. Furthermore, we informed both leaders and subordinates about the purpose of the study and that their participation was voluntary.

To encourage participants to complete the survey, we offered a report summarizing the study findings including recommendations for strengthening well-being at the workplace through mindful leadership. Moreover, all participants who completed the survey were considered in a lottery of five vouchers for an online retailer worth 50 Euro each.

Measures

In the leadership survey, we measured leaders' general level of mindfulness and transformational leadership. In the subordinate survey, we measured positive indicators (i.e., positive affect and job satisfaction) and negative indicators (i.e., negative affect, emotional exhaustion, and psychosomatic complaints) of subordinates' well-being. Where no German version of a scale was available, items were translated into German by a translation-back translation procedure (Brislin 1970). Unless stated differently, participants responded to all items on a 5-point Likert scale ranging from 1 = *not true at all*, to 5 = *totally true*. Means, standard deviations, intraclass correlation coefficients (ICCs), and intercorrelations between study variables are depicted in Table 1.

Mindfulness We measured leader mindfulness with the 37-item Comprehensive Inventory of Mindfulness Experience (CHIME; Bergomi et al. 2013), using a 6-point Likert response format (1 = *almost never*, 6 = *almost always*). This measure consists of eight subscales: awareness towards internal experiences (e.g., "I clearly notice changes in my body, such as quicker or slower breathing"), awareness towards external experiences (e.g., "I notice sounds in my environment, such as birds chirping or cars passing"), acting with awareness (e.g., "In everyday life, I get distracted by memories, images or reverie (reverse score), openness to experiences (e.g., "I try to distract myself when I feel unpleasant emotions" (reverse score), accepting and non-judgmental orientation (e.g., "Even when I make a big mistake, I treat myself with understanding"), decentering and nonreactivity (e.g., "When I experience distressing thoughts or images, I am able just to notice them without having to react immediately"), insightful understanding (insight; e.g., "I need to smile when I notice how I sometimes see things as more difficult than they actually are"), and relativity of thoughts (e.g., "It is clear to me that my evaluations of situations and people can easily change"). Cronbach's alpha for the overall scale was .91.

Transformational Leadership We measured transformational leadership with the 15-item Transformational Leadership Scale (TLS; Rafferty and Griffin 2004). The scale consists

Table 1 Means, standard deviations, intraclass correlation coefficients, and intercorrelations for all study variables

		M	*SD*	ICC	1	2	3	4	5	6	7	8	9	10	11
1.	Mindfulness	4.11	0. 56		–	–									
2.	TFL	3.91	0.42		.43**	–	–	–							
3.	Positive affect	3.66	0.38	.12	.24	.33**	–	.49**	−.33**	−.47**	−.34**	.08	.06	.01	−.03
4.	Job satisfaction	5.30	0.87	.18	.03	.29*	.53**	–	−.40**	−.45**	−.41**	.16	−.08	.13	−.13
5.	Negative affect	1.46	0.24	.11	−.02	−.05	−.46**	−.57**	–	.52**	.44**	.11	−.03	−.13	.18*
6.	EX	2.67	0.39	.19	−.10	−.15	−.56**	−.51**	.59**	–	.58**	−.05	−.04	−.24**	.13
7.	PC	2.25	0.50	.07	−.01	−.29*	−.41**	−.51**	.46**	.49**	–	−.26**	.02	−.23**	.10
8.	Gender	1.53	0.35	.08	−.13	.04	.05	.13	.16	−.06	−.25*	–	.08	.08	.13
9	Age	39.23	8.87	.35	.01	.12	−.05	−.10	.24	.20	.10	.39**	–	−.12	.17*
10	Education	1.83	0.29	.36	.11	.07	−.04	.09	−.11	−.23	−.26*	.18	−.01	–	−.06
11	Working hours	36.25	5.00	.34	.09	.28*	.26*	−.06	−.13	−.06	−.02	.06	.21	−.20	–

Note. Means and standard deviations are at Level 2 (N = 65). Above the diagonal are correlations at Level 1 (N = 153). Below the diagonal are correlations at Level 2. Scores for variables 3 to 11 were aggregated for each group of subordinates reporting to the same leader. Gender: 1 = female, 2 = male. Education: 1 = below higher education entrance qualification, 2 = higher education entrance qualification or above. TFL = Transformational leadership. EX = Emotional exhaustion. PC = Psychosomatic complaints

*p < .05. **p < .01

of five subscales: vision (e.g., "I have a clear understanding of where we are going"), inspirational communication (e.g., "I say positive things about the work unit"), intellectual stimulation (e.g., "I challenge my employees to think about old problems in new ways"), supportive leadership (e.g., "I behave in a manner which is thoughtful of my employees' personal needs"), and personal recognition ("I commend my employees when they do a better than average job"). Cronbach's alpha for the overall scale was .81.

Positive Indicators of Subordinates' Well-Being We measured positive affect and job satisfaction as positive indicators of subordinates' well-being.

Positive affect. We measured subordinates' positive affect with ten items of the Positive and Negative Affect Scale (PANAS; Watson et al. 1988) using the German translation by Krohne et al. (1996). Specifically, we asked for participants' general positive affect at work. Sample items included "enthusiastic", "attentive", and "strong". Cronbach's alpha was .87.

Job satisfaction. We measured subordinates' job satisfaction using the faces scale from Kunin (1955) with the answer scale ranging from 1 = *I am very dissatisfied*, to 7 *I am extraordinarily satisfied.* According to meta-analytic findings, single-item measures of job satisfaction are highly correlated to scale measures (corrected R = .67 for face measures; Wanous et al. 1997); thus, using this single-item measure to assess overall job satisfaction is an adequate alternative to less parsimonious scales.

Negative Indicators of Subordinates' Well-Being We measured negative affect, emotional exhaustion, and psychosomatic complaints as negative indicators of subordinates' well-being.

Negative affect. We measured subordinates' negative affect with ten items of the Positive and Negative Affect Scale (PANAS; Watson et al. 1988) using the German translation by Krohne et al. (1996). Specifically, we asked for participants' general negative affect at work. Sample items included "afraid", "distressed", and "nervous". Cronbach's alpha was .73.

Emotional exhaustion. We measured subordinates' emotional exhaustion with eight items of the Oldenburg Burnout Inventory (OLBI; Demerouti et al. 2001). Sample items included "There are days when I feel tired before I arrive at work", and "During my work, I often feel emotionally drained". Cronbach's alpha was .86.

Psychosomatic complaints. We measured subordinates' psychosomatic complaints with eight items developed by (Mohr 1986; cf. Frese 1999), using a 5-point Likert response format (1 = *never*, 5 = *almost daily*). Sample items included "Do you have neck pain?", and "Do you have feelings of dizziness?". Cronbach's alpha was .82.

Control Variables We assessed gender, age, educational level, and working hours as control variables for the prediction of subordinates' well-being with one-item measures.

Construct Validity

To demonstrate discriminant validity among our two variables measured in the leadership survey (i.e., mindfulness and transformational leadership), we conducted confirmatory factor analyses using Mplus 6.1 (Muthén and Muthén 1998–2010). Given our rather small sample size and the relatively large

number of estimated parameters in the model, we applied item parceling (Little et al. 2002). Item parceling is a technique to reduce the number of parameter estimates and to deal with multidimensional item sets (Burton et al. 2014; Smith et al. 2016). Considering the multidimensional item structure of the mindfulness and the transformational leadership scales, we applied the domain-representative approach described by Little et al. (2002). For each of the two scales, we divided the items of the construct into parcels by ensuring that each parcel contained items from every dimension (Little et al. 2002). Hence, every parcel reflected all of the dimensions present within the mindfulness and the transformational leadership scale, respectively. For each of these parcels (four parcels for mindfulness, three parcels for transformational leadership), we calculated one composite value, the mean of the items. We used these composite parcel values in the confirmatory factor analyses instead of the single items (Little et al. 2002). Furthermore, mindfulness and transformational leadership measures used in hypothesis testing were built by using the mean of these composite parcel values (Burton et al. 2014; Smith et al. 2016).

Confirmatory factor analysis showed that a two-factor model yielded an acceptable fit to the data, χ^2 (13) = 18.067, *ns*, CFI = 0.982, RMSEA = 0.077, and all factor loadings were significant. This two-factor model fit the data better than a one-factor model, χ^2 (14) = 87.867, $p < .001$, CFI = 0.739, RMSEA = 0.285; $\Delta\chi^2 = 69.8$; $df = 1$; $p < .001$. The result shows that the two variables mindfulness and transformational leadership represent distinct constructs.

To demonstrate discriminant validity among four of our five Level 1 variables (positive affect, negative affect, emotional exhaustion and psychosomatic complaints), we conducted another set of confirmatory factor analyses. We excluded our 1-item measure job satisfaction from these analyses. Again, given our rather small sample size and the relatively large number of estimated parameters in the model, we applied item parceling. Because our four Level 1 variables were represented by unidimensional item sets, we applied the random assignment approach (Little et al. 2002). For each of our variables, we divided the items randomly into two parcels. Once more, for each of these parcels we calculated one composite value, the mean of the items, and used these composite parcel values in the confirmatory factor analyses instead of the single items. Furthermore, measures of these four Level 1 variables used in hypothesis testing were built by using the mean of these composite parcel values (Burton et al. 2014; Smith et al. 2016).

Multilevel confirmatory factor analysis showed that a four-factor model yielded a good fit to the data, χ^2 (14) = 22.829, *ns*, CFI = 0.981, RMSEA = 0.064, with all factor loadings being significant. Importantly, this four-factor model fit the data better than the best fitting three-factor model, with negative affect and psychosomatic complaints loading on one factor, χ^2 (17) = 49.980, $p < .001$, CFI = 0.929, RMSEA = 0.113, Satorra-Bentler scaled χ^2 (S-B χ^2) = 21.006; $df = 3$; $p < .001$; and the best fitting two-factor model, with negative affect, psychosomatic complaints and emotional exhaustion loading on one factor, χ^2 (19) = 63.398, $p < .001$, CFI = 0.904, RMSEA = 0.124, S-B χ^2 = 32.099; $df = 5$; $p < .001$. We examined Satorra-Bentler scaled χ^2 to account for the non-independence of our Level 1 variables (i.e., subordinates nested in leaders). A one-factor model did not converge. In summary, the results suggest that the four variables positive affect, negative affect, emotional exhaustion and psychosomatic complaints represent distinct constructs. In all confirmatory factor analyses, for both levels, we did not allow errors to correlate.

Data Analyses

Because of our nested data structure (subordinates nested in leaders), we analyzed our data with multilevel modeling techniques using Mplus 6.1 (Muthén and Muthén 1998–2010). To test the proposed multilevel mediations, we followed the procedure recommended by Preacher and colleagues (Preacher et al. 2010, 2011). Our analyses tested 2–2-1 mediation models (Preacher et al. 2010), with mindfulness as predictor (Level 2), transformational leadership as mediator (Level 2) and the five well-being indicators as outcome variables (all Level 1).

Results

To examine the relative amount of Level 1 and Level 2 variance, we estimated ICCs in an unconditional random coefficient model. For the five outcome variables, ICCs ranged between .04 and .19, indicating that 81 to 96% of the total variance in these variables was at Level 1.

Tables 2 and 3 present the parameter estimates and their 95% confidence intervals (CIs) for the direct and indirect effects proposed in Hypotheses 1 to 3 when including control variables. Please note that our results show the same pattern when control variables are excluded. Hypothesis 1 stated that leader mindfulness is positively related to transformational leadership. As both Tables 2 and 3 display, we found a significant relationship between leader mindfulness and transformational leadership. Hypothesis 2a proposed that leader mindfulness is positively related to positive indicators of subordinates' well-being via transformational leadership. As Table 2 shows, we found a significant direct relationship of transformational leadership with subordinates' positive affect and job satisfaction, in addition to the significant relationship between leader mindfulness and transformational leadership. Moreover, we found the expected significant indirect effect of leader mindfulness on subordinates' positive affect via transformational

Table 2 Results of multilevel mediation analysis predicting positive indicators of well-being from mindfulness via transformational leadership

	Estimate	*SE*	*Est./S.E.*	95% CI
Direct effects				
Mindfulness ➜ TFL	0.316	0.059	5.395***	[0.201, 0.431]
TFL ➜ Positive affect	0.330	0.116	2.847**	[0.103, 0.558]
TFL ➜ Job satisfaction	0.782	0.239	3.273**	[0.314, 1.250]
Indirect effects				
Mindfulness ➜ TFL ➜ Positive affect	0.104	0.043	2.413*	[0.020, 0.189]
Mindfulness ➜ TFL ➜ Job satisfaction	0.247	0.084	2.941**	[0.082, 0.412]

Note. Models are 2–2-1 mediation models controlling for age, gender, education level, and working hours. CI = Confidence interval. TFL = Transformational leadership

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

leadership. We also found the expected significant indirect effect of leader mindfulness on subordinates' job satisfaction via transformational leadership, supporting Hypothesis 3a.

Hypothesis 2b proposed that leader mindfulness is negatively related to negative indicators of subordinates' well-being. As Table 3 shows, we did not find a significant direct relationship of transformational leadership with subordinates' negative affect and emotional exhaustion, but with psychosomatic complaints, in addition to the significant relationship between leader mindfulness and transformational leadership. Thus, Hypothesis 2b was only partially supported. Furthermore, we did not find the expected significant indirect effect of leader mindfulness on subordinates' negative affect via transformational leadership. Likewise, we did not find the expected significant indirect effect of leader mindfulness on subordinates' emotional exhaustion via transformational leadership. However, we found the expected significant indirect effect of leader mindfulness on subordinates' psychosomatic complaints via transformational leadership. In sum, we did not find effects for the negative well-being indicators negative affect and emotional exhaustion, but for psychosomatic complaints. Thus, Hypothesis 3b was partially supported.

Conceptually, mindfulness comprises eight facets (inner awareness, outer awareness, acceptance, openness, decentering, relativity of thoughts, acting with awareness, and insight), and transformational leadership comprises five facets (vision, inspirational communication, intellectual stimulation, supportive leadership, and personal recognition). Confirmatory factor analyses did not support the idea that the facets represent distinct constructs. However, for exploratory reasons, we examined the bivariate relationship between leader mindfulness and transformational leadership as well as the indirect effects of leader mindfulness on subordinates' well-being outcomes via transformational leadership at the facet level of leader mindfulness and transformational leadership (tables are electronically linked to this manuscript as supplementary materials and are available from the first author upon request). Correlational analyses showed that the relationship between mindfulness and transformational leadership did not change when examining transformational leadership at the facet level, compared to the use of the overall scale (i.e., all relationships were significant). In contrast, when examining leader mindfulness at the facet level, results differed somewhat from results obtained when using the overall scale: Five facets (i.e., inner awareness, outer awareness,

Table 3 Results of multilevel mediation analysis predicting negative indicators of well-being from mindfulness via transformational leadership

	Estimate	*SE*	*Est./S.E.*	95% CI
Direct effects				
Mindfulness ➜ TFL	0.316	0.059	5.395***	[0.201, 0.431]
TFL ➜ Negative affect	−0.055	0.068	−0.803	[−0.188, 0.078]
TFL ➜ EX	−0.218	0.120	−1.822	[−0.452, 0.016]
TFL ➜ PC	−0.433	0.156	−2.771**	[−0.739, −0.127]
Indirect effects				
Mindfulness ➜ TFL ➜ Negative affect	−0.017	0.022	−0.781	[−0.061, 0.026]
Mindfulness ➜ TFL ➜ EX	−0.069	0.040	−1.730	[−0.147, 0.009]
Mindfulness ➜ TFL ➜ PC	−0.137	0.054	−2.534*	[−0.243, −0.031]

Note. Models are 2–2-1 mediation models controlling for age, gender, education level, and working hours. CI = Confidence interval. TFL = Transformational leadership. EX = Emotional exhaustion. PC = Psychosomatic complaints

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

openness, acceptance, and relativity of thoughts) correlated significantly with transformational leadership, three did not (i.e., acting with awareness, decentering, and insight). We found the same pattern of results when analyzing the indirect effects of leader mindfulness facets on employee-well-being via transformational leadership. In line with our findings described above, we found significant indirect effects of inner awareness, $\beta = 0.119$, $SE = 0.039$, $p < .01$, outer awareness, $\beta = 0.101$, $SE = 0.042$, $p < .05$, openness, $\beta = 0.152$, $SE = 0.070$, $p < .05$, acceptance, $\beta = 0.137$, $SE = 0.060$, $p < .05$, and relativity of thoughts, $\beta = 0.128$, $SE = 0.045$, $p < .01$ on job satisfaction and significant indirect effects of inner awareness, $\beta = -0.066$, $SE = 0.028$, $p < .05$, outer awareness, $\beta = -0.056$, $SE = 0.023$, $p < .05$, openness, $\beta = -0.084$, $SE = 0.041$, $p < .05$, acceptance, $\beta = -0.076$, $SE = 0.036$, $p < .05$, and relativity of thoughts, $\beta = -0.056$, $SE = 0.028$, $p < .05$ on psychosomatic complaints. Furthermore, we found significant indirect effects of inner awareness, $\beta = 0.050$, $SE = 0.023$, $p < .05$, openness, $\beta = 0.064$, $SE = 0.028$, $p < .05$, acceptance, $\beta = 0.058$, $SE = 0.028$, $p < .05$, and relativity of thoughts, $\beta = 0.042$, $SE = 0.020$, $p < .05$, on positive affect. There were no significant indirect effects of acting with awareness, decentering, and insight via transformational leadership on positive affect, job satisfaction, and psychosomatic complaints. Furthermore, there was no significant indirect effect of outer awareness on positive affect. Again, there were no significant indirect effects of all leader mindfulness facets on subordinates' negative affect and emotional exhaustion. Regarding the indirect effects of mindfulness via the five facets of transformational leadership, we found significant indirect effects on positive affect and on job satisfaction via supportive leadership, and on psychosomatic complaints via intellectual stimulation. Again, there were no significant indirect effects on negative affect and emotional exhaustion.

In addition, one might argue that the number of employees supervised by a leader moderates the relationship between leader mindfulness and transformational leadership. In an exploratory endeavor, we therefore analyzed whether span of control moderates this relationship. Moderation analysis did not support the idea that span of control acts as moderator for the relationship between leader mindfulness and transformational leadership. The interaction term between leader mindfulness and span of control did not predict significant variance in transformational leadership ($\beta = 0.000$, $SE = 0.002$, *ns*).

Discussion

In this study, we investigated the indirect effect of leader mindfulness on subordinates' well-being via transformational leadership. Our results showed that leader mindfulness was positively related to transformational leadership that, in turn, was positively related to subordinates' positive affect and job satisfaction and negatively related to subordinates' psychosomatic complaints. Furthermore, leader mindfulness was indirectly related to these well-being indicators via transformational leadership.

We contribute to the understanding of interpersonal correlates of mindfulness at work by introducing transformational leadership as an important mechanism through which leader mindfulness relates to subordinates' well-being. Our results suggest that leader mindfulness finds expression in *leaders' behavior*, through which mindfulness translates into subordinates' well-being, extending research that found a positive relationship between leader mindfulness and subordinates' well-being (Reb et al. 2014). Our study adds to the leadership literature by suggesting that mindfulness facilitates an attentive, stimulating and inspiring behavior that characterizes transformational leadership. First, awareness and a non-reactive stance characterizing mindfulness enable leaders to consider their subordinates' personal needs and to adapt their own reactions accordingly, facilitating supportive leadership. Second, adaptive and flexible reactions that come along with mindfulness allow leaders to recognize work improvements as they refrain from automatically imposing past judgments, enhancing personal recognition. Third, openness to experience as another mindfulness facet enables mindful leaders to serve as a role model for adaptive cognition, thereby intellectually stimulating their subordinates. Taken together, our results highlight the importance to consider mindfulness in the context of leadership.

Further, our findings draw attention to the positive role of mindfulness not only for a person's own well-being (Allen and Kiburz 2012; Hülsheger et al. 2013) but–through behavior–also for this person's interpersonal environment. In particular, in this study we demonstrated distinct relationships of leader mindfulness with different indicators of subordinates' well-being via transformational leadership. Specifically, we found the expected indirect (leader mindfulness) and direct (transformational leadership) effects for the positive well-being indicators positive affect and job satisfaction. With regard to these indicators, our results imply that subordinates benefit from leaders with high levels of mindfulness, translating into greater transformational leadership. Thereby, our findings extend knowledge of past research that found a positive relationship between transformational leadership and positive well-being indicators (e.g., Kelloway et al. 2012; Nielsen et al. 2008).

Pertaining to the negative well-being indicators, however, findings are only partially in line with our hypotheses. Leader mindfulness was neither related to subordinates' negative affect nor to subordinates' emotional exhaustion via transformational leadership. Also, we did not find the expected direct effects of transformational leadership for these well-being outcomes. Our results are surprising in the light of recent meta-analytic findings that revealed a negative relationship between

transformational leadership and negative well-being indicators (Montano et al. 2016). Yet, our results are in line with earlier research that found that the relationship between transformational leadership and negative indicators of subordinates' well-being varies across studies (Franke and Felfe 2011; Holstad et al. 2014). First of all, one might speculate that during every day work life, it is easier for subordinates to talk with their leader about concrete psychosomatic complaints than about more diffuse states such as negative affect or emotional exhaustion. Thus, a leader who engages in transformational leadership (e.g., shows personal recognition), might adopt measures in order to reduce such psychosomatic complaints. Furthermore, when looking at subordinates' negative affect and emotional exhaustion in Table 1, it becomes clear that standard deviations for these variables are particularly low, resulting in a lower correlation (Bobko 2001). We compared our data with studies using similar measures for negative affect and emotional exhaustion in employee samples. Compared to the majority of studies examined, we found that standard deviations for negative affect (see Bruck and Allen 2003; Sonnentag and Zijlstra 2006) and for emotional exhaustion (see Demerouti et al. 2010; Sonnentag and Fritz 2007) are much lower in our study. It is likely that this range restriction is responsible for our non-significant results with regard to negative affect and emotional exhaustion as negative indicators of subordinates' well-being. The standard deviation for subordinates' positive affect is likewise rather low. However, the association between transformational leadership and positive affect is stronger and significant. Transformational leadership involves uplifting and energizing behaviors, such as instilling pride in subordinates, commending improvements or conveying statements that build confidence and motivation (Rafferty and Griffin 2004). Thus, transformational leadership might possibly aim more at the stimulation of positive indicators of well-being than at the reduction of negative ones. One possibility to test this assumption is to assess positive and negative indicators of subordinates' well-being and hereafter to train leaders in transformational leadership (Barling et al. 1996). By using a longitudinal design, future studies could thereby investigate and compare change trajectories regarding positive and negative indicators of subordinates' well-being as consequences of transformational leadership.

Furthermore, by showing that transformational leadership links leader mindfulness to subordinate well-being, our results extents the findings of the study by Reb et al. (2014) who showed that there is a positive relationship between leader mindfulness and subordinates' well-being. Yet, in contrast to Reb et al. (2014), we did not find a significant direct relationship between leader mindfulness and subordinate well-being. It is possible that distinct cultural backgrounds of study participants might explain this difference: The sample of our study consisted of leaders and subordinates from organizations in Germany while Reb et al. (2014) investigated mainly Chinese participants (83% in Study 1 and 70% in Study 2, respectively). One can speculate that cultural differences between Chinese and German participants may explain why our study did not replicate the findings by Reb et al. (2014). For example, it may be that leaders in collectivistic countries with a Chinese culture (e.g., House et al. 2004) are more concerned about interpersonal relationships and the well-being and cohesion of the group (e.g., Cheng et al. 2003; Felfe et al. 2008), while leaders in more individualistic countries (i.e., Western European countries like Germany) pay more attention to their own behavior when leading employees. Thus, we suggest that future studies may investigate whether cultural differences might play a role when investigating leader mindfulness.

Regarding our additional analyses at the facet level of leader mindfulness, we found significant indirect effects of inner awareness, outer awareness, openness, acceptance, and relativity of thoughts on job satisfaction, and psychosomatic complaints. Further, we found significant indirect effects of inner awareness, openness, acceptance, and relativity of thoughts on positive affect. Thus, it seems that especially these facets of leader mindfulness play an important role for subordinates' well-being via transformational leadership. When examining the facets of mindfulness at the item level, it shows that particularly those facets that are mentally and cognitively connoted or include aspects of awareness facilitate transformational leadership. In contrast, those facets that rather focus on day-to-day behavior seem not to enhance transformational leadership. Although our analyses offer interesting insights, confirmatory factor analyses did not support the idea that the facets represent distinct constructs. Therefore, the results of this exploratory endeavor should be interpreted with caution.

Limitations and Future Research

This study has some strengths and limitations. By using reports from two sources, we were able to reduce problems associated with common-method data (Podsakoff et al. 2003). Yet, because leader mindfulness and transformational leadership were both reported by leaders, this relationship could have been artificially inflated by common source effects (Podsakoff et al. 2003). However, we used different response formats for assessing leader mindfulness and transformational leadership. According to Podsakoff et al. (2003) the use of different response formats helps to separate variables methodologically "by making prior responses less salient, available, or relevant" for the respondent (Podsakoff et al. 2003, p. 888). Furthermore, because we assessed well-being outcomes using subordinate ratings, the relationships of interest, namely the indirect relationships between leader mindfulness and subordinates' well-being, cannot be explained by common source bias. Second, the cross-sectional design does not allow a causal interpretation of our results. Although our assumption that leader mindfulness facilitates transformational leadership seems more likely than

an alternative interpretation, such that high levels of transformational leadership enhance leader mindfulness, longitudinal studies could investigate the proposed directions of relationships. A further limitation refers to our sample that was highly educated. Although it is feasible that leader positions are commonly taken by highly educated persons, and second, participants came from different industries, executing diverse jobs, it is desirable to replicate our findings with samples that represent a broader range of educational levels to ensure generalizability. Lastly, we asked leaders to name two to four of their subordinates to participate in this study. This approach might have invited leaders to select subordinates based on liking or the implicit hope of receiving well-disposed answers. To rule out such possible bias, future studies might, for example, ask leaders to alphabetically select two to four subordinates, or researchers should address subordinates directly when recruiting study participants.

There are several options to extend our model. Future studies might examine other factors than transformational leadership through which leader mindfulness relates to subordinates' well-being. For example, a greater awareness of subordinates' abilities might enable mindful leaders to adjust work-related demands in concordance with them. Situational awareness might further allow leaders to provide organizational supplies tailored to subordinates' needs, thus creating a better person-environment fit which describes the compatibility between an individual and the organization (Kristof 1996). Earlier research has shown that person-environment fit positively relates to well-being (Kristof-Brown et al. 2005), it therefore might act as a mediating mechanism for the relationship between leader mindfulness and subordinates' well-being.

Next, we recommend investigating possible situational and personal variables that might moderate the relationship between leader mindfulness and transformational leadership. For instance, time pressure might prevent even mindful leaders to allocate their resources to leadership behavior, thus attenuating the relationship between leader mindfulness and transformational leadership. In contrast, job involvement, a state of cognitively and psychologically identifying with one's work (Kanungo 1982), might strengthen this relationship by encouraging leaders to direct their mindful stance towards transformational leadership behavior. In addition, one interesting avenue for future research concerns the questions of what employees may perceive when their leaders describe themselves as mindful and transformational.

Our findings allude to the opportunity for leaders to actively foster their subordinates' well-being by acknowledging and raising their own levels of mindfulness through training. A well-controlled intervention study that addresses mindfulness (Querstret et al. 2016), for example, by training leader mindfulness in an experimental setting, could investigate this assumption. Specifically, as our results suggest that strengthening leader mindfulness may have the potential to strengthen transformational leadership, thereby positively affecting subordinates' well-being, leadership trainings aiming at facilitating transformational leadership (Barling et al. 1996) might benefit from including mindfulness interventions. Mindfulness can be increased by informal and formal exercises (Kabat-Zinn 2006) and recent research has shown that even brief mindfulness trainings can be powerful tools at work (Long and Christian 2015). Thus, future research should investigate the role of mindfulness interventions in the context of leadership.

In addition, future research may want to address the role of health oriented leadership (e.g., self care and staff care, Franke et al. 2014) for employee well-being to get a more comprehensive view on factors that can foster employee well-being. Health oriented leadership emphasizes the importance of leaders' own health and health oriented behavior for health-specific leadership behaviors, such as role modeling and resource protection (Franke et al. 2014), and thus employee well-being. Moreover, health oriented leadership focuses on leaders' values and awareness towards employee health. Thus, future studies might want to shed light on the question whether leader mindfulness could be seen as one component of broader health oriented leadership.

To get a deeper understanding of the impact on subordinates, we further suggest investigating other work-related outcomes that are affected by transformational leadership. One example is organizational citizenship behavior (OCB, Podsakoff et al. 1990), encompassing voluntary, non-rewarded actions that go beyond what is formally expected and aim at benefitting the organization (Organ et al. 2006). Understanding more about the interplay of constructs that may facilitate OCB is important, because of OCB has numerous beneficial consequences for the individual (e.g., lower turnover intentions and absenteeism, Podsakoff et al. 2009) and the organization (e.g., productivity, reduced costs, and customer satisfaction, Podsakoff et al. 2009).

We investigated leader mindfulness and transformational leadership as rather stable variables. To account for possible daily fluctuations of leader mindfulness (Hülsheger et al. 2014) and transformational leadership (e.g., Breevaart et al. 2014), we suggest to conduct a diary study across several work days. Investigating state mindfulness would add to the understanding of natural variations of mindfulness within persons and its interpersonal consequences at work. It is, for example, conceivable that a leader arrives at work in a very mindful state on one day, allowing him or her to behave in an attentive and supportive manner towards his or her subordinates. The same leader, however, could be in a rather mindless state the next day, which possibly hinders him or her from engaging in transformational leadership behavior. Diary studies could investigate such within-person fluctuations and the implications for leaders' and subordinates' daily, if not longer-term well-being.

Finally, it seems worthwhile to examine potential downsides of mindfulness in the leadership context. Attentive and supportive leaders might misuse the favor of their subordinates for selfish or political goals (Reb et al. 2015), or might lose strategic foresight when strongly focusing on the present moment. Future research using longitudinal designs could bring light into such potential dark sides of mindfulness.

Author Contributions ASP designed the study, executed the study, analyzed the data, and wrote the paper. SS provided support with the study design and planning of data analysis and collaborated with editing of the final manuscript.

Compliance with Ethical Standards

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants included in the study.

Conflict of Interest Both authors declare that they have no conflict of interest.

References

Allen, T. D., & Kiburz, K. M. (2012). Trait mindfulness and work–family balance among working parents: The mediating effects of vitality and sleep quality. *Journal of Vocational Behavior, 80*, 372–379. https://doi.org/10.1016/j.jvb.2011.09.002.

Arnold, K. A., Turner, N., Barling, J., Kelloway, E. K., & McKee, M. C. (2007). Transformational leadership and psychological well-being: The mediating role of meaningful work. *Journal of Occupational Health Psychology, 12*, 193–203. https://doi.org/10.1037/1076-8998.12.3.19.

Avolio, B. J., Bass, B. M., & Jung, D. I. (1999). Re-examining the components of transformational and transactional leadership using the Multifactor Leadership. *Journal of Occupational and Organizational Psychology, 72*, 441–462. https://doi.org/10.1348/096317999166789.

Baer, R. A., Smith, G. T., Lykins, E., Button, D., Krietemeyer, J., Sauer, S., … Williams, J. M. G. (2008). Construct validity of the five facet mindfulness questionnaire in meditating and nonmeditating samples. *Assessment*, *15*, 329–342. doi:https://doi.org/10.1177/1073191107313003.

Bakker, A. B., & Demerouti, E. (2007). The job demands-resources model: state of the art. *Journal of Managerial Psychology, 22*, 309–328. https://doi.org/10.1108/02683940710733115.

Barling, J., Weber, T., & Kelloway, E. K. (1996). Effects of transformational leadership training on attitudinal and financial outcomes: A field experiment. *Journal of Applied Psychology, 81*, 827–832. https://doi.org/10.1037/0021-9010.81.6.827.

Bass, B. M. (1985). *Leadership and performance beyond expectations*. New York: The Free Press.

Bass, B. M. (1999). Two decades of research and development in transformational leadership. *European Journal of Work and Organizational Psychology, 8*, 9–32. https://doi.org/10.1080/135943299398410.

Bass, B. M., & Avolio, B. J. (1990). Developing transformational leadership: 1992 and Beyond. *Journal of European Industrial Training, 14*, 21–37. https://doi.org/10.1108/03090599010135122.

Bergomi, C., Tschacher, W., & Kupper, Z. (2013). Measuring mindfulness: first steps towards the development of a comprehensive mindfulness scale. *Mindfulness, 4*, 18–32. https://doi.org/10.1007/s12671-012-0102-9.

Bergomi, C., Tschacher, W., & Kupper, Z. (2014). Konstruktion und erste Validierung eines Fragebogens zur umfassenden Erfassung von Achtsamkeit: Das Comprehensive Inventory of Mindfulness Experiences [Construction and first validation of the Comprehensive Inventory of Mindfulness Experiences]. *Diagnostica, 60*, 111–125. https://doi.org/10.1026/0012-1924/a000109.

Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., … Devins, G. (2004). Mindfulness: a proposed operational definition. *Clinical Psychology: Science and Practice*, *11*, 230–241. doi:https://doi.org/10.1093/clipsy.bph077.

Bobko, P. (2001). *Correlation and regression*. Thousand Oaks: Sage.

Bono, J. E., & Ilies, R. (2006). Charisma, positive emotions and mood contagion. *The Leadership Quarterly, 17*, 317–334. https://doi.org/10.1016/j.leaqua.2006.04.008.

Bono, J. E., Foldes, H. J., Vinson, G., & Muros, J. P. (2007). Workplace emotions: The role of supervision and leadership. *Journal of Applied Psychology, 92*, 1357–1367. https://doi.org/10.1037/0021-9010.92.5.1357.

Breevaart, K., Bakker, A., Hetland, J., Demerouti, E., Olsen, O. K., & Espevik, R. (2014). Daily transactional and transformational leadership and daily employee engagement. *Journal of Occupational and Organizational Psychology, 87*, 138–157. https://doi.org/10.1111/joop.12041.

Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology, 1*, 185–216. https://doi.org/10.1177/135910457000100301.

Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology, 84*, 822–848. https://doi.org/10.1037/0022-3514.84.4.822.

Brown, K. W., Ryan, R. M., & Creswell, J. D. (2007). Mindfulness: Theoretical foundations and evidence for its salutary effects. *Psychological Inquiry, 18*, 211–237. https://doi.org/10.1080/10478400701598298.

Bruck, C. S., & Allen, T. D. (2003). The relationship between big five personality traits, negative affectivity, type A behavior, and work–family conflict. *Journal of Vocational Behavior, 63*, 457–472. https://doi.org/10.1016/S0001-8791(02)00040-4.

Burton, J. P., Taylor, S. G., & Barber, L. K. (2014). Understanding internal, external, and relational attributions for abusive supervision. *Journal of Organizational Behavior, 35*, 871–891. https://doi.org/10.1002/job.1939.

Cheng, B.-S., Jiang, D.-Y., & Riley, J. H. (2003). Organizational commitment, supervisory commitment, and employee outcomes in the Chinese context: proximal hypothesis or global hypothesis? *Journal of Organizational Behavior, 24*, 313–334. https://doi.org/10.1002/job.190.

Dane, E. (2010). Paying attention to mindfulness and its effects on task performance in the workplace. *Journal of Management, 37*, 997–1018. https://doi.org/10.1177/0149206310367948.

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology, 86*, 499. https://doi.org/10.1037/0021-9010.86.3.499.

Demerouti, E., Mostert, K., & Bakker, A. B. (2010). Burnout and work engagement: A thorough investigation of the independency of both constructs. *Journal of Occupational Health Psychology, 15*, 209–222. https://doi.org/10.1037/a0019408.

Felfe, J., Yan, W., & Six, B. (2008). The Impact of Individual Collectivism on Commitment and Its Influence on Organizational Citizenship Behaviour and Turnover in Three Countries. *International Journal of Cross Cultural Management, 8*, 211–237. https://doi.org/10.1177/1470595808091790.

Franke, F., & Felfe, J. (2011). How does transformational leadership impact employees' psychological strain? Examining differentiated effects and the moderating role of affective organizational commitment. *Leadership, 7*, 295–316. https://doi.org/10.1177/1742715011407387.

Franke, F., Felfe, J., & Pundt, A. (2014). The impact of health-oriented leadership on follower health: Development and test of a new instrument measuring health-promoting leadership. *German Journal of Human Resource Management: Zeitschrift für Personalforschung, 28*, 139–161. https://doi.org/10.1177/239700221402800108.

Frese, M. (1999). Social support as a moderator of the relationship between work stressors and psychological dysfunctioning: A longitudinal study with objective measures. *Journal of Occupational Health Psychology, 4*, 179–192. https://doi.org/10.1037/1076-8998.4.3.179.

Giluk, T. L. (2009). Mindfulness, Big Five personality, and affect: A meta-analysis. *Personality and Individual Differences, 47*, 805–811. https://doi.org/10.1016/j.paid.2009.06.026.

Glomb, T. M., Duffy, M. K., Bono, J. E., & Yang, T. (2011). Mindfulness at work. *Research in Personnel and Human Resources Management, 30*, 115–157. https://doi.org/10.1108/S0742-7301(2011)0000030005.

Halbesleben, J. R. B., & Buckley, M. R. (2004). Burnout in organizational life. *Journal of Management, 30*, 859–879. https://doi.org/10.1016/j.jm.2004.06.004.

Holstad, T. J., Korek, S., Rigotti, T., & Mohr, G. (2014). The relation between transformational leadership and follower emotional strain: The moderating role of professional ambition. *Leadership, 10*, 269–288. https://doi.org/10.1177/1742715013476083.

House, R. J., Hanges, P. J., Javidan, M., Dorfman, P. W., & Gupta, V. (2004). *Culture, leadership, and organizations: The GLOBE study of 62 societies*. Thousand Oaks: Sage publications.

Hülsheger, U. R., Alberts, H. J. E. M., Feinholdt, A., & Lang, J. W. B. (2013). Benefits of mindfulness at work: The role of mindfulness in emotion regulation, emotional exhaustion, and job satisfaction. *Journal of Applied Psychology, 98*, 310–325. https://doi.org/10.1037/a0031313.

Hülsheger, U. R., Lang, J. W. B., Depenbrock, F., Fehrmann, C., Zijlstra, F. R. H., & Alberts, H. J. E. M. (2014). The power of presence: The role of mindfulness at work for daily levels and change trajectories of psychological detachment and sleep quality. *Journal of Applied Psychology*, 99, 1113–1128. https://doi.org/10.1037/a0037702.

Johnson, S. K. (2008). I second that emotion: Effects of emotional contagion and affect at work on leader and follower outcomes. *The Leadership Quarterly, 19*, 1–19. https://doi.org/10.1016/j.leaqua.2007.12.001.

Kabat-Zinn, J. (2006). Mindfulness-based interventions in context: Past, present, and future. *Clinical Psychology: Science and Practice, 10*, 144–156. https://doi.org/10.1093/clipsy.bpg016.

Kanungo, R. N. (1982). Measurement of job and work involvement. *Journal of Applied Psychology, 67*, 341–349. https://doi.org/10.1037/0021-9010.67.3.341.

Kelloway, E. K., Turner, N., Barling, J., & Loughlin, C. (2012). Transformational leadership and employee psychological well-being: The mediating role of employee trust in leadership. *Work & Stress, 26*, 39–55. https://doi.org/10.1080/02678373.2012.660774.

Kristof, A. L. (1996). Person-organization fit: An integrative review of its conceptualizations, measurement, and implications. *Personnel Psychology, 49*, 1–49. https://doi.org/10.1111/j.1744-6570.1996.tb01790.x.

Kristof-Brown, A. L., Zimmerman, R. D., & Johnson, E. C. (2005). Consequences of individuals' fit at work: A meta-analysis of person-job, person-organization, person- group, and person-supervisor fit. *Personnel Psychology, 58*, 281–342. https://doi.org/10.1111/j.1744-6570.2005.00672.x.

Krohne, H. W., Egloff, B., Kohlmann, C.-W., & Tausch, A. (1996). Untersuchungen mit einer deutschen Version der "Positive and Negative Affect Schedule" (PANAS) [Investigations with a German version of the Positive and Negative Affect Schedule (PANAS)]. *Diagnostica, 42*, 139–156.

Kunin, T. (1955). The construction of a new type of attitude measure. *Personnel Psychology, 8*(1), 65–77. https://doi.org/10.1111/j.1744-6570.1955.tb01189.x.

Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural Equation Modeling: A Multidisciplinary Journal, 9*, 151–173. https://doi.org/10.1207/S15328007SEM0902_1.

Long, E. C., & Christian, M. S. (2015). Mindfulness buffers retaliatory responses to injustice: A regulatory approach. *Journal of Applied Psychology, 100*, 1409–1422. https://doi.org/10.1037/apl0000019.

Mathieu, J. E., & Taylor, S. R. (2007). A framework for testing meso-mediational relationships in Organizational Behavior. *Journal of Organizational Behavior, 28*, 141–172. https://doi.org/10.1002/job.436.

Mohr, G. (1986). *Die Erfassung psychischer Befindensbeeinträchtigungen bei Industriearbeitern [Assessment of psychological stress effects in industrial workers]*. Frankfurt/Main: Lang.

Montano, D., Reeske, A., Franke, F., & Hüffmeier, J. (2016). Leadership, followers' mental health and job performance in organizations: A comprehensive meta-analysis from an occupational health perspective. *Journal of Organizational Behavior*. Advance online publication. https://doi.org/10.1002/job.2124.

Morrison, R. S., Jones, L., & Fuller, B. (1997). The relation between leadership style and empowerment on job satisfaction of nurses. *Journal of Nursing Administration, 27*, 27–34.

Munir, F., Nielsen, K., & Carneiro, I. G. (2010). Transformational leadership and depressive symptoms: A prospective study. *Journal of Affective Disorders, 120*, 235–239. https://doi.org/10.1016/j.jad.2009.03.020.

Muthén, L. K., & Muthén, B. O. (1998–2010). *Mplus user's guide* (Vol. 6). Los Angeles: Muthén & Muthén.

Nezlek, J. B. (2012). Multilevel modeling analyses of diary-style data. In M. R. Mehl & T. S. Conner (Eds.), *Handbook of research methods for studying daily life* (pp. 357–383). New York: Guilford. https://doi.org/10.1080/10705511.2011.557329.

Nielsen, K., Yarker, J., Brenner, S. O., Randall, R., & Borg, V. (2008). The importance of transformational leadership style for the well-being of employees working with older people. *Journal of Advanced Nursing, 63*, 465–475. https://doi.org/10.1111/j.1365-2648.2008.04701.x.

Organ, D. W., Podsakoff, P. M., & MacKenzie, S. B. (2006). *Organizational citizenship behavior: Its nature, antecedents, and consequences*. Thousand Oaks: Sage.

Podsakoff, P. M., MacKenzie, S. B., Moorman, R. H., & Fetter, R. (1990). Transformational leader behaviors and their effects on followers' trust in leader, satisfaction, and organizational citizenship behaviors. *The Leadership Quarterly, 1*, 107–142. https://doi.org/10.1016/1048-9843(90)90009-7.

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*, 879–903. https://doi.org/10.1037/0021-9010.88.5.879.

Podsakoff, N. P., Whiting, S. W., Podsakoff, P. M., & Blume, B. D. (2009). Individual-and organizational-level consequences of

organizational citizenship behaviors: A meta-analysis. *Journal of Applied Psychology, 94*, 122–141. https://doi.org/10.1037/a0013079.

Preacher, K. J., Zyphur, M. J., & Zhang, Z. (2010). A general multilevel SEM framework for assessing multilevel mediation. *Psychological Methods, 15*, 209–233. https://doi.org/10.1037/a0020141.

Preacher, K. J., Zhang, Z., & Zyphur, M. J. (2011). Alternative methods for assessing mediation in multilevel data: The advantages of multilevel SEM. *Structural Equation Modeling: A Multidisciplinary Journal, 18*, 161–182. https://doi.org/10.1080/10705511.2011.557329.

Querstret, D., Cropley, M., & Fife-Schaw, C. (2016). Internet-based instructor-led mindfulness for work–related rumination, fatigue, and sleep: assessing facets of mindfulness as mechanisms of change. A randomised waitlist control trial. *Journal of Occupational Health Psychology*. https://doi.org/10.1037/ocp0000028.

Rafferty, A. E., & Griffin, M. A. (2004). Dimensions of transformational leadership: Conceptual and empirical extensions. *The Leadership Quarterly, 15*, 329–354. https://doi.org/10.1016/j.leaqua.2004.02.009.

Reb, J., Narayanan, J., & Chaturvedi, S. (2014). Leading mindfully: Two studies on the influence of supervisor trait mindfulness on employee well-being and performance. *Mindfulness, 5*, 36–45. https://doi.org/10.1007/s12671-012-0144-z.

Reb, J., Sim, S., Chintakananda, K., & Bhave, D. P. (2015). Leading with mindfulness: exploring the relation of mindfulness with leadership behaviors, styles, and development. In J. Reb & P. W. B. Atkins (Eds.), *Mindfulness in Organizations* (pp. 256–284). Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9781107587793.

Seltzer, J., Numerof, R. E., & Bass, B. M. (1989). Transformational leadership: Is it a source of more burnout and stress? *Journal of Health and Human Resources Administration, 12*, 174–185.

Shamir, B., House, R. J., & Arthur, M. B. (1993). The motivational effects of charismatic leadership: A self-concept based theory. *Organization Science, 4*, 577–594. https://doi.org/10.1287/orsc.4.4.577.

Shapiro, S. L., Carlson, L. E., Astin, J. A., & Freedman, B. (2006). Mechanisms of mindfulness. *Journal of Clinical Psychology, 62*, 373–386. https://doi.org/10.1002/jclp.20237.

Smith, M. B., Craig Wallace, J., & Jordan, P. (2016). When the dark ones become darker: How promotion focus moderates the effects of the dark triad on supervisor performance ratings. *Journal of Organizational Behavior, 37*, 236–254. https://doi.org/10.1002/job.2038.

Sonnentag, S., & Fritz, C. (2007). The Recovery Experience Questionnaire: development and validation of a measure for assessing recuperation and unwinding from work. *Journal of Occupational Health Psychology, 12*, 204–221. https://doi.org/10.1037/1076-8998.12.3.204.

Sonnentag, S., & Zijlstra, F. R. (2006). Job characteristics and off-job activities as predictors of need for recovery, well-being, and fatigue. *Journal of Applied Psychology, 91*, 330–350. https://doi.org/10.1037/0021-9010.91.2.330.

Sosik, J. J., & Godshalk, V. M. (2000). Leadership styles, mentoring functions received, and job-related stress: a conceptual model and preliminary study. *Journal of Organizational Behavior, 21*, 365–390. https://doi.org/10.1002/(SICI)1099-1379(200006)21:4<365::AID-JOB14>3.0.CO;2-H.

Stordeur, S., D'Hoore, W., & Vandenberghe, C. (2001). Leadership, organizational stress, and emotional exhaustion among hospital nursing staff. *Journal of Advanced Nursing, 35*, 533–542. https://doi.org/10.1046/j.1365-2648.2001.01885.x.

Wanous, J. P., Reichers, A. E., & Hudy, M. J. (1997). Overall job satisfaction: How good are single-item measures? *Journal of Applied Psychology, 82*, 247–252. https://doi.org/10.1037/0021-9010.82.2.247.

Warr, P. (2006). Differential activation of judgments in employee well-being. *Journal of Occupational and Organizational Psychology, 79*, 225–244. https://doi.org/10.1348/096317905X52652.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*, 1063–1070. https://doi.org/10.1037/0022-3514.54.6.1063.

Weinstein, N., Brown, K. W., & Ryan, R. M. (2009). A multi-method examination of the effects of mindfulness on stress attribution, coping, and emotional well-being. *Journal of Research in Personality, 43*, 374–385. https://doi.org/10.1016/j.jrp.2008.12.008.

Yukl, G. (1999). An evaluation of conceptual weaknesses in transformational and charismatic leadership theories. *The Leadership Quarterly, 10*, 285–305. https://doi.org/10.1016/S1048-9843(99)00013-2.

Zwingmann, I., Wegge, J., Wolf, S., Rudolf, M., Schmidt, M., & Richter, P. (2014). Is transformational leadership healthy for employees? A multilevel analysis in 16 nations. *German Journal of Human Resource Managemen, 28*, 24–51. https://doi.org/10.1177/239700221402800103.