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Leaders as role models: Effects of leader presenteeism on employee presenteeism and sick leave

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ABSTRACT

There is a broad consensus that associations exist between leadership behaviour and employee health. However, much less is known about potential mediating processes underlying links between specific leader behaviours, for instance presenteeism (i.e. working while being ill), and indicators of employee health, such as sick leave. Integrating theories of social information processing, social learning, and the allostatic load hypothesis, we propose that employee presenteeism mediates the positive association between leader presenteeism and employee sick leave. This hypothesis was tested with a multilevel mediation model using three-wave longitudinal data from 74 leaders and their 412 team members across a time period of 22 months. As hypothesised, leader presenteeism had a positive effect on employee presenteeism which, in turn, had a positive effect on employee sick leave, controlling for baseline measures of employee presenteeism and sick leave, as well as employee general health status, shared workload and job autonomy, and demographic characteristics. Additionally, leader presenteeism had a positive indirect effect on employee sick leave through employee presenteeism. These results contribute to the occupational health psychology literature by suggesting that leader health-related behaviour can have consequences for employee health-related behaviour and employee health.

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KEYWORDS

Presenteeism; leadership; sick leave; health; sickness presence

The prevalence of employees who work even though they are ill is estimated to lie between 30 and more than 90 percent (Lohaus & Habermann, 2019). Presenteeism can lead to an impairment of work ability (Gustafsson & Marklund, 2011) and health, for instance, an increased risk of emotional exhaustion and sick leave (Taloyan et al., 2012). These employee outcomes, in turn, can seriously impact companies and society as a whole in terms of lost productivity and increased costs for medical and therapeutic treatments (Hemp, 2004; Wieser et al., 2011). In two decades of presenteeism research, several contextual and person-related factors associated with presenteeism, such as job demands and resources as well as health and work attitudes, have been identified (for an overview, see

Miraglia & Johns, 2016). For instance, studies show that understaffing, high workload, and overtime, as well as low job control and leader support are associated with higher presenteeism (Miraglia & Johns, 2016). Generally, these findings point to the importance of job characteristics and leader behaviour in predicting presenteeism.

Answering early calls to examine leaders' role in employee presenteeism (Nyberg, Westlund, Magnusson Hanson, & Theorell, 2008), there is a growing body of research examining associations between leadership styles, leader support, and presenteeism (Lohaus & Habermann, 2019; Miraglia & Johns, 2016). However, we currently know only little about the mediating processes underlying links between specific leader behaviours and employee health (Inceoglu, Thomas, Chu, Plans, & Gerbasi, 2018). Franke, Felfe, and Pundt (2014) argued that researchers should increasingly study effects of specific health-related leader behaviours on employee health, because a predictor of similar scope provides clearer results than a more general predictor. For example, Kranabetter and Niessen (2016) investigate how managers deal with exhausted employees and compare these behaviours with more general leadership styles.

In this study, we integrate theories on social information processing (Salancik & Pfeffer, 1978) and social learning (Bandura, 1971) with the allostatic load hypothesis (McEwen, 1998) to examine whether a specific form of leader behaviour, leader presenteeism, predicts employee sick leave indirectly through employee presenteeism. Sick leave refers to periods of time and the number of days employees are absent from work due to their state of health (Darr & Johns, 2008). Social learning is the acquisition of new behaviours through direct experience or by observing the behaviour of role models (Bandura, 1971). We argue that employees use leader presenteeism as a behavioural cue and tend to copy this behaviour. The allostatic load hypothesis postulates that allostatic load (i.e. a wear and tear on the body, for instance through frequent presenteeism) causes cumulative psychophysiological strain and consequently physical and mental disease (McEwen, 1998, 2004). Thus, presenteeism may result in a decline of employee health due to inadequate recovery, which may manifest in a greater tendency to call in sick.

Following the European stream of research, we define presenteeism as the phenomenon of working while being ill (Johns, 2010). In contrast, a second line of research that was mainly developed in the United States defines presenteeism in terms of loss of productivity at work due to health problems (Johns, 2010). The advantage of the former definition is that it distinguishes presenteeism from its causes or consequences and, therefore, presenteeism can be examined without being confounded with its potential antecedents and outcomes (Johns, 2010).

To test our assumptions on the effects of leader presenteeism, we surveyed direct supervisors, because we wanted to assure a small distance between leaders as role models and their employees, such that health-related attitudes and behaviours can be observed and, potentially, copied. Direct supervisors monitor and regulate employees' performance, provide feedback, coaching, and support and typically are the most immediate judge of employee behaviour (Mayer, Aquino, Greenbaum, & Kuenzi, 2012).

We aim to contribute to the occupational health psychology literature in three ways. First, our study contributes to a better understanding of the processes underlying the effects of a specific form of leader behaviour, presenteeism, on employee sick leave. Second, the theoretical integration of knowledge from social and health psychology

provides a promising conceptual framework for future research on long-term effects of leader behaviour on employee outcomes. Finally, our results can also provide important insights for practitioners in terms of leadership development and attendance policies.

Leaders as role models for presenteeism

Leaders can impact employee health through different pathways (Wegge, Shemla, & Haslam, 2014). Person-focused action entails that leaders affect employee health directly through their behaviour (e.g. yelling after an error occurred). By contrast, system-focused action means that leaders affect all of their employees by creating or changing the work environment (e.g. through work design). A third potential pathway is role modelling. Leader (health) behaviour can serve as a model that has an impact on employee (health) behaviour given that employees typically perceive their leaders as individuals who set standards for acceptable and unacceptable behaviours in the workplace (Kranabetter & Niessen, 2017; Wegge et al., 2014). Research has indeed found relationships between leadership (e.g. transformational leadership) and employee strain and well-being (Arnold, 2017; Montano, Reeske, Franke, & Hüffmeier, 2017), job satisfaction and sick leave (Kuoppala, Lamminpää, Liira, & Vainio, 2008), as well as physical health (Kelloway & Barling, 2010). Furthermore, leader support and high-quality leadership, that is, leaders' capability to encourage participation, provide feedback, plan, and organise tasks, are negatively related to presenteeism (Lohaus & Habermann, 2019; Miraglia & Johns, 2016). In contrast, poor leadership (Vänni, Neupane, & Nygård, 2017) and supervisory pressure to be present at the workplace when being ill (Dietz & Scheel, 2017) are positively related to productivity loss due to employee illness and presenteeism.

The phenomenon that leader behaviour can be passed on to employees is known as "trickle-down effect" (Masterson, 2001). This effect has been shown for different leadership styles (Wo, Schminke, & Ambrose, 2019). Researchers have argued that social learning processes may explain employees' emulation of leader behaviours (Mayer et al., 2012). For instance, safety priorities of CEOs can influence employees' injuries via top management's and supervisory perceptions of safety climate and supervisory support for safety (Tucker, Ogunfowora, & Ehr, 2016). Such trickle-down effects can be distinguished from cross-over effects, which describe the transmission of affective states in social relationships (e.g. Bolger, DeLongis, Kessler, & Schilling, 1989), whereas trickle down-effects involve copying behaviour.

We argue that leader presenteeism increases the risk of employee presenteeism through leaders' role-modelling. According to social information processing theory (Salancik & Pfeffer, 1978), individuals adapt their attitudes and behaviour to the social context. This social context provides cues about expectations and norms regarding people's attitudes and behaviour, which they use to construct and interpret events. Sources of such cues include observations, behavioural experience, and other people's comments. Indeed, shared attitudes and working conditions within teams seem to influence presenteeism (Ruhle & Süß, 2019). For example, shared concerns about health can decrease presenteeism within teams (Schulz, Zacher, & Lippke, 2017). In addition to colleagues, leaders are an important source of social information (Kraus, Ahearne, Lam, & Wieseke, 2012), as they have a unique position in the work environment (Griffin, 1983), and play a key role in the daily activities of employees (Priesemuth, Schminke, Ambrose, & Folger,

2014). Leaders can influence employees' attitudes and behaviour directly through defining and providing prescriptive norms about appropriate attitudes and behaviour and indirectly by expressing how they think, feel, and work (descriptive norms; Kraus et al., 2012). Indeed, employees emulate leaders' behaviour, independent of its functionality, for example, by adapting to supervisors' absence frequency (Løkke Nielsen, 2008).

To understand the underlying mechanisms of these effects, it is necessary to integrate further theoretical reasoning about the transmission of behaviours. A well-established theory in research on trickle-down effects is social learning theory (Bandura, 1971), which argues that employees may learn that it is appropriate to work while ill by observing their leaders' behaviour. Employees are able to notice leaders' presenteeism, because humans are highly vigilant for perceptible cues of possible infection (Neuberg, Kenrick, & Schaller, 2011). Even though the antecedents of health problems are not always visible, they can cause a wide range of changes in physical appearance (e.g. skin lesions) and unusual, non-normative behaviour (e.g. blowing one's nose; Kurzban & Leary, 2001). Thus, given regular, personal interactions between leaders and employees, leaders' presenteeism should be noticeable for their employees. Indeed, employees report that they recognise leaders' presenteeism and that leaders are seen as strong role models who shape individuals' views (Ruhle & Süß, 2019). Furthermore, employees might be specifically motivated to observe leader behaviour, because leaders are naturally more informed to support their decision-making process and, thus, employees could effectively reduce their lack of organisational knowledge (e.g. about informal attendance expectations).

Social learning theory proposes that employees have to value the observed behaviour, with the value of a behaviour arising from its (expected) consequences (Bandura, 1971). Presenteeism can be detrimental for ones' health and productivity (Lohaus & Habermann, 2019; Miraglia & Johns, 2016). However, there is a growing body of literature discussing positive consequences such as distraction from health problems (Lohaus & Habermann, 2019) or others seeing one's presenteeism as a form of organisational citizenship behaviour (Karanika-Murray & Biron, 2019). Additionally, there is a dependence between leaders and employees, which may be a reason for effective social learning of potential detrimental leader behaviours (Berscheid, Graziano, Monson, & Dermer, 1976). Employees depend on their supervisors, for instance, due to leaders' power over working conditions, resources, and sanctions (Bandura, 1986).

In summary, we argue that employees notice leader presenteeism and consider the emulsion of this behaviour as potentially beneficial. Leaders are significant role models for employees, such that their level of presenteeism functions as a behavioural cue, which shapes employees presenteeism through social learning.

Hypothesis 1: Leader presenteeism has a positive effect on employee presenteeism.

Impact of presenteeism on sick leave

Based on the allostatic load hypothesis (Ganster & Rosen, 2013; McEwen, 1998), we expect a positive effect of employee presenteeism on subsequent employee sick leave. This hypothesis postulates that stressful life events lead to the activation of various physiological systems (e.g. cardiovascular) to maintain homeostasis. In the short run, these

adaptation processes (allostasis) protect the body and are not harmful. However, if these processes are triggered too frequently or over a long period of time, secondary mediators (e.g. metabolic system) are activated, which are key risk factors for mental and physical disease. Continuation of dysregulation leads to allostatic overload characterised by disease endpoints (e.g. depression; Ganster & Rosen, 2013). We argue that frequent presenteeism can lead to allostatic overload characterised by poor health status and consequently employee sick leave.

Presenteeism has been shown to be positively related to emotional exhaustion, depersonalisation, and the risk of depression, as well as negatively related to job satisfaction via work engagement (Baeriswyl, Krause, Elfering, & Berset, 2017; Karanika-Murray, Pontes, Griffiths, & Biron, 2015; Lu, Lin, & Cooper, 2013). These intensifying effects of presenteeism for an already poor health status can be interpreted as results of cumulative psychophysiological strain. Without adequate recovery, adaptation processes may fail to maintain performance and the psychophysiological system collapses, which ultimately leads to a higher risk of sick leave. Nevertheless, there might be also positive consequences such as distraction from health problems (e.g. Karanika-Murray & Biron, 2019). In addition, there are mixed results regarding the association between presenteeism and job satisfaction (Miraglia & Johns, 2016). Presenteeism may decrease motivational factors such as job satisfaction, but employees who are satisfied with and committed to their work also seem to show more presenteeism (Hansen & Andersen, 2008).

To assess absence from work, time lost (e.g. the total amount of days absent from work due to sickness) and frequency (e.g. spells of absence due to sickness) measures are commonly used (Johns & Al Hajj, 2016). For example, an absence of five days in the last year (time lost score of 5) could be associated with a frequency ranging from 1 (*5 days in a row absent*) to 5 (*5 single cases of absence*). A long-standing methodological idea is that frequent absence of short duration is a reflection of a lack of diligence and a withdrawal from work and therefore, can be seen as voluntary behaviour (Martocchio, 1989; Steers & Rhodes, 1978). Contrary, rare absence of long duration could approximate actual ill health and therefore, may reflect involuntary absence as genuine sickness is beyond the control of the employee. While this voluntariness distinction is frequently considered to justify measurement choice (e.g. Duff, Podolsky, Biron, & Chan, 2015; Magee, Gordon, Robinson, Caputi, & Oades, 2017), meta-analyses have cast doubt on the criterion-related validity of the time lost-frequency distinction and recommend to use both measures without making undue attributions about voluntariness (Johns & Al Hajj, 2016). We argue that the assessment of both measures rather than one can provide additional information about the nature of the potential effect of presenteeism on sick leave. Short- and long-term sick leave may go along with different problems in terms of replacements and rehabilitation. In this regard, and following the literature on sick leave, we measure both indicators in our study.

Employees working often while being ill have more subsequent sick leave days and a higher average of sick leave days per sick leave spell, even after controlling for baseline levels of health (Gustafsson & Marklund, 2011; Taloyan et al., 2012). Above all, presenteeism on more than five occasions during the baseline year increases the risk of sick leave of more than 30 days per year (Bergström, Bodin, Hagberg, Aronsson, & Josephson, 2009). These long-term health effects of presenteeism can be shown for time periods of 12 months up

to 3 years (Bergström et al., 2009; Gustafsson & Marklund, 2011). In sum, we expect a positive lagged effect of presenteeism on sick leave days as well as sick leave spells.

Hypothesis 2: Employee presenteeism has a positive effect on (a) employee sick leave spells, and (b) employee sick leave days.

Indirect effect of leader presenteeism on employee sick leave

As outlined so far, we expect leader presenteeism to be related to employee presenteeism due to role modelling as proposed by social learning theory (Bandura, 1986). Based on the allostatic load hypothesis (McEwen, 1998), we further expect that employees, who emulate presenteeism in cases of illness, may have less opportunities to recover, which can result in cumulative psychophysiological strain, worse health (McEwen, 1998, 2004), and more sick leave (e.g. Taloyan et al., 2012). In sum, we assume that leader presenteeism has a positive indirect effect on employee sick leave through employee presenteeism.

Hypothesis 3: Leader presenteeism has positive indirect effects on (a) employee sick leave spells, and (b) employee sick leave days through employee presenteeism.

Method

Procedure

The data reported in this manuscript were collected as part of a larger research project on health-promoting leadership (Rigotti et al., 2014). Results from the data collection have been reported in separate manuscripts (previous studies based on this dataset are summarised in Table S1 in the online supplemental material at https://osf.io/rd93m/?view_only=ade293fb48d0444b9b6e1298d1287cf8). The variables used in the current manuscript have no overlap with the variables used in the other manuscripts.

We contacted human resource departments and executive management teams of organisations located in Germany in different industries, such as facility management, banking, auditing, education, and social services. Participants within these industries were selected based on their job description. All jobs were characterised by customer orientation, high service demands, and regular personal interaction between employees and leaders within teams. Whereas the former two criteria were chosen to meet goals of the larger research project (i.e. focus on service jobs), the latter criterion constitutes an important requirement for this study. Leaders in this study were the direct supervisors of the participating employees and, as such, employees were able to interact with leaders and observe leaders' behaviour on a regular basis.

We ensured the confidential and anonymous treatment of data and involved employee representatives, who gave their approval, in the entire process. Participants were able to choose between online or paper-pencil questionnaires at three points in time with time lags of 14 month between Time 1 (T1) and Time 2 (T2) and 8 months between T2 and Time 3 (T3). Thus, the full duration of the study (i.e. time lag between Time 1 and Time 3) was 22 months. The time lags between measurement points were chosen for practical and funding-related reasons. Based on the availability of time, personnel, and financial resources for the research project, it was decided to include a time lag of slightly

more than one year (i.e. 14 months) between the first two measurement waves (i.e. T1 and T2), as many longitudinal studies follow such a yearly data collection rhythm. Furthermore, it was decided to make use of a shorter follow-up survey at T3 (i.e. after another 8 months) to complete the project within the remaining time and with the still available personnel and financial resources. While we attempted to follow “typical,” that is, widely-adopted rhythms of data collection in longitudinal survey panels (i.e. approximately one year, approximately half a year) with our design, it is also important to note that research so far provides little guidance concerning optimal time lags in this research area, neither for the link between leaders’ behaviour and employees’ reactions, nor for the link of presenteeism with sick leave. All participants received an individualised code that allowed us to match the responses across measurement waves.

A few teams took part in an occupational health promotion training between T1 and T2 (12 teams with 132 members). This intervention was not the focus of the present study. The aim of the intervention was to develop more rewarding and health-promoting leadership behaviour and to improve working methods at the team level (work redesign). Thus, indirect effects of potential improvements in leader behaviour on employee well-being and health, through a better team climate and more positive interactions between the leaders and employees, were examined (Rigotti et al., 2014). To consider potential effects of the intervention on the results of the present study, we will report additional analyses.

Participants

Data in the first measurement wave (T1) came from 203 teams, including responses of 150 leaders, and 1,309 employees. When matching the responses over the three waves and teams, we excluded (a) participants who changed their role (i.e. to a leadership position), (b) teams whose leaders changed during the study period, (c) leaders who did not provide information about presenteeism at T1, (d) teams including only the leader, and/or (e) individuals who changed teams. One person was excluded, because of (f) a not plausible declaration of 180 sick leave days in half a year.

The final sample included reports from 127 leaders (56.7% women), whose ages ranged from 29 to 64 years ($M = 44.75$, $SD = 8.31$) and their 787 employees (78.4% women), whose ages ranged from 18 to 64 years ($M = 40.07$, $SD = 10.52$) at T1. Due to dropout between the measurement points and exclusion of participants not fulfilling our inclusion criteria, the sample included fewer reports at T2 (88 leaders, 773 employees) and T3 (85 leaders, 664 employees). The sample used in the analysis included longitudinal data of 74 leaders and 412 employees responding at all three time points. The attrition rates between T1 and T2 were 22.05% for leaders and 25.79% for employees, and between T2 and T3 they were 15.91% for leaders and 29.37% for employees. Detailed information on attrition and dropout analyses can be seen in the online supplemental material (Table S2). On average, a team consisted of 8.52 ($SD = 5.77$) participating members. Employees had been working with their leader for 3.69 years ($SD = 3.58$). Participants worked mainly in the private sector (> 70.0%).

We used independent sample *t*-tests and Mann–Whitney *U*-tests to compare individuals who participated at both T1 and T2 with participants who participated at T1 only in the T1 variables. There were no differences between the two groups except that employees participating at both T1 and T2 were somewhat older and worked longer with their

current leader than participants who participated at T1 but not at T2. Furthermore, we compared T2 participants who also participated at T3 with T2 participants who did not participate at T3 in the T2 variables. There were no differences between the two groups except that employees participating at both T2 and T3 were somewhat younger compared to those participants who participated at T2 but not at T3. Also, among the employees and leaders participating at T2 and T3 there was a higher percentage of women compared to those participants who participated at T2 but not at T3. Detailed statistics can be seen in the supplemental material (Table S3).

Measures

Presenteeism

We measured self-reported leader presenteeism at T1 and self-reported employee presenteeism at T1 and T2. As most studies on presenteeism (Lohaus & Habermann, 2019), we measured presenteeism with a single item by Guest, Isaksson, and Witte (2010) translated to German: “During the past 6 months, how often have you gone to work despite feeling that you really should have stayed away due to your state of health?” Research shows that single items tapping homogeneous constructs can have high reliability and validity (Fisher, Matthews, & Gibbons, 2016). The 6-months time frame was chosen over the common time frame of 12 months to minimize recall problems (Johns, 2010). Participants responded using a 5-point scale (e.g. Aronsson, Gustafsson, & Dallner, 2000; Lu et al., 2013): 1 (*never*), 2 (*once*), 3 (*2-3 times*), 4 (*4-5 times*), 5 (*more than 5 times*).

Sick leave

Sick leave was assessed through employee self-reports at T1 and T3. We used two single items by Guest and colleagues (2010) and the following instruction: “Please answer the following two questions about your sick absence during the past 6 months.” Participants responded to the items “How many times (periods of time) have you been absent from work due to your state of health?” and “How many days have you been absent from work due to your state of health?” Responses for sick leave spells ranged from zero to 60 times at T1 and from never to 14 times at T3. Regarding sick leave days, responses ranged from zero to 126 days at T1 and from zero to 60 days at T3. Both measures have only moderate associations of $r = .42$ ($p < .001$) at T1 and $r = .56$ ($p < .001$) at T3, supporting the inclusion of both measures as two distinct outcomes in our analyses.

Control variables

Meta-analyses show negative effects of age and positive effects of sex (proportion of women) on presenteeism and sick leave (Johns & Al Hajj, 2016; Miraglia & Johns, 2016). As a relation between presenteeism and sick leave could also be explained by aging processes or different proportions of women over the measurement waves, we assessed and controlled for self-reports of employee age (in years) and sex (0 = *female*, 1 = *male*) at T1.

As the perception of a valued behaviour of a role model is a precondition for social learning (Bandura, 1971), we considered employee tenure with their leader in years, as employees with a low tenure with their leader may have less opportunities to recognise

leader presenteeism. Furthermore, there are meta-analytical relationships of tenure with presenteeism and sick leave (Johns & Al Hajj, 2016; Miraglia & Johns, 2016).

Shared working conditions may influence the strain and coping strategies of both leaders and employees within the same work environment (Westman, 2001). Thus, we included workload and job autonomy aggregated to the team-level as two established predictors of presenteeism and sick leave (Miraglia & Johns, 2016) and important variables within occupational stress models (e.g. Schaufeli & Taris, 2014). Workload has a positive, and job autonomy a negative, relationship with presenteeism and sick leave (Miraglia & Johns, 2016). As shared environment, different levels of workload and job autonomy between the teams could also explain an effect of leader presenteeism on employee presenteeism. Thus, leaders and employees may show the same coping strategies in a case of illness independent of role modelling processes. The intra-class correlation coefficients justified the mean aggregation to the team level (ICC; LeBreton & Senter, 2008): ICC(1) represents the proportion of total variance that can be explained by team membership (Bliese, 2000). ICC(1)s indicate medium to large effects of team membership on workload, $ICC(1) = .16$, $F(124, 660) = 2.64$, $p < .001$, and job autonomy, $ICC(1) = .18$, $F(124, 658) = 2.86$, $p < .001$. ICC(2)s indicate fair reliability of autonomy, $ICC(2) = .65$, and workload, $ICC(2) = .62$.

Workload was measured with a 5-item scale from Spector and Jex (1998). An example item is “How often does your job require you to work very hard?” On a 5-point scale ranging from 1 (*very seldom or never*) to 5 (*very often or always*), participants indicated how often the described demand takes place. The reliability of the scale was good (Cronbach’s $\alpha = .83$).

Job autonomy was measured with a 4-item scale from Guest and colleagues (2010). Participants responded on the same 5-point scale as for workload. An example item is “I can vary how I do my work.” The scale had an acceptable reliability of Cronbach’s $\alpha = .74$.

Additionally, we included *self-reported general health* at T1 as a control variable at the individual level, as health is negatively related to both sick leave (Johns & Al Hajj, 2016) and presenteeism (Miraglia & Johns, 2016). Thus, health could explain a positive association between presenteeism and sick leave. For example, an employee with a decrease in her/his general health status at T1 may show more presenteeism at T2 and more sick leave at T3 independent of their leaders’ presenteeism. General health was measured with one item from the Copenhagen Psycho-Social Questionnaire (Pejtersen, Kristensen, Borg, & Bjorner, 2010; “In general, how would you say your health is?”) on a 5-point response scale ranging from 1 (*poor*) to 5 (*excellent*). Membership to the intervention group was controlled for with a binary variable (0 = *intervention group*, 1 = *non-intervention group*).

Statistical analyses

We tested our hypotheses using the Mplus statistical package version 7.4 (Muthén & Muthén, 1998-2015). Our data had a nested structure, that is, employees (Level 1) nested within teams (Level 2). Thus, we examined whether a multilevel model is justified given our data. For this purpose, we calculated ICC(1) values (LeBreton & Senter, 2008) which indicate small to medium effects of team membership on employee presenteeism at T2, $ICC(1) = .04$, $F(114, 612) = 1.37$, $p = .011$, and sick leave days at T3, $ICC(1) = .05$, $F(109, 497) = 1.38$, $p = .011$. The univariate ANOVA for sick leave

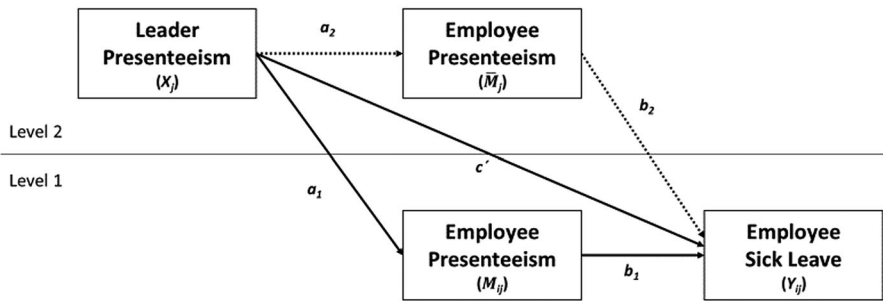


Figure 1. Design of the 2-2-1 Model with cross and unique cluster-level mediation in solid and dotted lines, respectively. X_j represents leader presenteeism for a given team j , M_{ij} and Y_{ij} represent employee presenteeism and sick leave, respectively, for employee i in cluster j , \bar{M}_j represents the team aggregate of employee presenteeism. The a_1 - and a_2 -path are assumed to be equal in this model.

spells at T3 was not significant ($F(107, 457) = 1.26, p = .060$) indicating no substantial variation of sick leave spells between the teams, $ICC(1) = .03$. However, given the effects of team membership on presenteeism and sick leave days of this study, multilevel analysis is the appropriate way to analyse our data (Raudenbush & Bryk, 2002).

To test our hypotheses, we specified a cross cluster-level mediation model with a 2-1-1 design (Figure 1), which examined the impact of a Level 2 variable on a Level 1 mediator, which in turn is related to a Level 1 outcome (Pituch & Stapleton, 2012). This model has a huge power advantage over the cluster-level only approach recommended by Preacher, Zyphur, and Zhang (2010). Furthermore, this model assumes the a_1 - and a_2 -path to be equal and allows differentiating between the within-team indirect effect (ab_1) and the unique between-team indirect effect (contextual effect; ab_2 ; Pituch & Stapleton, 2012). We were specifically interested in the within-team indirect effect (cross cluster-level mediation), because it reflected our theoretical model that specifies that leader presenteeism has an impact on the absolute values of sick leave of a person via the absolute values of presenteeism. Thus, our mediator reflects an individual variable with an absolute scale level rather than a team-level variable with a scale representing the relative standing of an employee within a team. For the latter case, the between-team indirect effect would be interesting. Although only the within-team indirect effect is relevant for our research question, we will report both indirect effects for transparency.

Our model specified all variables that were aggregated or measured at the team-level as between-team variables (Level 2). These variables were leader presenteeism, intervention group, as well as workload and job autonomy of the team. To separate the within-team indirect effect and the unique between-team indirect effect, it was necessary to also add the team aggregate of employee presenteeism at T2 (\bar{M}_{ij}) as a between-team variable. Variables measured at the employee-level were specified as within-team variables (Level 1), which were employee presenteeism at T1 and T2 (M_{ij}), sick leave at T1 and T3 (Y_{ij}), and the control variables age, sex, tenure with leader, and general health (see Figure 1).

Prior to the analyses, all variables at Level 2 except for the dichotomous variable intervention group were grand mean centred (Aiken & West, 1991). We also used the grand mean centring approach for all of our Level 1 variables except for sex, following the recommendations of Enders and Tofghi (2007) for research questions that focus on a Level 2

predictor. Thus, we assess the effect of our Level 2 variable (leader presenteeism), controlling for individual differences on Level 1 variables (i.e. cross cluster-level effect on employee presenteeism). As our outcome variables were a mix of ordinal and continuous manifest indicator variables and, additionally, were not normally distributed we used a robust weighted least squares mean and variance adjusted (WLSMV) estimator with full information data treatment in Mplus (Muthén & Muthén, 1998-2015; Muthén, Du Toit, & Spisic, 1997). This estimator is often used for such a combination of different measurement scales and issues of non-normality (e.g. Frone, 2015; Kinnunen, Feldt, Mauno, & Rantanen, 2010; Nielsen, Skogstad, Gjerstad, & Einarsen, 2019). The Mplus syntax is provided in the online supplemental material.

Results

Descriptives and correlations between all study variables are presented in Table 1. The correlation between leader presenteeism at T1 and employee presenteeism at T2 aggregated to the team-level was significant ($r = .25, p < .001$). At the employee-level, the mediator variable employee presenteeism at T2 was positively related to the outcome variables sick leave days ($r = .23, p < .001$) and spells ($r = .20, p < .001$) at T3. No correlation was found between membership to the intervention group and employee presenteeism at T2, or sick leave at T3.

Results of the multilevel path model

To test our hypotheses, we ran an overall single multilevel path model. The model showed a good fit to the data ($X^2 = 208.86, df = 79, p < .001, CFI = .90, RMSEA = .04$). The results from the path model can be found in Table 2 and Figure 2. As hypothesised, leader presenteeism at T1 had a positive lagged effect on employee presenteeism at T2 ($\gamma = .25, p = .003, 95\% \text{ CI } [0.08, 0.42]$). Thus, Hypothesis 1 was supported.

None of the control variables at T1 had an effect on sick leave days and spells at T3 except for health. At the within-team level, the hypothesised positive lagged effects of employee presenteeism at T2 on employee sick leave spells ($\gamma = .07, p = .009, 95\% \text{ CI } [0.02, 0.13]$) and days ($\gamma = .21, p < .001, 95\% \text{ CI } [0.13, 0.28]$) at T3 were significant (controlling for the same variables). These findings support Hypothesis 2. The within-team indirect effects of leader presenteeism on employee sick leave spells ($\gamma = 0.01, p = .058, 95\% \text{ CI } [0.00, 0.02]$) and days ($\gamma = 0.21, p = .012, 95\% \text{ CI } [0.05, 0.38]$) were also significant, thus supporting Hypothesis 3.

Additionally, we found positive and significant effects of employee presenteeism at T2 on employee sick leave spells ($\gamma = .54, p = .034, 95\% \text{ CI } [0.04, 1.04]$) and days ($\gamma = .48, p = .010, 95\% \text{ CI } [0.12, 0.84]$) at T3 at the between-team level. However, there were no between-team indirect effects of leader presenteeism on employee sick leave spells ($\gamma = 0.04, p = .080, 95\% \text{ CI } [-0.00, 0.08]$) and days ($\gamma = 0.24, p = .060, 95\% \text{ CI } [-0.01, 0.49]$).

Sensitivity analyses

A few teams took part in an occupational health promotion training between T1 and T2 (12 teams with 132 members). Thus, we examined whether there was a change in leader

Table 1. Descriptive statistics, reliabilities, and correlations between the study variables.

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Age	40.07	10.52		.03	.00	.16	-.08	-.05	-.04	.04	-.09	.01	.13	.14	-.11	.00
2 Sex ^a	0.22	0.41	-.14**		.09	.04	-.14	.20*	.40**	-.10	-.21*	-.24**	-.11	-.27**	-.29**	-.18
3 Non-Intervention Group ^b	0.88	0.33	.03	.02		-.10	-.06	-.19*	.18*	-.10	-.10	-.08	-.17	-.16	.05	-.04
4 Leader Tenure	3.69	3.58	.26**	-.01	-.11**		.04	.11	.04	.09	-.16	-.15	.25**	.02	-.12	-.09
5 Workload	3.55	0.68	.07*	-.02	-.07*	.01	(.83)	-.26**	-.45**	.17	.44**	.24*	.04	.21*	.12	.24*
6 Job Autonomy	3.11	0.71	.00	.04	-.12**	.10*	-.18**	(.74)	.25**	.03	-.20*	-.16	.12	-.12	-.15	-.15
7 General Health	3.14	0.82	-.13**	.15**	.09*	.00	-.31**	.20**		-.28**	-.63**	-.42**	-.08	-.39**	-.35**	-.34**
8 Leader Presenteeism (T1)	2.71	1.25									.18*	.28**	.05	.05	.17	.27**
9 Employee Presenteeism (T1)	2.77	1.23	.03	-.09*	-.06	-.02	.32**	-.14**	-.58**	.11**		.53**	.06	.27**	.30**	.38**
10 Employee Presenteeism (T2)	2.69	1.27	.04	-.11**	-.02	-.06	.23**	-.13**	-.48**	.10**	.56**		-.15	.03	.31**	.32**
11 Sick Leave Spells (T1)	1.95	4.56	.04	.00	-.12**	.09*	.08	.04	-.19**	-.02	.22**	.11*		.48**	.27**	.13
12 Sick Leave Days (T1)	6.77	13.07	.14**	-.06	-.03	-.01	.10*	-.04	-.25**	.01	.13**	.13*	.42**		.13	.02
13 Sick Leave Spells (T3)	1.12	1.41	-.05	-.09*	.04	-.10	.11*	-.05	-.22**	.02	.26**	.20**	.25**	.16**		.72**
14 Sick Leave Days (T3)	6.53	9.61	.05	-.09*	-.01	-.06	.04	-.06	-.21**	.10*	.21**	.23**	.17**	.14**	.56**	

Note. *N* = 1,085 employees nested in 127 teams; Reliabilities are reported in parentheses along the diagonal; ^a 0 = female. 1 = male. ^b 0 = intervention group. 1 = non-intervention group; Standardised correlations on the within-level (*N* = 1,085) below the diagonal and on the between-level (*N* = 127 teams) above the diagonal; * *p* < .05. ** *p* < .01.

Table 2. Results of Multilevel Path Analysis.

	γ (SE)		
Stabilities			
Employee Presenteeism (T1) → Employee Presenteeism (T2)			.44 (.04)***
Sick Leave Spells (T1) → Sick Leave Spells (T3)			.32 (.04)***
Sick Leave Days (T1) → Sick Leave Days (T3)			.15 (.04)**
Controls			
	Employee Presenteeism T2	Sick Leave Spells T3	Sick Leave Days T3
Age	.03 (.05)	-.10 (.07)	-.01 (.05)
Sex ^a	-.06 (.04)	-.08 (.05)	-.03 (.06)
Non-Intervention Group ^b	-.10 (.17)	.24 (.27)	.01 (.16)
Leader Tenure	-.08 (.05)	-.04 (.09)	.02 (.04)
Workload	.16 (.10)	-.05 (.19)	.18 (.20)
Job Autonomy	-.14 (.08)	-.11 (.11)	-.05 (.12)
General Health	-.21 (.05)***	-.15 (.05)**	-.09 (.05)
a-path^c			
Leader Presenteeism (T1) → Employee Presenteeism (T2)			.25 (.09)**
b₁-paths			
Employee Presenteeism (T2) → Sick Leave Spells (T3)			.07 (.03)**
Employee Presenteeism (T2) → Sick Leave Days (T3)			.21 (.04)***
b₂-paths			
Employee Presenteeism (T2) → Sick Leave Spells (T3)			.54 (.26)*
Employee Presenteeism (T2) → Sick Leave Days (T3)			.48 (.19)*
Within-Indirect Effects^d			
Leader Presenteeism (T1) → Employee Presenteeism (T2) → Sick Leave Spells (T3)			0.01 (.01)
Leader Presenteeism (T1) → Employee Presenteeism (T2) → Sick Leave Days (T3)			0.21 (.09)*
Between-Indirect Effects^d (Contextual Effects)			
Leader Presenteeism (T1) → Employee Presenteeism (T2) → Sick Leave Spells (T3)			0.04 (.02)
Leader Presenteeism (T1) → Employee Presenteeism (T2) → Sick Leave Days (T3)			0.24 (.13)
Direct Effects			
Leader Presenteeism (T1) → Sick Leave Spells (T3)			-.01 (.19)
Leader Presenteeism (T1) → Sick Leave Days (T3)			.25 (.15)
c'-paths^d (Total Effects)			
Leader Presenteeism (T1) → Sick Leave Spells (T3)			0.05 (.06)
Leader Presenteeism (T1) → Sick Leave Days (T3)			0.55 (.31)

Note. *N* = 1,085 employees nested in 127 teams; ^a 0 = female, 1 = male; ^b 0 = intervention group, 1 = non-intervention group; ^c The *a*₁- and *a*₂-path from Figure 1 are assumed to be equal in this model; standardised estimates, except for indirect, and total effects; ^d unstandardised estimates. For reasons of parsimony, correlations between T1 variables are not reported (but were included in the model). * *p* < .05, ** *p* < .01, *** *p* < .001

presenteeism between T1 and T2 in the intervention but not in the non-intervention group. Dependent sample *t*-tests showed that there were no differences between leader presenteeism at T1 and T2 in both the intervention and the non-intervention group (see online supplemental material for details). Thus, overall leader presenteeism did neither change in the intervention nor in the non-intervention teams between the two time points. We further ran the same overall single multilevel path model without the teams that took part in the intervention. The pattern of results was very similar to the results reported above (see supplemental material for details).

As long-term and short-term sick leave or presenteeism can be caused by different modalities, previous research has excluded long-term cases from the analysis and used different thresholds such as 60 days of sick leave and more (Gerich, 2016). To test whether there are any differences in our results due to cases of long-term sick leave, we

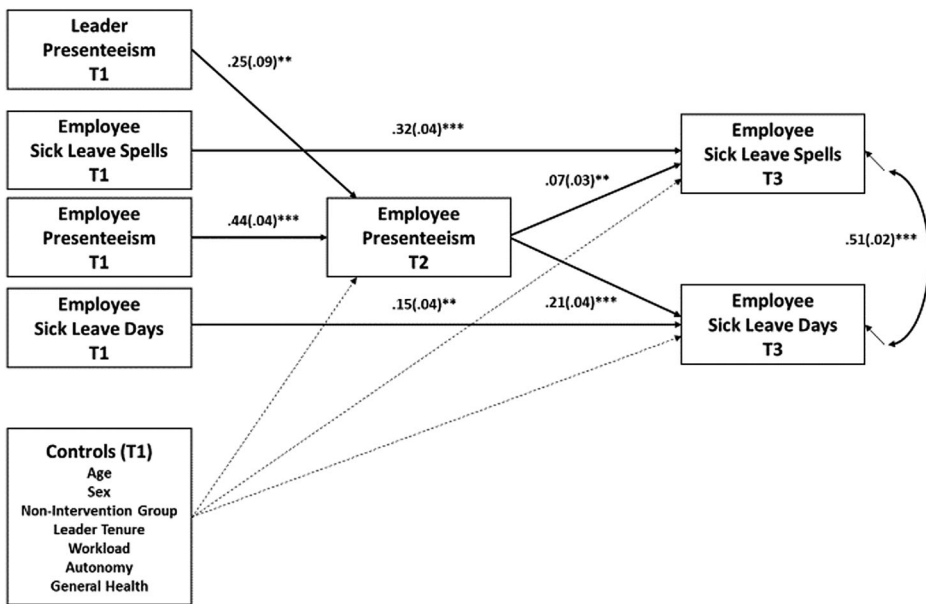


Figure 2. Results from a multilevel path model showing standardised regression coefficients with standard errors in parentheses. For the estimates of the control variables please see Table 2. For reasons of parsimony, correlations between T1 variables are not shown in the figure, and are not reported in Table 2 (but were included in the model).

conducted an additional sensitivity analysis with three subsamples that included only employees, who had less than or equal to 90, 60, or 30 sick leave days (see online supplemental material for details). Sensitivity analysis showed that the direct effect of leader presenteeism on employee presenteeism remained positive and significant for all subsamples. For the subsamples with employees with less than or equal to 90 ($N = 1,082$) and with less than or equal to 60 sick leave days ($N = 1,080$), we found that leader presenteeism had no indirect effect on employee sick leave spells. For the subsample with employees with less than or equal to 30 sick leave days ($N = 1,045$), we found no indirect effects on employee sick leave spells and days.

Discussion

Our results support the assumptions that leader presenteeism is positively related to subsequent employee presenteeism which, in turn, is positively related to subsequent employee sick leave. Thus, leader presenteeism seems to have consequences that go beyond the leader her- or himself. In this regard, we found a positive indirect effect of leader presenteeism on later employee sick leave days and spells through employee presenteeism.

These findings are in line with evidence for employee emulation of different leader behaviours via social learning processes (Mayer et al., 2012) and may reflect a “trickle-down effect” (Masterson, 2001). Employees might use the behavioural cue of their ill leader to adjust their own behaviour. Precondition for this mechanism is employee’s perception of leader’s illness. We surveyed direct supervisors and their employees, who had

regular personal interactions. A large proportion of employees (> 90%) had worked at least for one year with their leader, ensuring regular exchange.

Relationships between leader and employee behaviour might be spurious, due to a shared context (Westman, 2001). We examined this possibility by controlling for important working conditions. However, neither team workload nor job autonomy were related to employee presenteeism, hence they did not confound reported effects. This is surprising with regard to workload, as a meta-analysis found a moderate positive relationship between workload and presenteeism (Miraglia & Johns, 2016). Our finding for autonomy is less surprising, as meta-analytical results show only negligible relations of job autonomy with presenteeism (Miraglia & Johns, 2016). In this regard, it is an interesting question for future research whether there are systematic differences between the effects of working conditions of the individual and working conditions of the team on individual and team presenteeism.

Employee presenteeism had a high stability over a period of 14 months. Thus, previous presenteeism is a good predictor for presenteeism on later occasions. This might be due to its relative stable important person-, work-related, or organisational antecedents such as health, role demands, or absence policies (Lohaus & Habermann, 2019). Despite the high stability of presenteeism, leader presenteeism had an effect on employee presenteeism. Thus, there are certainly multiple factors determining presenteeism, which should be considered in interventions on presenteeism.

Based on the allostatic load hypothesis, the second aim of this study was to examine whether employee presenteeism has an impact on subsequent employee sick leave. Results supported our hypothesis. Employees showing presenteeism had more sick leave days and spells at a later point in time, even after controlling for previous health and working conditions. This is in line with findings of escalating effects of presenteeism on future sick leave days, the average of sick leave days per sick leave spell (Gustafsson & Marklund, 2011; Taloyan et al., 2012), and the risk of sick leave of more than 30 days per year (Bergström et al., 2009). Additionally, research showed that a high frequency of presenteeism is related to future long and short sick leave spells (Janssens, Clays, Clercq, Bacquer, & Braeckman, 2013).

Finally, this study contributes to a better understanding of long-term effects of leader health behaviour, namely presenteeism, on employee health. Employees whose leaders often work while being ill throughout a year have a greater amount of presenteeism days in the following year. Employees' motives to copy their leaders could be of an avoiding (e.g. preventing sanctions) or an approaching nature (e.g. showing commitment; Lu et al., 2013). Due to the greater amount of presenteeism, psychophysiological strain probably cumulates and the health status worsens, which results in more sick leave. However, the frequency of sick leave seems to be less altered. Results of sensitivity analyses suggest that these effects may partly be caused by outliers in the sample, though power restrictions might as well be an alternative explanation (Scherbaum & Ferreter, 2009). Additionally, there was no influence of leader presenteeism on employee sick leave for employees having only a small total amount of sick leave days (< 30) in half a year. Potentially, presenteeism is most detrimental for employees already having a poor health status.

In summary, leaders often showing presenteeism may have to deal with employees who are more frequently but especially longer absent. This effect seems to be explained by

increased employee presenteeism following the leader role model. With these findings, we respond to calls in the literature to take a closer look at mediating processes underlying the links between specific leader behaviours and employee well-being and health (Inceoglu et al., 2018). Further research is needed to uncover the underlying processes and to identify boundary conditions for employee emulation of leader health behaviour and for the impact of presenteeism on sick leave.

Limitations

The following limitations should be taken into account when interpreting our results. Common method bias may have inflated relationships between presenteeism and sick leave. To avoid this problem, future research could also consider external assessment of presenteeism by colleagues or administrative sick leave data in addition to self-report data. Concerning the indirect effect, common method bias should be not of concern due to the use of leaders' and employees' self-reports.

Furthermore, health status as an important control variable when estimating effects on presenteeism was measured with a single item and, therefore, unknown reliability of the measurement may be a limiting factor. Future studies could use an objective measure of health (e.g. diagnoses by a physician). However, the use of such measures is difficult in some countries for legal reasons. Thus, it might be quite an advantage to use a well-established scale. Additionally, presenteeism in the past 6 months was measured as self-report with a single item and participants had to respond on a 5-point scale ranging from 1 (*never*) to 5 (*more than 5 times*). This might cause a bias by over-reporting and false recollection. The response format may also be suboptimal as it has a crude scaling for a low base rate behaviour and conveys information about what is regarded as normal (Lohaus & Habermann, 2019). However, Miraglia and Johns (2016) found a retest reliability of the single item measure of $r = .79$, providing some support for this measure. The shorter recall period of six months (Johns, 2010) compared to the commonly used 12-months' time frame (Miraglia & Johns, 2016) may further reduce recall bias. Future studies may opt to also assess the total amount of presenteeism days (Johns, 2010). As the appropriate time frame to assess presenteeism is still unclear (Ruhle et al., 2019), we recommend to systematically vary time frames and compare the results providing information about the temporal processes underlying presenteeism. Moreover, to minimize the risk of hindsight or self-serving biases when asking employees about their sick leave it would be worthwhile to (also) use the official figures. Furthermore, future studies should ascertain more information about the sick leave episodes. Our measure of sick leave had a very general wording regarding the reasons for employees' absence from work and, therefore, the (indirect) effects might be biased. Absence from work due to employees' state of health may capture acute episodes of illness (e.g. the flu) and repeated cases of longer-lasting illnesses (e.g. migraine). However, in responding to our measure, participants may have also considered other reasons for absence from work such as disability or nonwork-related injuries such as sports injuries, which are unlikely to be related to the health-impairing processes due to presenteeism.

Due to the goals of the larger research project, our sample contained employees from occupations with customer orientation, high service demands, and regular personal interactions between leaders and employees. Thus, the generalizability of our results to other

branches should be examined, for instance to other industries as well as to jobs and occupations with less frequent interactions between leaders and employees. In addition, employees in Germany have strong rights regarding sick leave, including a full compensation of salary during the first six weeks of sick leave to be paid by the employer. This might elevate the felt obligations to go to work even when sick. It would be an interesting avenue of future research to investigate whether employment legislation in different countries might be a contextual moderator for the reported effects (e.g. for a study of country-level moderators of the link between job insecurity and job attitudes, see Debus, Probst, König, & Kleinmann, 2012).

Finally, the time lags of our study were 14 months between T1 and T2 and 8 months between T2 and T3. While we had to apply these time lags for practical reasons, it remains to be examined whether this or other time lags allow for the effect of leader presenteeism on employee sick leave to unfold in an optimal way. Moreover, the time lags led to attrition between the waves. Specifically, we had to deal with attrition rates of 16% to 29%; a level which is common for longitudinal research (see, Brauchli, Schaufeli, Jenny, Füllemann, & Bauer, 2013).

Future research

The agenda for future research is driven by the limitations of this study, as discussed above, as well as by the assumed underlying processes. First, the investigation of mechanisms that link leader (presenteeism) behaviour to employee well-being might be essential to sharpen the concept. Future studies should include employee perceptions of their leader presenteeism along with employee attribution of this behaviour. The transfer from leader to employee may work via observation (role modelling) but could also be a result of leader communication (Mayfield & Mayfield, 2009). For instance, if leaders set the example by communicating that presence at work is a sign of commitment, employees may reconsider their attitudes toward attendance in general and in a case of illness. Also, it remains open to what extent the role of identification with the leader plays a role, as social learning theory suggests that closer identification allows more transfer. In this context, also the reasons of employees to copy their leaders' behaviour could be investigated. Only a few studies have examined motives for presenteeism and operationalisations vary between them (Lohaus & Habermann, 2019). For example, Lu and colleagues (2013) suggest two categories of motives positively related to presenteeism, including approach motives, which refer to the desire to overcome the discomfort by sickness to be a loyal employee as well as avoidance motives, which refer to the pressure to overcome the discomfort due to the fear of damaging consequences of sick leave. In addition, a meta-analysis shows further evidence for such motives as, for example, job satisfaction, affective organisational commitment, work engagement, but also strict absence policies and job insecurity are positively related with presenteeism (Miraglia & Johns, 2016). Thus, future studies should systematize the operationalisation of motives, examine whether there are further motives for presenteeism (e.g. career-related motives), and analyse how such motives influence employees' emulation of leader behaviour. In this regard, it might be worthwhile to analyse, if the link between leader and employee presenteeism and its underlying mechanisms varies with different tenure. For example, newcomers may have more career-related ambitions, but no strong identification with the organisation yet.

Second, examining the role of affective and motivational factors with regard to presenteeism would clarify whether the positive relationship between presenteeism and sick leave mirrors detrimental effects of presenteeism on work motivation over time. In addition, assessing employee attribution of their own presenteeism may shed light on the mediating factors between presenteeism and sick leave. Additional observational data of both, employee and leader presenteeism, as well as objective data on employee but also leader sick leave would further increase the validity of study results and thus create valuable insights.

A third intriguing research avenue focuses on the interplay between leader behaviour and macro-level (e.g. organisational climate and management policies), as well as meso-level (e.g. team cohesion, diversity in teams) factors on the effects of leader presenteeism. For example, strict attendance policies could enhance the effects of leader presenteeism on employees, whereas an organisational safety climate could attenuate them. Also, it remains open how leader presenteeism affects employee health in modern forms of working, such as virtual teams and project-oriented working. Investigating team-level antecedents of presenteeism culture could help us to learn more about the underlying mechanisms.

Practical implications

Leader presenteeism may lead to employee presenteeism and, thus, provides a promising starting point for health-related interventions. If employees' compliance and adaptation of their leader health behaviour produces long-term health consequences over time, organisations should focus on the respective behaviour. A first step might be to sensitise leaders, but also employees, for the negative consequences of presenteeism for both, individuals and the organisation. Of course, this will only be fruitful if the organisational norms and standards align with a non-presenteeism-culture. Thus, in a second step, teams and leaders alike should strive to agree on absence rules and the distribution of responsibilities of sick colleagues. This may, in a third step, include redesigning job tasks and distribute workload of leaders and/or employees in order to minimize the necessity for working while being ill. However, the most obvious practical implication would be to send employees or leaders home whenever they appear to be sick.

Even if these measures seem to be costly at first sight, they may prevent larger losses in the future. In the long run, reduced productivity due to presenteeism and total employee dropout are likely to have economic consequences for the organisation (Hemp, 2004; Iverson, Lewis, Caputi, & Knospe, 2010; Warren et al., 2011; Wieser et al., 2011).

Conclusion

Leader health-related behaviour in the form of presenteeism showed consequences for employee health, over time, and irrespective of shared workload and job autonomy. The effects of leader presenteeism on employee presenteeism and subsequent employee sick leave call for research of the underlying processes (e.g. attribution, motivation). Beside the provision of health promoting work conditions and processes, organisations should be aware of any presenteeism culture and sensitise the staff regarding the negative consequences of both, leader and employee presenteeism.

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