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Healthy Leadership in Turbulent Times: The Effectiveness of Health-Oriented Leadership in Crisis

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Previous research has supported the positive effects of health-oriented leadership (HoL) on follower health. However, effectiveness in times of crisis is unknown. This study examines whether crises weaken or strengthen the positive relationships of health-oriented leadership with follower strain and performance. Effectiveness was tested for (1) follower irritation and performance (extra effort) in smaller crises on the team level with a vignette study (N = 257) and (2) follower exhaustion and performance (task proficiency) during the Covid-19 crisis in a cross-sectional survey study (N = 196). As expected, the results provided evidence for an increase in follower health with higher health-oriented leadership but a decrease in health in crises. The positive relationship between health-oriented leadership and follower health was even stronger in crises. Health-oriented leadership had a positive relationship with job performance in both studies.

Our findings provide initial evidence that health-oriented leadership is particularly important for followers affected by a crisis, and that leaders should display health-oriented leadership in both small-scale and large-scale crises. Findings suggest that health-oriented leadership does not undermine goal achievement but relates positively to performance. More generally, the study contributes to the clarification and deeper understanding of situational contingencies of health-specific leadership concepts.

Introduction

From the beginning of 2020, the Covid-19 pandemic suddenly changed the working situation of employees in many countries (Eurofound, 2020). Health is not only affected by the virus itself, but also work-related changes seem to threaten employees (Luceño-Moreno *et al.*, 2020). In light of increasing risks for employees' stress levels at the workplace during crises such as Covid-19, positive leadership represents an important workplace resource to maintain and improve employee well-being (Nielsen *et al.*, 2017). Recent research has therefore focused on specific health-promoting

leadership behaviours that aim to promote physical and mental health (Franke, Felfe and Pundt, 2014; Jiménez, Winkler and Bregenzer, 2017). The concept of health-oriented leadership emphasizes that leaders affect employee health in multiple ways: (1) directly through their communication and behaviour; (2) indirectly by influencing tasks and working conditions, and (3) as role models (Franke and Felfe, 2011; Franke, Felfe and Pundt, 2014). The concept consists of *Staff Care* (health-promoting employee leadership) and *Self Care* (health-promoting self-leadership) with three sub-facets each: *Value* (e.g. prioritizing health), *Awareness* (e.g. paying attention to health-related

[Correction added on 20 August, after first online publication: The copyright line was changed.]

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warning signals) and *Behaviour* (e.g. reducing demands or providing support; Franke, Felfe and Pundt, 2014).

Existing research supports the positive effects of health-oriented leadership in routine working conditions (Arnold and Rigotti, 2020; Franke, Felfe and Pundt, 2014; Horstmann, 2018; Klug, Felfe and Krick, 2019). However, working conditions can change, so that employees may have to deal with critical events or even full-blown crises such as Covid-19. Crises are threatening situations of high pressure and uncertainty that require immediate action (Bundy and Pfarrer, 2015; Pillai, 1996). Following event systems theory (Morgeson, Mitchell and Liu, 2015), crises can be considered as novel, critical and disruptive events, which can occur on every level of an organization, from individual employees and their teams to the external environment. Whereas smaller-scale team crises can affect employees' work routine, the Covid-19 pandemic poses a prime example of a far-reaching global crisis that affects the whole economy all over the globe. At the same time, the extent to which a global crisis poses a threat and disrupts work routines (i.e. the degree of event strength; Morgeson, Mitchell and Liu, 2015) varies between organizations and employees.

Whether health-oriented leadership is still feasible and effective in these situations remains unknown. On the one hand, a crisis may overshadow the positive effects of health-oriented leadership. Even more, efforts to overcome a crisis and simultaneously foster follower health may constitute contradictory goals. In this case leaders may prioritize resolving the crisis over followers' health. On the other hand, health-oriented leadership may be even more important and effective for the maintenance of follower health than under 'normal' circumstances. In this case, employees are in greater need of support and more receptive to leader influence during crises, so that health-promoting effects may flourish. Supporting this notion, there is already evidence regarding charismatic leadership, which especially unfolds in critical situations (De Hoogh *et al.*, 2004; Waldman, Ramírez and House, 2001), because followers are more willing to accept leaders' influence in extreme situations (Hannah *et al.*, 2009). While health-oriented leadership focuses on health outcomes, it is also important to consider consequences for performance. It is an open question whether promoting follower health may come at the expense of performance,

or whether health-oriented leadership can also increase follower performance by maintaining and promoting health as the most important prerequisite.

The aim of this research is to analyse the effectiveness of health-oriented leadership in terms of employee strain and performance in small-scale and large-scale crises. Generally, crises are difficult to investigate in the vocational context, because they are unforeseeable and their severity depends on context or experience (Bligh, Kohles and Meindl, 2004; Bligh, Kohles and Pillai, 2005). Therefore, in Study 1, we utilized an experimental vignette design with a systematic variation of the context and leadership behaviour to evaluate effects of team-level crises on the effectiveness of health-oriented leadership for health and performance. In Study 2, we conducted a cross-sectional survey during the beginning of the Covid-19 crisis in Germany to further validate our experimental results and compare them with the impact of a macro-level crisis.

The contribution of this research is fivefold. First, from a theoretical perspective, the study contributes to the deeper understanding of situational factors for leadership by investigating the moderating role of crisis on the relationships between health-oriented leadership, strain and performance. Up to now it is unclear whether the effectiveness of health-oriented leadership declines or flourishes in crisis. The study adds to the existing knowledge of moderators by identifying crisis as an amplifier for healthy leadership effects. Identifying moderators contributes to further theory development in the field of healthy leadership, by embedding leadership in a broader conceptual framework. Second, with job performance as an outcome outside the health domain, the study extends the validity of the health-oriented leadership concept as recommended by Rudolph, Murphy and Zacher (2020). Third, from a methodological perspective, the experimental design of Study 1 reduces the risk of confounding factors and allows for causal conclusions, while Study 2 adds external validity and allows generalization into the field. Fourth, the studies cover a range of crises, from smaller-scale crises on the team level to global crises, which strengthens support for a general pattern with regard to moderating the influences of crisis. From a practical perspective, it is important to advise leaders in times of crisis that they should maintain or even strengthen their

efforts to promote health at work, which may also affect followers' performance. Finally, the study contributes to the novel debate on possible effects of the Covid-19 crisis and provides first empirical evidence for management directions (Brammer and Clark, 2020; Budhwar and Cumming, 2020; Rudolph *et al.*, 2020).

Leadership and follower health

Previous research revealed consistent relationships between leadership and employee health. Positive leadership behaviour is related to higher levels of follower health, whereas negative leadership behaviour is related to lower levels of follower health (Schyns and Schilling, 2013; Skakon *et al.*, 2010). Explanatory mechanisms include direct effects of leadership on follower health (Franke and Felfe, 2011), but also indirect influences via working conditions, crossover of stress or role modelling (Arnold *et al.*, 2007; Li *et al.*, 2016; Mawritz *et al.*, 2012).

With regard to follower health, most studies referred to transformational leadership (Franke and Felfe, 2011; Skakon *et al.*, 2010). However, general positive leadership behaviours, such as leader–follower interaction or transformational leadership, may be too vague about the health-specific effects (Franke, Felfe and Pundt, 2014). In order to capture healthy leadership more specifically, health-specific leadership concepts came to the fore (for an overview and critical review, see Rudolph, Murphy and Zacher, 2020). Franke and Felfe (2011) introduced the concept of health-oriented leadership, which differentiates three related components that contribute to follower health: (1) *Leaders' Self Care* (e.g. reducing stressors and using resources), which is an important precondition for (2) *Leaders' Staff Care*, comprising health-promoting attitudes and behaviour towards employees. *Leaders' Self Care* and *Leaders' Staff Care* encourage and promote (3) *Followers' Self Care* (Franke, Felfe and Pundt, 2014). Several studies uncovered that health-specific leadership contributes to employee well-being above and beyond transformational and other generally constructive leadership behaviours (Franke, Felfe and Pundt, 2014; Vincent-Höper and Stein, 2019).

Consequences of health-oriented leadership

Empirical findings support the relevance of health-oriented leadership and its components. In line with the conservation of resources theory (Hobfoll *et al.*, 2018), Staff Care represents an external resource for followers as leaders provide health-promoting working conditions by reducing demands and providing support, which in turn fosters follower health (Franke, Felfe and Pundt, 2014). Employees who perceive more Staff Care report more job resources, fewer stressors and better health (Franke, Felfe and Pundt, 2014). More recent studies have linked health-oriented leadership to reduced burnout and depression (Horstmann, 2018; Santa Maria *et al.*, 2019), irritation and psychosomatic complaints (Klug, Felfe and Krick, 2019; Köppe, Kammerhoff and Schütz, 2018), as well as psychological capital, physical and mental health (Arnold and Rigotti, 2020).

With regard to causality, some of these studies included longitudinal designs (Arnold and Rigotti, 2020; Franke, Felfe and Pundt, 2014; Köppe, Kammerhoff and Schütz, 2018). But interpretation in terms of causality is also limited, because third variables may influence perceptions of leadership and health, and situational influences on Staff Care have not been considered yet. To minimize the influence of third variables and to enable causal conclusions, several authors have called for more experimental studies in leadership research (Antonakis, 2017; Antonakis *et al.*, 2014; Hughes *et al.*, 2018). By testing the effectiveness of health-oriented leadership in an experimental study (Study 1), we aim to systematically control for third variables and provide support for potential causal interpretations. Moreover, to add external validity as recommended (Antonakis, 2017; Rudolph, Murphy and Zacher, 2020) and to transfer results to the field and different types of crisis, we complemented our experimental study with a cross-sectional survey on work-related effects of the Covid-19 crisis (Study 2).

To estimate the relationship between leadership and employee well-being, we focus on Staff Care as the core component of health-oriented behaviour in this study. We used irritation (i.e. cognitive and emotional strain; Mohr, Rigotti and Müller, 2005) and exhaustion (i.e. physical, emotional and cognitive strain; Demerouti *et al.*, 2001) as indicators for the overarching construct of follower strain. Based on theoretical reasoning

that Staff Care represents an external resource for followers and previous findings (Franke, Felfe and Pundt, 2014), we expect the following:

H1a: Staff Care is negatively related to Follower Strain.

Furthermore, the study investigates the relationship between Staff Care and followers' performance. Up to now, it is unclear whether health-oriented leadership promotes health at the expense of performance or simultaneously increases performance. On the one hand, there may be a goal conflict between performance and health. Staff Care may reduce performance in the short term, because health-oriented leaders intend to reduce pressure by reducing workload and supporting followers' recovery. On the other hand, health-oriented leadership serves as a resource that improves working conditions to reduce stressors (i.e. secondary appraisal; Lazarus and Folkman, 1984), which in turn may foster followers' efficiency and increase performance. Meta-analyses provide evidence that constructive leadership relates positively to both health and performance (Montano *et al.*, 2017; Nielsen *et al.*, 2017). Even more, Montano *et al.* (2017) showed that mental health mediated the relationship between leadership and performance, strengthening the argument that performance depends on health and that health and performance are not contradictory goals (Montano *et al.*, 2017). To investigate the relationship of Staff Care with the overarching construct of follower performance, we used extra effort in Study 1 (i.e. additional effort and performance; Felfe, 2006) and task proficiency in Study 2 (i.e. meeting expectations and requirements; Griffin, Neal and Parker, 2007). We postulate the following:

H1b: Staff Care is positively related to Follower Performance.

Effects of crises

Previous literature uncovered crisis as an important antecedent of follower health (Mucci *et al.*, 2016). Crises are threatening or harmful events with high levels of initial uncertainty that occur suddenly with little response time available. Crises interfere with normal operations of organizations and generate negative perceptions among evaluators (Bundy and Pfarrer, 2015; Pillai, 1996).

According to event system theory (Morgeson, Mitchell and Liu, 2015), crises have a significant impact on organizations and the people within them. The strength of a crisis is determined by its novelty, criticality and disruption, and the content and extent of a crisis may differ. Critical and disruptive events can occur at every hierarchical level, for example on the team or project level up to the external environment of an organization. Crises may range from critical situations – such as unexpected problems and high workload within a team – to an extreme crisis such as Covid-19. Due to their sudden occurrence and demanding nature, combined with the immediate need for action, crises can be considered as salient disruptive events. Because of their threatening nature, employees are likely to appraise crises as stressful (Lazarus and Folkman, 1984), which may negatively affect their health. However, employees can differ in their appraisal of a crisis (event strength), depending on their resources. Therefore, crises may affect employees to a varying extent.

In Study 1, we consider crisis in terms of an internal critical situation on the team level. We operationalized crisis in terms of specific critical situations characterized by high uncertainty regarding the fulfilment of goals, time and/or performance pressure, financial and/or personnel risks and the immediate need for action. In Study 2, we refer to the Covid-19 pandemic as an external, macro-level crisis. The Covid-19 crisis is arguably different from smaller team-level crises in its origin, magnitude and quality, because how it affects employees depends on various factors, most notably occupation and sector. Nevertheless, the repercussions of the pandemic in many workplaces share essential features with smaller team crises. The pandemic hit the global economy suddenly, affecting organizations and employees to varying degrees. Many organizations immediately shifted to working from home, struggled with delivery problems, closed factories or reduced working hours and pay. There was and still is, at the time of writing, a high degree of uncertainty regarding the further development of the crisis (Weber *et al.*, 2020). Both smaller team-level crises and the pandemic therefore share uncertainty (e.g. about when organizations can go back to business as usual) and related risks (threatening an important project in the team vs. threatening the whole business or job).

Only a few studies have examined the effects of crises on the team or company level. These

studies mostly have focused on work-related attitudes and performance rather than employee health (Carrington, Combe and Mumford, 2019; De Hoogh *et al.*, 2004; Waldman, Ramírez and House, 2001). In contrast, effects of global crises on health were already investigated in earlier cases; for example, the economic crisis of 2008 has been linked to an increased prevalence of mental disorders (Mucci *et al.*, 2016). For the Covid-19 crisis, negative effects on mental health are expected as well (Altena *et al.*, 2020; Galbraith *et al.*, 2020; Qiu *et al.*, 2020).

Overall, crises elicit a sudden increase in pressure and workload and are characterized by a high degree of uncertainty. Uncertainty and change as core characteristics of crises are powerful stressors in the workplace, with negative consequences for employee health (Greco and Roger, 2003; Lind and van den Bos, 2002; Loretto, Platt and Popham, 2009; Pollard, 2001). Since a crisis represents an uncertain, negative and stressful critical event, we expect a negative relationship with follower health. We hypothesize the following:

H2a: Crisis is positively related to Follower Strain.

Moreover, the relationship between crisis and performance has already been discussed in the literature (Mangena, Tauringana and Chamisa, 2012; Parnell *et al.*, 2012; Witcher and Chau, 2012), identifying crisis as a risk factor for performance (Cullen *et al.*, 2014). In line with the literature showing negative effects of job demands on performance mediated via exhaustion (Bakker, Demerouti and Verbeke, 2004), we expect that stress elicited by a crisis negatively affects performance as well. We expect the following:

H2b: Crisis is negatively related to Follower Performance.

Effectiveness of health-oriented leadership in crises

Health-oriented leadership focuses on protecting employees' well-being by balancing demands and resources and fostering recovery (Franke, Felfe and Pundt, 2014). At first sight, health-oriented leadership thus seems to be at odds with crises, which require immediate action and high effort. Therefore, the question arises of whether health-

oriented leadership is appropriate and effective in these situations.

So far, crisis research in the field of leadership has mostly focused on charismatic leadership and often referred to global crises (Bligh, Kohles and Meindl, 2004; Davis and Gardner, 2012). Several studies showed that charismatic leadership especially unfolds its effects in critical and uncertain times (Bligh, Kohles and Meindl, 2004; Bligh, Kohles and Pillai, 2005; De Hoogh *et al.*, 2004; Halverson, Murphy and Riggio, 2004). Waldman, Ramírez and House (2001) found that charismatic leadership positively influences performance in terms of organizational profit, but only under perceived environmental uncertainty. This finding was further confirmed by De Hoogh *et al.* (2004), who found that perceived environmental dynamism strengthens the relationship between charismatic leadership and perceptual performance (i.e. positive work attitude).

While crises may strengthen the impact of charismatic leadership, the role of health-oriented leadership in crises is unknown. Two contradictory scenarios can be imagined: First, the potential benefit of health-oriented leadership may decrease, as followers may not be responsive to health-oriented leadership and neglect their health due to increased strain, which also decreases their performance. In this scenario, health-oriented leadership will not make a difference to follower health and performance. With regard to secondary appraisal in transactional stress theory (Lazarus and Folkman, 1984), followers might even consider 'too much' health-oriented leadership counterproductive in coping with the crisis. Followers might feel that health-oriented leaders set the wrong priorities when a crisis is at hand and might feel less motivated. Alternatively, health-oriented leadership may have the chance to flourish particularly in crises, because followers have a higher need for and appreciate healthy leadership more when the situation poses an acute threat to their well-being. Earlier studies already suggested that followers are more receptive to charismatic leadership in critical periods (Bligh, Kohles and Meindl, 2004). When followers lack resources, leaders' support may be more relevant and make a clear difference for follower health. In this scenario, health-oriented leadership gains importance. There is already some support for this second line of reasoning in the literature: Diebig, Bormann and Rowold (2016) showed that positive leadership behaviours

(e.g. providing guidance or individual support, fostering the acceptance of group goals) reduce follower strain, which is likely to support also follower performance in critical situations. In crises, leaders can provide emotional and material support, thereby reducing their followers' strain and fostering performance (Halbesleben, 2006; Lyons and Schneider, 2009).

Accordingly, we assume that health-oriented leadership becomes more salient and therefore unfolds its positive effects to a greater extent in times of crisis. For example, when a team suffers from time pressure in crisis, Staff Care may provide a resource to reduce or buffer pressure (e.g. providing support, encouraging followers to set priorities), consequently mitigating the effects of the crisis, improving well-being and performance (Montano *et al.*, 2017). We thus expect that Staff Care has a stronger protective effect due to an increased need for health orientation and consideration in turbulent times. Based on these thoughts and previous findings (De Hoogh *et al.*, 2004; Montano *et al.*, 2017; Waldman, Ramírez and House, 2001), we hypothesize the following:

H3a: Crisis moderates the negative relationship between Staff Care and Follower Strain. The relationship is stronger when followers are affected by a crisis.

H3b: Crisis moderates the positive relationship between Staff Care and Follower Performance. The relationship is stronger when followers are affected by a crisis.

Study 1: Vignette experiment

Methods

Sample and procedure. Study 1 was carried out between October and December 2018. A convenience sample was recruited through the authors' personal networks and research websites (N = 257 participants). The sample had an average work experience of M = 4.65 years (SD = 6.29), while 36.3% of participants had leadership experience (M = 1.02 years; SD = 2.83). Included were 41.3% female and 57.9% male participants. The average age was M = 24.58 years (SD = 7.89) and 32.8% reported having an academic degree. Participants worked in several sectors (e.g. media, IT, social services, transport and traffic, health, trading, handcraft), whereas the majority worked in educa-

tion/research (16.6%) or the public sector (13.5%). To test our hypotheses, we conducted an experimental online study using vignettes with repeated measures.

Staff Care (high vs. low) and *Crisis* (crisis vs. no crisis) were systematically manipulated as independent variables in a 2 × 2 factorial within-subjects design, thus controlling for individual differences between study participants. The combinations for *Crisis* and *Staff Care* were the following: *Crisis* high/*Staff Care* high; *Crisis* high/*Staff Care* low; *Crisis* low/*Staff Care* low; *Crisis* low/*Staff Care* high. Each vignette presented a project scenario conveying information about each factor. For each combination, two vignettes with different scenarios were presented, resulting in overall eight vignettes. This strategy served to ensure that the results were not influenced by specific details of any given scenario (e.g. the type of project described). The dependent variables were *Follower Irritation* and *Extra Effort*.

Materials

Participants were asked to take on the role of an employee in a trainee position in a medium-sized company. The trainee changed the team every 3 months, going through a total of eight departments (marketing, human resources, control, sales, IT, logistics, public relations and legal department), representing two scenarios per experimental condition as described above. This strategy ensured the independence of each scenario and the related responses, while at the same time increasing face validity in the within-person design so that participants could plausibly imagine themselves experiencing all of these different scenarios. All vignettes were similar in length. To operationalize crises on the team level, we varied information on unexpected critical events that implied sudden time pressure, staff shortage and financial risk. For low crisis (calm routine) conditions, there were hints such as 'We are perfectly on time [...] everything is working well'. In contrast, for high crisis conditions we placed hints such as '[...] the entire IT network broke down and nothing works. [...] Our team is completely understaffed. [...] We are under very high pressure right now'.

For leadership behaviour, we gave information about the occurrence of Staff Care: health-oriented leaders fostered their followers' participation in occupational health management or

personnel development measures, offered social and material support and reminded employees to pace themselves. Therefore, we placed hints such as ‘Please remind yourself to take enough breaks [...] I will support you wherever I can’ or ‘No one in this team should skip yoga classes or other sport courses to work extra hours’. In contrast, non-health-oriented leaders prohibited participation in personnel development and occupational health-promotion activities, and built up pressure instead of reducing it. For example, for low Staff Care conditions, there were hints such as ‘[...] it’s not possible to take breaks [...] everyone has to work a couple of extra hours’. Hints on Staff Care behaviour were developed on the basis of the validated subscale ‘Staff Care’ from the German Health-Oriented Leadership Scale by Pundt and Felfe (2017).

Pretest

Prior to the main study, we conducted a pretest to assess the quality of the vignettes and to assess the validity of the experimental manipulation. Vignettes were intended to be perceived as realistic, plausible and internally consistent, and provide enough contextual information for participants to understand the described situation (Atzmüller and Steiner, 2010; Jasso, 2006; Seguin and Ambrosio, 2002; Wason, Polonsky and Hyman, 2002). A sample of $N = 15$ participants took the pretest. Participants were asked to rate each part (crisis situation and leadership behaviour) separately for each vignette, to avoid confounding results. Respondents had to rate each situation on a five-point Likert scale from 1 = not critical at all to 5 = very critical, as well as each leadership behaviour from 1 = not health-oriented at all to 5 = very health-oriented.

As a result, one vignette underwent revision to make the experimental condition more significant for the reader. After revision, the vignettes were presented to five more participants. Finally, the vignettes differentiated systematically between Staff Care and crisis.

We used t-tests for the manipulation check. The results showed that participants perceived leaders as being more health-oriented in the high Staff Care condition than in the low Staff Care condition ($M_{\text{HoL high}} = 4.14$ vs. $M_{\text{HoL low}} = 1.46$, $t(20) = 11.24$, $p < 0.001$). Furthermore, participants perceived the high crisis condition to be more critical

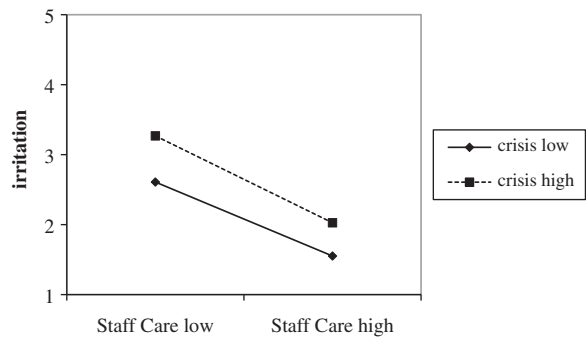


Figure 1. Two-way interaction of Staff Care and Crisis on Follower Irritation (Study 1)

than the low crisis condition ($M_{\text{crisis high}} = 4.21$ vs. $M_{\text{crisis low}} = 1.70$, $t(20) = 15.16$, $p < 0.001$).

Measures

Irritation was used as an indicator of Follower Strain. Participants rated their reactions after reading each vignette. For the measurement of irritation, we used the Irritation scale developed by Mohr, Rigotti and Müller (2005) with seven items (e.g. ‘After such a day I think of my problems at work’ or ‘After such a day I anger quickly’). Items were rated on a five-point Likert scale from 1 = I totally disagree to 5 = I totally agree. Cronbach’s alpha ranged from $\alpha = 0.90$ to $\alpha = 0.94$.

Extra Effort was used as an indicator of job performance. We used a single item from the Extra Effort scale in the German version of the Multifactor Leadership Questionnaire by Felfe (2006), which was ‘After such a day my willingness to try harder increases’.

Results

To assess the influence of *Staff Care*, *Crisis* and their interaction on *Follower Irritation*, we conducted a two-way repeated measures analysis of variance (RM-ANOVA). Table 1 presents the means and standard deviations of *Staff Care* (high vs. low) and *Crisis* conditions (high vs. low).

We proposed a negative relationship between *Staff Care* and *Strain*, a positive relationship between *Crisis* and *Strain*, and that the negative effect of *Staff Care* on *Follower Strain (Irritation)* would be more pronounced in crisis. As depicted in Figure 1, *Staff Care* had a negative impact on *Follower Irritation* in both conditions ($F(1,257) =$

Table 1. RM-ANOVA for Follower Irritation and Extra Effort (Study 1)

	Staff Care low				Staff Care high				F	p
	Crisis low		Crisis high		Crisis low		Crisis high			
	M	SD	M	SD	M	SD	M	SD		
Irritation	2.61	0.87	3.27	0.94	1.55	0.65	2.03	0.79	12.76	0.000
Extra Effort	2.39	0.79	3.12	1.01	4.10	0.80	4.34	0.77	50.61	0.000

N = 257.

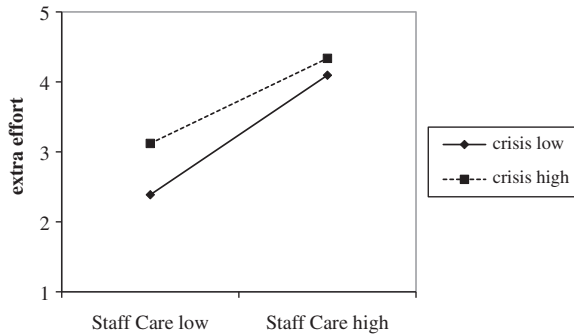


Figure 2. Two-way interaction of Staff Care and Crisis on Follower Extra Effort (Study 1)

507.35, $p < 0.001$, $\eta^2 = 0.66$; supporting H1a) and Irritation was higher in crisis ($F(1.257) = 250.23$, $p < 0.001$, $\eta^2 = 0.49$; supporting H2a). When crisis was high, the relationship between Staff Care and Follower Irritation was stronger. The results of the RM-ANOVA (factors of Staff Care and Crisis either high or low) showed that the interaction effect of Staff Care and Crisis on Follower Irritation was significant ($F(1.257) = 12.76$, $p < 0.001$, $\eta^2 = 0.05$, Table 1). In line with our expectations, the crisis strengthened the negative effect of Staff Care on Irritation. H3a was supported.

Moreover, we proposed a positive relationship between Staff Care and Performance, operationalized as Extra Effort, a negative relationship between Crisis and Performance, and that the positive effect of Staff Care on Performance would be more pronounced in crisis. As depicted in Figure 2, Staff Care had a positive impact on Extra Effort in both conditions ($F(1.257) = 543.65$, $p < 0.001$, $\eta^2 = 0.68$; supporting H1b). Contrary to our expectations, Extra Effort was higher in crisis ($F(1.257) = 121.82$, $p < 0.001$, $\eta^2 = 0.32$; H2b). When crisis was low, the positive effect of Staff Care on Extra Effort was stronger than in the high crisis condition. Results of the RM-ANOVA showed that the

interaction effect of Staff Care and Crisis on Extra Effort was significant ($F(1.257) = 50.61$, $p < 0.001$, $\eta^2 = 0.17$; Table 1). However, in contrast to our expectations, the relationship was weaker in crisis. H3b was not supported.

Study 2: Survey of the Covid-19 crisis

The second study served to investigate the interactive effects of crises and health-oriented leadership in the context of a global crisis. Due to its effects on the economy, the Covid-19 pandemic represents a large-scale crisis also in the context of work. There were several restrictions during the survey period that likely affected employees' workloads. For example, the demand for manufactured products decreased and teachers could not teach as usual, whereas the demand for medical supplies increased and supermarkets had to deal with panic buying (Nicola *et al.*, 2020). Employees in the medical sector were exposed to a greater risk of infection and likely experienced even greater difficulties balancing work and care responsibilities (Barbieri, Basso and Scicchitano, 2020).

To investigate the effects of health-oriented leadership and the Covid-19 crisis on followers, we measured Staff Care as perceived by employees, followers' individual Crisis appraisal of their work situation in the pandemic, Follower Strain and Performance in a cross-sectional online survey.

Methods

Sample and procedure. The study was conducted as an online survey during the beginning of the Covid-19 crisis in Germany. From mid-March 2020, the beginning of restrictions in Germany up to mid-May 2020, participants were recruited through the authors' personal networks and research websites.

Table 2. Means, standard deviations and intercorrelations for Study 2

		M	SD	1	2	3	4	5
1	<i>Virtuality</i>	0.41	0.12					
2	<i>Staff Care</i>	3.15	0.79	-0.08	(0.88)			
3	<i>Crisis</i>	2.60	0.90	0.01	-0.11	(0.81)		
4	<i>Exhaustion</i>	2.57	1.04	0.07	-0.18*	0.45*	(0.89)	
5	<i>Task Proficiency</i>	3.89	0.96	-0.10	0.26*	-0.17*	-0.13	(0.88)

N = 196.

* $p < 0.05$, ** $p < 0.01$. Alpha coefficients across the diagonal in parentheses.

The sample consisted of $N = 196$ employees. Age was measured in categories and the majority of the sample (47.4%) was between 25 and 34 years old (28.6% < 25 years; 9.2% = 35–44 years; 9.2% = 45–54 years; 5.6% = 55–64 years). Most of the participants (63.3%) were female. Around 54.1% of the participants reported having an academic degree and about 63.3% were permanently employed. Participants worked in several sectors (e.g. media, IT, social services, transport and traffic, trading, handcraft), whereas the majority worked in the public sector (17.6%), education/research (14.9%) or health (14.9%).

Measures

All items were rated on a five-point Likert scale from 1 = not at all true to 5 = completely true. Table 2 shows means, standard deviations and intercorrelations for all study variables.

Staff Care. We used the Health-Oriented Leadership scale by Pundt and Felfe (2017). To measure the direct behaviour of leaders towards their followers, we focused on the ‘Staff Care’ subscale rated by followers. Participants were advised to rate their leaders’ Staff Care since the outbreak of the Covid-19 crisis. The scale included 16 items, for example ‘My direct supervisor notices when I need a break’. For Staff Care, Cronbach’s Alpha was $\alpha = 0.88$.

Crisis. The individual impact of the Covid-19 crisis on participants’ work situation was measured using a self-developed scale adapted from De Hoogh *et al.* (2004), which originally measured perceived environmental dynamics. Participants were advised to rate their current work situation with regard to the Covid-19 crisis with five items. Items were such as ‘The current situation is extremely stressful, overstraining or frightening’ or ‘The current situation is unpredictable and its out-

come is uncertain’. For crisis, Cronbach’s Alpha was $\alpha = 0.81$.

Exhaustion. We used exhaustion as an indicator of Follower Strain. The ‘Personal Burnout’ subscale from the German version of the Copenhagen Psychosocial Questionnaire (COPSOQ) by Nübling *et al.* (2006) with five items was used, including items such as ‘In the last days I have been emotionally exhausted’ ($\alpha = 0.89$).

Job Performance. Followers’ self-reported job performance was measured using the ‘Individual Task Proficiency’ subscale of the Model of Work Role Performance by Griffin, Neal and Parker (2007). The three items of the subscale were freely translated into German, for example ‘In the last days I carried out the core parts of my job very well’ ($\alpha = 0.88$).

Virtuality (control variable). Because direct face-to-face contact between employees and supervisors may have been reduced due to social distancing in the pandemic, which may affect the perception of Staff Care or its effectiveness, we controlled for virtual communication. Therefore, frequency of contact with the leader was measured with three items (face-to-face, via phone, online via email or apps). To obtain the relative amount of virtual communication, we divided the online communication by the sum of all communication (online, phone and face-to-face communication; see Hoch and Kozlowski, 2014).

Results

All study variables are presented in Table 2. To test our hypotheses, we computed a moderation analysis using PROCESS by Hayes (2013).

We expected that *Staff Care* would have a negative relationship with *Follower Exhaustion*. Along with our expectations, we found a negative

Table 3. Two-way interaction of Staff Care and Crisis on Follower Exhaustion (Study 2)

	β	SE β	R ²	ΔR^2
Staff Care	-0.15	0.08	0.26*	0.04*
Crisis	0.47*	0.07		
Staff Care \times Crisis	-0.32*	0.10		

N = 196.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

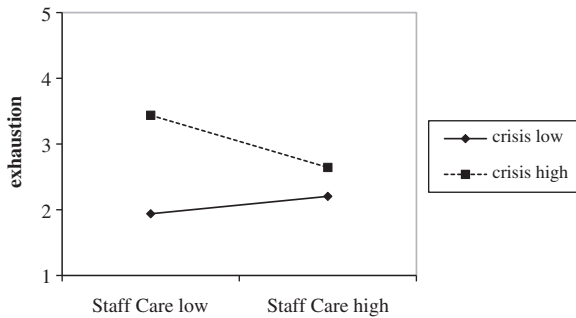


Figure 3. Two-way interaction of Staff Care and Crisis on Follower Exhaustion (Study 2)

correlation between *Staff Care* and *Follower Exhaustion* ($r = -0.18$, $p < 0.05$), supporting H1a.

We expected that the individual perceived impact of *Crisis* would be positively associated with *Follower Exhaustion*. In line with our expectations, we found a positive correlation between perceived impact of *Crisis* and *Follower Exhaustion* ($r = 0.45$, $p < 0.01$), supporting H2a.

H3a stated that the relationship between *Staff Care* and *Follower Exhaustion* would be stronger when the impact of the crisis was high. As can be seen in Table 3, the interaction effect of *Staff Care* and *Crisis* on *Follower Exhaustion* was significant ($\beta = -0.31$, $t(196) = -3.00$, $p < 0.01$, $\Delta R = 0.04$). In line with H3a, the relationship between *Staff Care* and *Follower Exhaustion* was stronger when employees were more affected by the crisis (see Figure 3). When *Crisis* was low, there was no relationship between *Staff Care* and *Follower Exhaustion*. A simple slope analysis with *Crisis* at levels ± 1 SD from the mean revealed that *Staff Care* was negatively related to *Follower Exhaustion* when *Crisis* was high, with $\beta = -0.43$ ($t(196) = -3.55$, $p < 0.01$), but the relationship was not significant when *Crisis* was low, with $\beta = 0.12$ ($t(196) = 0.96$, $p = 0.34$).

The examination of the main effects revealed that *Crisis* was positively related to *Follower Ex-*

haustion ($\beta = 0.47$, $t(196) = 6.36$, $p < 0.001$). *Staff Care* was no longer related to *Follower Exhaustion* when *Crisis* and the *Crisis* \times *Staff Care* interaction were accounted for, though only closely missing the 5% significance level ($\beta = -0.15$, $t(196) = -1.87$, $p = 0.064$).

Moreover, we investigated the relationships between *Staff Care*, *Crisis* and *Task Proficiency*. In line with H1b, the results show a positive correlation between *Staff Care* and *Task Proficiency* ($r = 0.26$, $p < 0.01$), but a negative correlation between perceived impact of *Crisis* and *Task Proficiency* ($r = -0.17$, $p < 0.05$; H2b). When *Staff Care*, *Crisis* and the *Staff Care* \times *Crisis* interaction were considered simultaneously, the main effects for *Staff Care* and *Crisis* remained significant and comparable to the bivariate correlations: $\beta = 0.29$, $t(196) = 3.43$, $p < 0.01$ for *Staff Care* and $\beta = -0.16$, $t(196) = -2.10$, $p < 0.05$ for *Crisis*. In contrast to our expectations, *Crisis* did not moderate the relationship between *Staff Care* and *Task Proficiency* ($\beta = -0.08$, $t(196) = -0.76$, $p = 0.45$, $\Delta R = 0.00$). H3b was not supported.

Discussion

The aim of this study was to examine the effectiveness of health-oriented leadership in crisis in terms of employee health and performance. We expected positive relationships between *Staff Care* and follower health and performance, and negative relationships between crisis and follower health and performance. Moreover, we expected that the positive relationships between *Staff Care* and follower health and performance would be stronger during crises. Our findings largely support the postulated relationships. Most importantly, the results show initial evidence for stronger effects of *Staff Care* on follower health during small-scale and large-scale crises in both studies. Our study underlines the importance of health-oriented leadership for

follower health, particularly in times of crisis, and initially reveals positive effects of healthy leadership on follower performance.

The relationships of Staff Care with follower health and performance replicate and extend previous findings on health-oriented leadership (Arnold and Rigotti, 2020; Horstmann, 2018; Klug, Felfe and Krick, 2019; Pundt and Felfe, 2017). In line with previous research, Staff Care goes along with better well-being (i.e. less irritation and exhaustion) among followers (Franke, Felfe and Pundt, 2014; Pundt and Felfe, 2017). While previous studies were often correlational, our experimental design (Study 1) allows initial assumptions on causal interpretations. Following the call for more experimental research in the field of leadership (Antonakis, 2017; Antonakis *et al.*, 2014; Hughes *et al.*, 2018), our experimental study supports the theoretical assumption that health-oriented leadership has an effect on health in terms of irritation and exhaustion and not vice versa; that is, the assessment of leadership may be biased by health status, attitudes or other third variables. Furthermore, the combination with a cross-sectional survey during a macro-level crisis improves the generalizability of the findings to real work scenarios.

Drawing upon event systems theory and transactional stress theory (Lazarus and Folkman, 1984; Morgeson, Mitchell and Liu, 2015), we expected that crisis would be positively related to follower strain in terms of irritation and exhaustion. Accordingly, we could replicate previous findings of negative effects of global crises on health (Giorgi *et al.*, 2015; Markovits, Boer and van Dick, 2014; Mucci *et al.*, 2016) for the Covid-19 pandemic. We could extend these findings by showing similar effects for local team crises. In line with event systems theory (Morgeson, Mitchell and Liu, 2015), we could also show that the extent of a crisis (event strength) was related to follower health. As expected, employees who were more affected by a crisis showed increased strain (Lazarus and Folkman, 1984). The threatening nature of a crisis increases pressure and uncertainty, which may impede followers' health.

Most importantly, we found that the impact of a crisis influenced the relationship between health-oriented leadership and follower health. As expected, the negative relationship between Staff Care and strain in terms of irritation and exhaustion was stronger during a crisis. Despite

the fact that crises in both studies may differ in their extent and severity, we could uncover this mechanism for both small-scale and large-scale crises, which strengthens the validity of our results. Our study underlines the importance of health-oriented leadership for follower health, particularly during a crisis. This is in line with previous studies that assumed an increasing effect of positive leadership on followers in turbulent times (De Hoogh *et al.*, 2004; Waldman, Ramirez and House, 2001). While employee health is particularly at risk in critical periods, health-oriented leaders gain more importance for followers as a resource (Diebig, Bormann and Rowold, 2016; Halbesleben, 2006; Lyons and Schneider, 2009). In crisis, health-oriented leadership has the chance to flourish and make a difference for follower health, because followers seem to be particularly receptive to and in greater need of health promotion when they are strained. In contrast, when followers are less affected by a crisis they may not depend as much on their leaders' support, such that the influence of healthy leadership is weaker. Further longitudinal research is required to uncover long-term effects of healthy leadership in long-lasting crises such as the Covid-19 pandemic.

We initially investigated the relationship between healthy leadership and performance, showing that Staff Care positively relates to *extra effort* and task proficiency. While healthy leadership fosters an important prerequisite for performance (health), it goes along with more resources, less stressors (Franke, Felfe and Pundt, 2014) and positive work attitudes (Pundt and Felfe, 2017). Positive effects on performance are consistent with Montano *et al.* (2017) and underline that health and performance are not contradictory goals, but that caring for followers' health rather supports performance.

Regarding crisis effects on performance, we found a negative relationship between the Covid-19 crisis and task proficiency (Bakker, Demerouti and Verbeke, 2004; Cullen *et al.*, 2014), but in contrast a positive relationship between a team-level crisis and extra effort. This finding indicates that (1) effects on performance may depend on the type of crisis, (2) long-lasting strain rather decreases performance, but (3) crises under certain circumstances may also increase performance, at least in the short term.

Contrary to our expectations, we found that the positive effect of Staff Care on extra effort was

weaker during a small-scale team crisis. However, this finding did not replicate in the context of Covid-19 for task proficiency. In contrast to previous findings (De Hoogh *et al.*, 2004; Waldman, Ramírez and House, 2001), a smaller-scale crisis may overshadow the positive effects of health-oriented leadership on performance. Followers may perceive health-oriented leadership as less effective to overcome a crisis and feel less motivated to maintain or improve performance. However, it is important to note that Staff Care still had positive effects in crises, so that health-oriented behaviour is still worth displaying to foster performance.

Theoretical implications

The present study highlights the notion that Staff Care represents an important resource for followers' health, particularly in crisis. By displaying Staff Care, leaders support vulnerable followers by reducing demands and providing resources to foster and maintain well-being. Furthermore, by showing positive relations between Staff Care and follower performance, the study extends the existing validity of health-oriented leadership as recommended by Rudolph, Murphy and Zacher (2020). This underlines the assumption that health-oriented leadership not only strengthens followers' health, but also has more far-reaching consequences for followers' work-related attitudes and behaviour (Pundt and Felfe, 2017). In line with previous literature (Montano *et al.*, 2017), our findings indicate that health and performance are not contradictory goals, but that health-oriented leaders foster an important prerequisite for performance.

Most importantly, our findings support the notion that the effectiveness of health-oriented leadership is contingent on the situation and, in turn, whether a crisis strengthens or buffers leadership effects seems to be contingent on the outcome. Whereas the influence of health-oriented leadership on health in crisis increases, its effect on performance seems to decrease in crisis. Even if leaders were able to display consistent leadership, our findings show that its effects are influenced by environmental factors. Differential effects may also be attributable to the extent and scale of the crisis (Morgeson, Mitchell and Liu, 2015), as the effect of Staff Care on performance was diminished by small-scale crises, but not by a large-scale crisis. In

order to better understand how and why the influence of health-oriented leadership on health and performance differs in crisis, further theory development should take a differentiated view on types of crises and their underlying mechanisms, to draw a more comprehensive picture of the chances and risks for healthy leadership.

Limitations and recommendations for future research

The present research has some limitations. First, both our studies covered only short-term relations between health-oriented behaviour and follower strain and performance during crises. The cross-sectional design of Study 2 does not allow causal conclusions. However, since the aim was to investigate interactions between leadership and crisis and interaction effects are less susceptible to artefacts, the cross-sectional design is appropriate for this first step.

Furthermore, the study design neglects the long-term development of crisis effects. It is conceivable that the effects of crisis and leadership on health and performance will vary in different phases of the crisis (e.g. fluctuations between easing social distancing policies and strengthening them again). Effects may also accumulate (being at home, taking care of the family, increasing job insecurity, etc.) and the relevance of Staff Care may even increase. However, the complete extent of the pandemic was not assessable at the time of data collection. In light of the duration of the crisis, it is important to consider the long-term effects of health-promoting leadership and the complexity of the pandemic. It should also be considered that the effectiveness of healthy leadership may differ depending on the duration of a crisis. Whereas followers may recover more quickly from short-term crises, they may depend more on leaders' health-promoting support in long-lasting crises to maintain their health, or habituation effects may occur. Future studies should therefore test our model in a longitudinal field study, for example in the form of a diary or multiwave study, to investigate changes in behaviour and crisis over time. Research should therefore focus on the sustainability of healthy leadership, to better assess its effectiveness in the long run, for example in long-term studies of the Covid-19 crisis.

Second, the types of crisis in both studies differed in their complexity and extent, so that

their comparability may be limited. However, both crises have significant similarities (e.g. the threatening nature, uncertainty, sudden occurrence and little response time), and both fulfil the definition of a crisis (Bundy and Pfarrer, 2015; Pillai, 1996). Even more importantly, in both cases the main effects and interactions with Staff Care for follower health were similar. Uncovering the same relationships between health-oriented leadership and follower health in both small-scale and large-scale crises strengthens the validity of our results. Future research should replicate the effects of small-scale crises in the field to further validate our experimental findings. Moreover, the operationalization of crisis and the dependent variables differed in both studies (irritation vs. exhaustion; extra effort vs. task proficiency). While irritation and exhaustion are both well-established measures for strain that are positively correlated (Mohr *et al.*, 2006), extra effort and task proficiency show slight differences. Whereas extra effort measures exceeding performance expectations, task proficiency measures meeting performance expectations. Both measures are well-established indicators of the overarching construct performance. Measuring two facets of performance and strain strengthens the body of evidence for the interplay of health-oriented leadership and crisis regarding follower health and performance. However, to overcome a self-serving bias, future experimental studies should enable the measurement of objective performance, for example by using simulations.

Third, the vignettes and outcomes of our first study were hypothetical, so that the external validity and generalizability of our results to actual behaviour remain limited. To counteract this problem, the second study was designed as a field study during the Covid-19 pandemic. However, our second study may be affected by common method bias (Podsakoff *et al.*, 2003), since all variables were rated by employees and may be influenced by subjective perceptions. Future studies should collect data from different perspectives and complement results with more objective health and performance indicators (e.g. heart rate variability, absenteeism, 360° feedback). Nevertheless, it is important to acknowledge the relevance of employees' perceptions of leadership behaviour (Perko *et al.*, 2016); it is likely that the subjective perception of leadership increases or decreases follower health and performance, which may be more relevant

than 'objective' degrees of leadership during a crisis. This is in line with stress theories emphasizing subjective appraisal processes (Lazarus and Folkman, 1984). This reasoning could be tested explicitly in future studies contrasting the effects of follower perceptions with self-reports from leaders or observer ratings of leadership.

Fourth, regarding Study 2, our approach allows a general impression of how leadership interacts with crisis in relationships with employees' health and performance. While our sample was highly affected by the crisis (70.9% indicated that their work has been affected by Covid-19), we do not know which specific work-related hindrances influenced participants' well-being and performance because of our sampling approach. For a better understanding of the complexity of the crisis, future studies should investigate specific work-related hindrances (e.g. working from home, work-family conflicts and insecurity) and their effects on leadership and health in specific sectors.

Practical implications

Regarding practical implications, our findings suggest that leaders should be aware of the benefit of health-oriented leadership to ensure follower health and performance during small-scale and large-scale crises. Organizations should make leaders aware of their responsibilities for their own and their followers' health. Hence, organizations should invest both in leadership training as well as occupational health promotion and integrate both (Kelloway and Barling, 2010) to encourage leaders to display Staff Care, particularly in crisis. Our findings show systematic differences in the effectiveness of health-oriented leadership among employees who are more or less affected by a crisis, indicating that leaders need to be trained in their health awareness in critical times. Therefore, leaders should take responsibility for follower health in critical situations and should be trained in crisis management without putting followers' health at risk. By investing in leaders' crisis management, health awareness and ability to foster followers' health in each situation, organizations can help leaders to prevent followers from deteriorating health, which also accounts for performance. Particularly regarding the Covid-19 crisis, leaders should be aware that employees are exposed to specific risks, for example job insecurity or while working from home (e.g. physical

risks such as back problems, psychological risks such as social isolation). It is important that virtual leaders also feel responsible for their followers' health (value), pay attention to health-related warning signals (awareness) and invite followers to inform the leader about their health-related risks at work (behaviour; Efimov, Harth and Mache, 2020). Health issues related to teleworking at home will likely remain salient beyond Covid-19, with the progressing digitalization of work.

Conclusion

This study is the first to investigate health-oriented leaderships' effectiveness in crisis and thus contributes to the deeper understanding of situational influences on leadership effectiveness. We identified positive relationships between Staff Care and follower health and performance. Moreover, we identified relationships between crisis and follower health and performance. Our results revealed that the influence of health-oriented leadership on health becomes stronger in crises and suggest that in order to protect follower health and performance also in crises, organizations should aim to encourage leaders to display health-oriented leadership behaviour, particularly in turbulent times.

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