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Virtual Health-Promoting Leadership - a Qualitative Content Analysis on the Experiences of Leaders from One Year of Remote Work Under the Influence of the COVID-19 Pandemic

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Abstract

The COVID-19 crisis has forced many teams to work from home unprepared. This sudden shift proposes various adverse effects on employees' health since stress levels seem to increase in work and private settings. Previous research has identified healthy leadership as a valuable resource for improving the health of employees. This study examined how leaders promote health virtually in their team during a crisis. Semi-structured interviews were conducted with 12 virtual team leaders who managed their team virtually since the COVID-19 crisis. The information generated was then processed and interpreted using qualitative content analysis (Mayring, 2015). Managing stress and workload, improving virtual communication, boundary management, monitoring and managing employees' health were the most mentioned behaviors of leaders they show for promoting health. Even though leaders described various health-promoting behaviors, some crucial factors such as building trust are perceived as not applicable virtually. Furthermore, this study could identify various critical organizational, social, and macro conditions that might influence virtual health promotion and should be accounted for when leading health-promoting. To account for the crisis, leaders stressed the importance of close connection to the team and promoting resilience to prepare for future uncertain events. This study explored health-promoting leadership under situational factors of the virtual context. Based on this study's findings, leadership training can be tailored to the health-related needs of virtual work teams in crises. Future research should include the whole team to explore if and how employees experience leaders' health promotion.

Keywords: Health-Promoting Leadership, Health-oriented Leadership, virtual team, COVID-19 crisis, employees health, content analysis

List of Abbreviations

COVID-19	Coronavirus Disease 2019
EI	Emotional Intelligence
HoL	Health-Oriented Leadership
HPL	Health-Promoting Leadership
HPLC	Health-Promoting Leadership Conditions
ICT	Information and Communication Technologies
LMX	Leader-Member-Exchange

Due to an increasingly digitalized and globalized industry, virtual work has become more and more prevalent in the new working life (Allvin et al., 2011). However, this shift into a digital workplace was further pushed by a worldwide pandemic, impacting societal structures and, therefore, also working life. When this study was conducted, the world was influenced by a pandemic that is currently dominating people's everyday lives. This pandemic was caused by the novel coronavirus, most widely referred to by politicians and public health officials as coronavirus disease 2019 (COVID-19).

Because of this crisis, many organizations and employees were forced to mainly work from home without having time for any preparations (Carnevale & Hatak, 2020). Especially for leaders, this indicated new challenges in maintaining the productivity, effectiveness, and well-being of their team and employees (Bartsch et al., 2020; Tuzovic & Kabadayi, 2021). This new virtual working situation might affect the health of people in two different ways: First, through the virus itself, and second, through new virtual working structures such as different ways of communication and reduced visibility, which mainly the leaders need to manage. It can be assumed that in a virtual work environment, due to the physical distance to their colleagues, employees face additional stress factors such as feeling isolated, excluded, and overlooked, impacting their well-being and health (Tuzovic & Kabadayi, 2021). Particularly in crises such as a pandemic, there was evidence of an increase in anxiety disorders, depression, domestic violence, and substance abuse (Galea et al., 2020).

This presumably stressful, new situation underlines the importance of focusing on factors that maintain and enhance health at the workplace. Leadership that actively promotes health might be a valuable resource for reaching this goal (Rudolph et al., 2020). Previous literature primarily concentrated on leadership styles, such as transformational, transactional, and laissez-faire leadership, and their impact on the employees' productivity, effectiveness, and well-being (Inceoglu et al., 2018; Zineldin & Hytter, 2012). So far, insights into the research on leaders' direct influence on employee health through, for example, redesign of tasks, emotional and task support could be identified (Kranabetter & Niessen, 2016).

However, those findings were made in face-to-face work settings. Therefore, it is of interest to explore how leaders experienced the promotion of health of their employees in a new, virtual work environment under a tense situation such as a worldwide pandemic.

Theoretical Background

In the following, models, and empirical studies regarding health-promoting leadership, virtual leadership as well as crisis leadership, and health will be presented. Based on this literature review, the status of research is captured and further derived into the research question.

Leadership

Organizational leadership and its effects have been an important topic in social science research for several decades. As a result, there are many different understandings of leadership and leadership styles. Leaders in an organization can influence their followers in terms of organizational outcomes such as efficiency, innovation or process reliability (Yukl & Lepsinger, 2004). According to Yukl (2010), it can be summarized that leadership is characterized by certain traits, skills, behavior, role relationships, occupation, and interaction patterns, depending on the circumstance and situation. These characteristics determine how much influence leaders have on their followers or employees in the organizational context to pursue and achieve specific goals. In many definitions, the term leadership refers to actions such as guidance, structuring, facilitating activities and relationships in a group or organization (Summerfield, 2014; see Winston & Patterson, 2006). Nevertheless, the definitions sometimes differ strongly.

In research, the leadership styles transformational, transactional, and laissez-faire are often listed. Transformational leadership is associated with four characteristics: idealized influence in the sense of being a role model as a leader to the followers. Intellectual stimulation means to encourage employees to be innovative and solution oriented. With individualized consideration, the leader provides individual support and coaching, and with inspirational motivation, the leader gives visions and goals to encourage employees to move forward (Bass & Avolio, 1994). A transactional leader uses contingent reward to motivate employees, which is the exchange of resources. Transactional leadership also includes active and passive management at exception, in which the leader monitors, actively or only in a sampled manner, whether employees deviate from specific set standards in their performance (Bass, 1985). The laissez-faire leadership style is a passive leadership attitude in which employees are given much freedom and can be partially interpreted as an absence of the leader (Eward & Jepson, 2008).

Next to the leadership constructs mentioned above, some styles describe a more variable character of leadership. In situational leadership, employees are led according to the given circumstances. Leaders adapt their behavior to specific situations and encourage employees to develop their skills and performance in response to the situation (Thompson & Glasø, 2015). In

addition to styles, leadership behaviors can also be described, such as destructive leadership. In this case, the organizational purpose and goal are repeatedly disregarded, and the own employees are negatively influenced in their motivation, performance, and well-being by the leader (Einarsen et al., 2007).

Leadership in the Virtual Work Environment

Due to increased digitalization and, more recently, the emergence of the COVID-19 pandemic, many workplaces have been forced to close, and employees had to work remotely (Bartsch et al., 2020). These circumstances have shifted daily face-to-face interactions and work tasks to an online work environment, which can affect the organization, teams, individuals, and the leader. Consequences were new communication demands, digitalization of teamwork and work processes, and the blurred line between work and family life when working from home (Rudolph et al., 2021).

This new work environment is a challenge to both the employees and their direct leaders at the same time. Interpersonal skills, such as communication skills, are becoming increasingly important for this type of work, independent of time and location (Robelski et al., 2018). Virtual leadership research has therefore focused, among other things, on communication (Schmidt, 2014). Working in a virtual workplace is characterized in particular by a shift in communication media. Conversations at the coffee machine, over lunch, or a brief chat in the corridor no longer occur (Carnevale & Hatak, 2020). In addition, nonverbal cues, facial expressions, gestures, or tone of voice are less or barely present. Instead, exchanges occur on media such as email, video conferences, telephone, or chats, which are so-called information and communication technologies (ICT). This means that a different approach to media, communication behavior, and communication frequencies are required from the leader (Dragano & Lunau, 2020; Schmidt, 2014). Moreover, working from home creates a new work environment and implies that there is no office environment and no commute to the office. Therefore, leaders face the challenge of setting and demonstrating boundaries for themselves and their employees (Ruppel et al., 2013). Lastly, in the virtual work environment, there is no physical interaction within the team or between leader and employee, and overall, less visibility of employees (Allvin et al., 2011).

While transformational leadership style is often declared a very effective leadership style in research (Yukl, 2010), this does not have to be the same case in the digital workplace. Huang et al. (2010) summarized in their study that the success of specific leadership styles, for example

transactional and transformational leadership style, were different in a virtual environment compared to face-to-face settings, indicating that a new type of leadership may be in demand regarding working remotely. Schmidt (2014) also noted that research in virtual work environments and the effect of leaders on their employees need to be constantly reassessed, as the circumstances and level of the virtual work settings have evolved steadily and greatly in recent years, as have the skills to deal with different tools. Therefore, this study aims to provide a current insight regarding the experiences of leaders who have led virtually in the last year.

Leadership and Employees Health and Well-being

Prior research regarding the effects of leadership has primarily focused on strategic outcomes, such as the profit of the organization or employee's performance. Employees' health and well-being were often neglected or only measured because it has a positive link to desirable outcomes such as employees' performance (Montano et al., 2017) less turnover (Kramer & Son, 2016), and higher satisfaction with their job (Kuoppala, et al., 2008). It has been shown that leadership can be an essential factor that can directly or indirectly influence an employee's health and well-being (Franke & Felfe, 2011; Kuoppala, et al., 2008; Skakon et al., 2010; Wegge et al., 2014). For this purpose, leadership can be a crucial resource since leaders may function as role models, thereby increasing the likelihood of employees to change health-related attitudes positively (Kranabetter & Niessen, 2016; Oreg & Berson, 2011). To further study this relationship, several researchers have conducted studies that addressed the effect of different leadership styles on employees' health and well-being.

Classical Leadership Styles and Employees Health and Well-Being

When examining the relationship between leadership styles and health-related outcomes, already established leadership styles have been considered in the past. Most research has been conducted concerning the relationship between transformational and relation-oriented leadership and employees' health and well-being (Inceoglu et al., 2018). A meta-analysis conducted by Montano et al. (2017) provided an overview of various leadership styles (transformational, task-oriented, relations-oriented, destructive leadership, and social interaction processes) and how each of these styles was associated with different positive and negative mental health outcomes. Transformational, relation and task-oriented leadership, and leader-follower interaction were linked to positive health outcomes, such as increased well-being and psychological functioning. Fewer health complaints, negative stress, and burnout were found as effects of these types of

leadership behaviors (Montano et al., 2017). Furthermore, social cognitive (e.g., psychological empowerment) and relational (e.g., social support of the supervisor) mediators were found to be influential (Inceoglu et al., 2018). However, the authors criticized the lack of research regarding the effects of leadership on adverse well-being outcomes and physical health.

Healthy Leadership and Employees Health and Well-Being

In the last few years, new approaches have developed to examine the relationship between leadership and employees' health and well-being. It was argued that there is a need to develop new models of leadership because other already existing leadership styles (e.g., transformational leadership) do not account explicitly for health-specific leadership behavior and therefore, these concepts are too vague to capture this unique character of leading (Franke & Felfe, 2011).

Previous literature inductively and deductively developed various concepts of so-called healthy leadership to gain more insight into this relationship. Here, the influence of leaders' specific actions targeted to improve health and how these affect employees' health, and well-being was included. A recent systematic review on healthy leadership identified 13 different models that have emerged (Rudolph et al., 2020). The common goal of healthy leadership models is to explain how leadership behavior can predict followers' health and well-being. Most of these models share the definition of health, meaning the presence of physical as well as mental health and social factors, and not just the absence of illness, which is in line with the definition of the World Health Organization (1946). Despite this common definition, the current situation of research appears scattered since many models are, on the one hand overlapping, but on the other hand, describe different phenomena under the same name. Thus, there is no agreement on how healthy leadership should be defined (Rudolph et al., 2020). The systematic review of Rudolph et al. (2020) suggested that healthy leadership is an essential factor for improving health at the workplace sustainably.

In the following sections, the two most researched healthy leadership models, naming health-promoting leadership and health-oriented leadership. An overview of the state of research concerning these models is provided and knowledge gaps are identified.

Health-Promoting Leadership (HPL)

One of the first investigations into health-promoting leadership (HPL) were conducted by Eriksson et al. (2011) who identified three key components for his concept: supportive leadership style, organizing health-promoting activities, and constructing a health-promoting workplace

(Eriksson et al., 2011). The authors underlined the importance of various, additional factors, such as sufficient organizational conditions (e.g., organizational culture), characteristics of leaders (e.g., positive attitude regarding health), and support to leaders (e.g., support from higher management) that were essential for successful execution of these practices (Eriksson et al., 2011). The authors suggest that HPL aims to establish an organizational culture that values health and motivates employees to engage in health promotion.

A qualitative study using semi-structured interviews with leaders and employees from the same organization focused on how leaders have applied HPL (Winkler et al., 2014). For employees, the most critical aspects for health promotion related to their direct leaders were that they show interest in and are approachable to their employees. Efficient information flow and appreciative feedback were also highly valued by them. Employees furthermore expressed a desire for more opportunities to participate in decisions that directly affect them to stay healthy.

Another recent attempt to deductively derive an HPL model was conducted by Jiménez et al. (2017a, 2017b). The authors questioned the past leader-focused approach and instead drew attention to the importance of the interaction between organizational factors and the individual, therefore engaging in a more systematic approach. To capture the workplace conditions that supported employees' health in reducing stress and enhancing resources, the Areas of Worklife Scale by Leiter and Maslach (2003) was included in their model which includes value-fit, fairness, community, reward, control, and low workload. By operationalizing their understanding of HPL, another dimension, health-awareness, was added, to account for the individual component of sustainable and healthy workplaces. This item was included to the scale because previous research suggested that if leaders show high levels of awareness regarding their own health, there is a greater emphasis on employees' health as well (Gurt et al., 2011). Researchers have conducted various studies to investigate their concept of HPL (Jiménez et al., 2017a; Jiménez et al., 2017b; Jiménez et al., 2017c). Most of the studies included stress, recovery, and burnout as health measures. Across all studies, HPL was positively associated with recovery and negatively with stress and burnout. It needs to be acknowledged that only the items for the health-awareness dimension explicitly measured leadership behavior, raising the question of this measurement's construct validity (Rudolph et al., 2020).

Health-Oriented Leadership (HoL)

Health-oriented leadership (HoL) was deductively created by Franke and Felfe (2011), and the suggested factor structure could also be confirmed (Franke & Felfe, 2011). HoL is, as opposed to HPL, not designed as a specific leadership style but rather as a leadership approach that only focuses on a specific sub-area of leadership behavior. In contrast to classical leadership styles, HoL includes specific communication elements, such as the discussion of health-related topics, structuring of working conditions and the leader as a role model.

This heuristic model consists of three elements, namely SelfCare leader, StaffCare and SelfCare follower, which capture both follower-directed and self-directed HoL. Each of these elements contains three components, which are behavior (personal activity and commitment to health-related measures), value (personal interest in and importance of health), and awareness (focus, reflection and sensitivity to health and strain-related topics that have an impact on health). All three components are essential for effective HoL. SelfCare means that leaders need to manage themselves in a health-oriented manner. First, they classify their health as necessary, second, perceive stress factors in the workplace, and third, apply their health awareness into health-promoting and preventive behavior (Franke et al., 2014). These abilities set the foundation for health-oriented leadership regarding followers. StaffCare is influenced by the leader acting as a role model and how the followers perceive the leader's values, behaviors, and health awareness. This, in turn, has an impact on how followers manage their health which is understood as SelfCare follower. For instance, if leaders show that they are aware of some followers' health issues and offer them support, it might inspire followers to act in the same health-oriented manner. The model suggests that if all of these dimensions are met, followers’ and leaders' well-being and health increase, and that they experience less irritation and health complaints, and that work-family conflicts have a higher probability of being solved (Franke et al., 2014).

Furthermore, in the same paper, it could be demonstrated that the health-specific HoL instrument captured health and well-being beyond more general leadership behavior models (i.e., transformational leadership). Furthermore, the dimension of StaffCare behavior seemed to be mediating the link between transformational leadership and health. This was adding evidence to the assumption that specific leadership behavior might capture health-related concepts, such as followers' strain, more accurately than general positive leadership styles, such as transformational leadership. However, it needs to be mentioned that only employees participated in the study, and therefore no statements regarding the leader's perspective can be presented.

Another study conducted by Köppe et al. (2018) showed that the health status of the leader was an essential prerequisite for a healthy workforce. In their multi-level, multi-source study, results indicated that the higher the level of leaders' exhaustion was, the less they could show StaffCare behavior, and therefore somatic health complaints of their followers increased. However, only an indirect effect of leaders' exhaustion and somatic complaints of their followers could be found. Since leaders were able to choose the followers that filled out the measurements, the study might suffer from selection bias.

A qualitative study aimed to investigate how leaders behave when their followers are exhausted and if and how these behaviors might reduce exhaustion of employees (Kranabetter & Niessen, 2016). The authors conducted 48 structured interviews based on the HoL concept with leaders from different industries. In total, 27 leadership behaviors were identified. Six were context-specific, health-oriented leadership behaviors that could not be mapped to leadership styles such as transformational leadership. The perceived most effective behaviors included the (re) design of tasks and emotional support of the leader (Kranabetter & Niessen, 2016).

So far, two quantitative studies have investigated the HoL concept in specific industries that are prone to daily stressful situations for the workforce (Horstmann & Remdisch, 2016; Santa Maria et al., 2019;). The first study was conducted in the context of police work (Santa Maria et al., 2019). A negative association between HoL and high levels of burnout, depression, and physical complaints could be determined. The second study was carried out in the context of elderly care and confirmed the positive association between HoL and followers' commitment and health (Horstmann & Remdisch, 2016). Social resources and stress partly mediated this relationship. Therefore, it might be necessary that leaders actively influence social relationships and the social climate in the team (Efimov et al., 2020).

Crisis Leadership

Crises are defined as events that are unexpected, potentially disruptive, and highly salient (Bavik et al., 2021). Disruption of habit, which is associated with a certain degree of uncertainty is highlighted (Merten, 2014). Because crises are usually unique and do not appear frequently, organizations and leaders are often inadequately prepared and inexperienced in managing these (Bowers et al., 2017). Leaders have a crucial role in times of a crisis, as they are usually the first to interpret recent events and need to make decisions quickly (Sobral et al., 2020).

The current COVID-19 crisis has effects on numerous areas such as business, politics, education, and health care (Wintermann, 2020). Therefore, governments have imposed many measures on societies in order not to overload the health system and to contain the incidence of infection. These include closing universities, and offices, as well as cultural and leisure facilities where people might come into physical contact with each other.

In the organizational context, this crisis affects the way of working and, at the same time, the uncertainty that affects professional and private situations, which resonates in everyday life. The way work is performed is changing as many workplaces had to change to home offices and therefore, new challenges must be met in everyday work tasks and structures. At the same time, many employees and leaders are in an exceptional situation privately, as previous routines have been broken and the danger of infecting oneself or family or friends with the virus accompanies one every day. Leaders are therefore exposed to a double stress situation since on the one hand, they must cope with their own insecurities caused by the pandemic, and at the same time they must accept the insecurities of their employees, which also go beyond the occupational context (D'Auria & De Smet, 2020). The inexperience with working and leading virtually might add additional stress to the leaders, especially when they want to directly apply their usual skills set to the new context of leading from a distance.

Crisis Leadership and Health

Previous literature has revealed that crises can affect mental health in the long run (Mucci et al., 2016). Accordingly, health promotion has emerged as an important construct in the COVID-19 pandemic which refers to empowering individuals to control and influence their own health (Van den Broucke, 2020). Nevertheless, there is a lack of research regarding how virtual HPL is experienced and applied in a crisis.

Previous research in crisis psychology has emphasized the importance of resilience to manage and to successfully lead through a crisis (Meynhardt et al., 2021). Resilience means being able to cope better with change and to build up resistance to stressors, such as crisis situations in private and occupational life (Zautra et al., 2010). Reivich and Shatté (2002) described resilience as associated with optimism, solution orientation, leaving the victim role, acceptance, responsibility, self-efficacy, planning for the future and network orientation.

During the COVID-19 crisis, the concept of leadership has been studied by researchers in the medical context. It was investigated which characteristics a leader must exhibit to

successfully lead his or her employees through a crisis, with an additional focus on the health of the employees (D'Auria & De Smet, 2020; Forster et al., 2020; Lexa, 2009a; Lexa, 2009b). The identified behaviors include discarding a hierarchical top-down leadership style and being open to the feelings of the employees. Furthermore, transparency and clarity in communication towards the employees are crucial. Leaders should also be optimistic, realistic, and emphatic, as their employees are in an uncertain situation and need even more guidance compared to non-crisis situations. In addition, self-care must be promoted, such as sufficient sleep, adequate nutrition, and exercise. To our knowledge, most empirical research regarding (organizational) leadership during a crisis when working from home and its impact has been surveyed only from the employees' perspective (Daraba et al., 2021; Eichenauer et al., 2021; see Bartsch et al., 2020). Thus, it is necessary to assess the experiences leaders made while virtually managing the crisis.

On the one hand, it could be argued that because of this extraordinarily stressful situation which is characterized by a vast amount of responsibility, time pressure, and strain of leaders during a crisis, they might set other priorities and focus on the preservation of the business primarily while potentially neglecting health promotion. On the other hand, leaders' health promotion could be even more needed because employees seek guidance and, for instance, social resources, such as support that the leaders can provide. Therefore, despite the previously established negative relationship between health, well-being, and crises, the question arises if health promotion during a crisis is feasible and how it is applied.

Virtual HPL in a Crisis

During virtually leading in a crisis, different challenges and benefits for leadership and health promotion can be expected. The permanent use of ICT to perform tasks can become a challenge for employees. The boundary between private and professional life becomes blurred, which can lead to negative health consequences, as it becomes more difficult to switch off from work, requiring a more self-determined boundary management (Allvin et al., 2011; Rothbard & Ollier-Malaterre, 2016). Mark et al. (2012) found that employees showed more physical stress reactions when they could not interrupt their access to emails during the day. However, flexibility increases as many employees can structure their daily routine freely, especially with a family, by having the option of working from home. To promote health in the virtual context, leaders need to focus on additional potential health risks, such as the lack of social contact of the employees,

and the constant accessibility of employees because of missing boundaries between work and private life (Kordsmeyer et al., 2019).

The overview article of Kordsmeyer et al. (2019) suggests that virtual team leaders should counteract these virtual work challenges by, for instance, implementing ground rules for this constant accessibility or training that increases trust levels within the team. Furthermore, having informal coffee breaks together might increase the social contact between the employees. How an employee ultimately best digitally implements a workday must be guided, supported, and acknowledged by the leader. It is therefore of great importance to find out which behaviors, conditions, and challenges a leader experiences as helpful or hindering to best support their employees in their work and health.

To date, there is only one empirical study that examined healthy leadership in the virtual work environment. This study by Efimov et al. (2020) served as preliminary evidence that applying the HoL model according to Franke and Felfe (2011) into the virtual context is possible. In this study, the authors interviewed 13 virtual team leaders regarding how leaders promote health in themselves and their staff. It was found that virtual leaders highly valued their own and their employees' health and showed high levels of awareness regarding health. For leading their employees in a health-oriented manner, leaders indicated that they engaged in increasing communication, building trust, supporting their employees in creating boundaries, and organizing physical meetings. Regarding their own health, leaders state the importance of boundary management, increasing physical activity, and having a balanced diet. Furthermore, especially organizational factors, such as working conditions, influenced the application of health-oriented leadership according to virtual leaders. This qualitative study explored that especially organizational, social, technical, and personal factors, such as the influence of the management board, might influence health-promoting behavior of the leader (Efimov et al., 2020).

To our knowledge no study has been conducted on how leaders virtually promote health in the uncertain event of a crisis.

Aim and Purpose

Previous studies have explored preliminary evidence on virtual HPL. The present paper aims to further account for the influence of a crisis. This is of interest as for example, the role of the leader might change in these times due to potential health risks in everyday work life caused by the crisis. Furthermore, different critical conditions for the application of virtual health

promotion might be of interest in this novel situation. Therefore, the purpose of this thesis is to explore and map how leaders experience and approach health promotion in the virtual work environment during the COVID-19 pandemic. For example, it needs to be explored if leaders, who might be strained themselves, have the resources to focus on health promotion in this situation and if the role of the leader has changed regarding health-related topics. Given the little evidence on virtual health promotion and situational factors for virtual health promotion, such as this crisis, this study will be conducted with the help of a qualitative approach.

First, to account for the circumstance that there is no general agreement on how healthy leadership is defined (Rudolph et al., 2020), especially in the virtual context, the present study aims to explore how virtual leaders understand this kind of leadership concept for themselves. In this investigation, the term *health-promoting leadership* is used when exploring the relationship between leadership and employees' health in the virtual work environment during a crisis. This term was chosen because most of the literature and researchers in the field of healthy leadership refer to this expression (see Rudolph et al., 2020). Here, we do not refer to the concept of HPL as suggested by Eriksson et al. (2011) or Jiménez et al., (2017a) but rather want to inductively explore how HPL is defined across different contexts. In the discussion part we will compare our findings with healthy leadership styles such as HPL and HoL.

RQ 1: *How do leaders define health-promoting leadership in a virtual work environment?*

Furthermore, little is known about how leaders approach health promotion in terms of specific behavior, skills, and characteristics to promote their follower's health. In this light, it is interesting to investigate to what extent leaders perceive their own influence given the novel context and challenges in the new virtual work environment and how they perceive their own role in these times.

RQ 2: *How do team leaders approach health promotion in the virtual work environment?*

Another concern of this thesis is to explore conditions that influence the leader's ability to promote health in the virtual work environment. This pandemic creates a new context in which the whole working situation changed. Therefore, the exploration of aspects that are enhancing and inhibiting the virtual leaders' health promotion is essential.

RQ3: *What conditions do leaders experience that enhance and inhibit them from being a virtual health-promoting leader for their team?*

Research question four targets the specific influence that the COVID-19 crisis has on leaders' virtual health promotion in terms of how health can be promoted in this challenging situation. To our knowledge, no previous research has been conducted on virtual health promotion during crises.

RQ 4: *How do leaders experience the influence of the COVID-19 crisis on everyday virtual health promotion?*

Lastly, it is of interest what the leaders have learned in a year of leading virtually during a crisis, to identify important factors that should be included in training for other leaders to be prepared for unexpected crises in the future. Additionally, it seems worthwhile to explore what the future of health promotion might look like for the leaders and how they plan to continue working in their team after the pandemic, to identify relevant research opportunities.

RQ 5: *What are future demands of the leader to promote health in their virtual teams?*

Method

To ensure the quality of report, the consolidated criteria for reporting qualitative research (COREQ) was applied (Tong et al., 2007).

The qualitative approach is not reduced to manifest content only, but the content of the material passes through a process of understanding, in essence, hermeneutic. This makes the analysis method an iterative analysis that adapts to the questions and the material and is not a predetermined process as in quantitative analysis that has to be decided in advance (Mayring, 2015). The interest of this study lies in the individual experiences of HPL in a new, virtual work environment, caused by the COVID-19 crisis.

Since this is a novel, unique situation and the participants are talking about experiences they have not had before to this extent, it makes sense to work on the material through a qualitative analysis process first, followed by a quantitative analysis of frequencies. This methodological approach can be understood as a realistic approach as it attempts to apply an objective structure to statements, due to the conducted frequency analyses (Willig, 2001).

In qualitative content analysis, material and interpretation result from the interaction between interviewer and interviewee (Mishler, 1986). The qualitative content analysis (Mayring, 2015), applied in this research, follows the epistemological approach of inferring some comprehensible truth from the material, through measurement, frequency, weighing, and proportions of categories and statements (Krippendorff, 2018) due to the conducted frequency

analyses. This method, therefore, combines a qualitative and quantitative analysis and can be referred to as a hybrid methodological approach. The advantage of combining qualitative and quantitative tools is that the material can be evaluated from various angles making the research more holistic and validity can be increased by the triangulation of both methods (Menon & Cowger, 2010).

No cause-effect relationships should or can be drawn nor should predictions be made from the material. The aim is to understand the experiences of dealing with specific situations and phenomena (Willig, 2001).

Participants

To answer the research questions, participants were recruited who directly lead and influence a team virtually. Participants worked in different organizations and industries because working virtually is prominent in most white-collar workers now due to the COVID-19 pandemic (Bartsch et al., 2020). However, leaders from the medical sector or high-reliability sectors were excluded since these working environments are unique in their nature and underlie different regulations than an office-based job. It was necessary that participants were older than 18 years and spoke either English or German. To ensure that the participants were suitable to answer questions about the virtual work environment, they needed to lead and communicate to their team at least 20 hours per week virtually. The team leaders and their team should be working virtually due to COVID-19, consequently changing their work environment involuntarily. Participants needed to have a minimum of one year experience in leading their team virtually. A summary of the participants' demographics and their team is shown in more detail in Appendix A.

The selected sample was appropriate for the study because, first, only participants who have direct reports were recruited to ensure that these team leaders have the chance to influence their employees. Second, by ensuring that team leaders have led their teams for at least one year, team leaders can report trends regarding health and related issues for themselves and their team. The study aimed to explore how HPL is implemented in the virtual context by leaders who mainly worked in the office before and were therefore forced to change their work environment to the virtual work environment due to the COVID-19 crisis.

Potential participants were identified and contacted through initial internet research, personal contacts, and business network services, such as LinkedIn and Xing. After the participants had chosen an appointment for the interview, a consent form was sent (Appendix B).

The sample included 12 participants, of which 10 were male and two female. Seven team leaders worked in Sweden and five in Germany and every participant worked full-time. Participants worked in various industries, mostly in retail, finance, and the IT/ software industry. Most teams worked nationally (75%), three teams worked internationally. A few team leaders had some experience in leading virtual teams prior to the pandemic, nevertheless, working mainly virtually was also new to them. To guarantee the anonymity of the respondents, no further demographic data was collected.

Before the study, one researcher had a personal relationship with one participant. To ensure this research's objectivity, this interview was conducted by the other researcher who had no personal relationship with the participant. Personal details or research intentions of both interviewees were not shared. Both researchers stated that they did not have conflicts of interest.

Procedure

Data was collected in February and March 2021. The semi-structured interviews were conducted via video telephony software (Zoom and Microsoft Teams) due to the ongoing COVID-19 pandemic. Furthermore, this associated independence of location positively influenced the gathering of an appropriate size of participants. Participants had the opportunity in advance to select a suitable date for the interview using Doodle, an online scheduling tool. The interviews were conducted between 8:00 AM and 9:00 PM and lasted on average 53 minutes. The participants were asked to be in a quiet environment for the interview to avoid interruptions. The respondents were at home or at the workplace during the interviews.

Instruments

Semi-structured interviews were used in this study for data collection. This type of interview allows for a guideline to be created and questions to be asked to answer the research questions (Fylan, 2005). The conversation and the interview flow may be changed and adapted to account for the participants' narrations. However, setting a rough direction for the interview is recommended if one wants to derive a system of categories from the material, as is the case in this study (Fylan, 2005).

The semi-structured interviews were conducted with the support of an interview guideline (Appendix C). This guideline ensures that all relevant issues of virtual HPL regarding the study's focus will be answered. The guideline consists of an introduction, central part, and end. The

central part is divided into four different blocks of questions based on the four research questions and is based on a literature review.

Throughout the interview, the order of some questions was changed to match the conversation flow. Questions were asked as they were displayed in the guideline or analogous. In most interviews, follow-up questions regarding the experts' statements were added to understand the deeper meaning. Lastly, further procedure of the research was explained to the participants. Before the interviews were conducted, a pretest was carried out by a person with a background in work and organizational psychology to check the guideline's functionality. Based on this review, one question was rephrased in favor of a better understanding.

Ethical Considerations

Considering the ethical guidelines of psychology research in Sweden, a consent form for all participants was created (Appendix B) and sent via mail before the interviews. The form included all information about the study and information about the participants' rights, for instance, that they can always withdraw from the study and that participation is entirely voluntary. There was no reward for participation. At the end of the form, the researchers' contact information was presented so that the participants could ask questions later or, if desired, withdraw from the study afterward without any negative consequences.

Since the research topic is related to health, the researchers and the supervisor discussed if ethical supervision needs to be requested. It was decided that this was not the case since no sensitive mental health data or similar are discussed, and the privacy of the participants was always ensured. The preservation of dignity and well-being of participants is met.

Data gathered in the study was transcribed anonymously, meaning that no names were displayed. The first interviewee is referred to as Person A, and so on. The results presented in this thesis are displayed in the form of a category system, ensuring that no information can be connected to the participants. Sensitive personal data was crossed out of the transcription. Data was saved in a password-protected file of the researchers' computers and will be deleted after the thesis is completed. In general, all communication with the participants and the research procedure was discussed with this study's supervisor to ensure ethical conduct.

Qualitative Content Analysis

The interviews generated the material, which were further processed with the help of qualitative content analysis, referring to Mayring (2015). The aim of this methodology is the

systematic analysis and interpretation of qualitative material obtained from communication situations. According to Mayring (2015), qualitative content analysis enables the construction of connections between the source material without neglecting the individual case's relevant peculiarities. Uniform analysis steps and analysis rules ensure that this process is controllable.

Following Mayring (2015), we determined a process model for the planned analysis (Appendix D). Within this process model, clearly defined analysis steps are separated, making the generated research results comprehensible and theoretically reproducible for other scientists.

First, we determined the material that is going to be analyzed. The 12 semi-structured interviews with team leaders yielded the material of this research. We edited the recorded interviews further into transcripts with the software f4transkript (8.0.3.) (Dresing & Pehl, 2021). To answer the research questions, accents or non-verbal communication are not required, and excluded from the transcripts. For the purpose of this research, we applied the transcription rules of Dresing and Pehl (2018) which focus on the content-semantic aspect of the material. These transcription rules are suggested for the method of qualitative content analysis by Mayring (Dresing & Pehl, 2018). An example of the transcription rules is illustrated in Table 1.

Table 1

Exemplary Presentation of Most Used Transcription Rules

example	transcription rule
(incomprehensible)	acoustically incomprehensible words
VERY	special intonation of the word or words
(...)	speech pause
My // We don’t really	break of the sentence
#00:00:00#	time mark

Next, we determined the direction of the analysis in which the statements of the interviewees are interpreted and differentiated according to the theory (Mayring, 2015). In this study, the respondents were encouraged to share their knowledge and their attitudes regarding their definition and current implementation of HPL, their experiences regarding conditions that enable or hinder them to promote health in their team and lastly their personal experience

regarding how the COVID-19 situation has affected themselves, their leadership and their team. Forecasts should be made for the future development of HPL.

Then, we selected the appropriate analysis technique. For this study's purpose we chose the technique of summary which is based on the reduction and abstraction of the material to the essentials, preserving the overall picture of the source material which matched our research aim. The goal of this analysis method is the generation of a category system, which ensures the results' comparability (Mayring, 2015). The entire material was evaluated and reduced concerning the defined research question. Since COVID-19 and its effect on virtual HPL is a novel phenomenon and has not been studied before, it is not useful to use more deductively established approaches.

Before we further analyzed the material, it was necessary to define the analysis units which are called the coding, context, and evaluation units. An evaluation unit describes the order in which the relevant text parts are to be evaluated. The context unit represents the largest material component that is included in the analysis. For the summary analysis, the context and evaluation units are not differentiated from one another (Mayring, 2015). These two units represented the individual semi-structured interview and the entire material in the present study, all 12 interviews. The coding unit is defined as the smallest material component that can be assigned to a category (Mayring, 2015). Such a coding unit was defined in this study as any statement by a team leader that provides an answer to the previously defined research questions. In this study, these content-bearing text modules were highlighted in the transcriptions. An example of one edited transcription is presented in Appendix E.

We further analyzed the material by generally reducing it by applying four defined rules, promoting the traceability and reproducibility of the procedure (Mayring, 2015). First, we paraphrased the previously determined coding units; meaning we reduced the statements to their essential content, which created a short grammatical form of the original statement (rule one). In the next step, these paraphrases were then generalized (rule two). This generalization was conducted based on a previously defined level of abstraction. The abstraction level describes the extent to which the paraphrases derived from the text may be generalized, in essence, how detailed, or abstractly the statements are to be formulated. Due to the large amount of text that emerged during the investigation, we transformed the text immediately to the desired level of abstraction following Mayring's suggestion (2015). Thus, we combined the steps of paraphrasing and generalization. The level of abstraction allowed for generalized, case-specific statements to

flow into the analysis. These generalized paraphrases were then further reduced. During the first reduction, we excluded redundant and unnecessary paraphrases (rule three). The reduction process is completed when the statements that continue to carry content are reduced through bundling, construction, and integration (rule four). This step concluded the summary with many categories.

We created the category system inductively, which means that it is derived directly from the material. Thus, the procedure is not predetermined by theoretical concepts, and the text is edited as closely as possible and independently of the researchers' assumptions (Mayring, 2015). After establishing this preliminary category system, we checked if all previously determined paraphrases can be classified into this preliminary category system to ensure the categories fit. Simultaneously, we also considered whether the definition of the analysis units, the direction of the analysis, and the categories and their abstraction level are appropriate for the research questions. Based on this step, the category system was reformulated and rearranged so that the raw material is presented in its intended form.

Due to the large number of categories, we conducted a recommended second summary, to generate an even more concise and shorter category system. However, we shortened this reduction due to the large amount of material and therefore, carried out the analysis in one step, meaning that the categories from the first round were further reduced in one step by applying all four rules in the sense of a generalized reduction. A higher abstraction level was set, on which all statements have been generalized across all interviews and were correspondingly reduced. Both reduction processes are illustrated in Appendix F. The new category system was checked against the original material again. A total of 1513 paraphrases were grouped into 25 categories representing the final category system.

Quality Criteria

After the final category system was established, content analytical quality criteria were used to evaluate the analysis. Mayring (2015) recommends using specific quality criteria for this review adapted to the respective qualitative method. Based on this recommendation, the intercoder reliability was determined. A second rater, with a background in work and organizational psychology, classified all generalized paraphrases into the main categories. The rater did not receive any information regarding the researchers' previous assignment to enable an independent and undistorted classification. The calculation of the intercoder reliability was

carried out in the present work based on the reliability coefficient Cohen's Kappa (Cohen, 1960) with the statistical software SPSS (Table 2). This calculation resulted in a value of $\kappa = 0.815$ which according to the specifications of Landis and Koch (1977), is *almost perfect*. The calculated value was based on the recommendation of Landis and Koch (1977) due to its popularity.

Table 2

Intercoder Reliability of the Content Analysis

	Value	Asymptotic Standardized Error [a]	Approximate T [b]	Approximate Significance
Measure of Agreement Kappa	.815	.010	112.151	.000
N of valid cases	1513			

Note. a. Not assuming the 0 hypothesis. b. Using the asymptotic standard

In addition to the intercoder reliability calculation, the evaluation of the present research was carried out based on further quality criteria. For this purpose, the researchers orientated themselves on the six general quality criteria of qualitative research (Mayring, 2002). In the first step, *process documentation* was considered. This quality criterion refers to the detailed documentation of the analysis procedure to guarantee the greatest possible traceability. In particular, the prior understanding, the analytical instrument's selection, and the data collection should be considered here. The great importance of a systematic procedure with the help of previously defined rules is shown in the criterion of rule control. In this sense, the analysis steps are defined, and the units to be analyzed are classified (Mayring, 2002). These two quality criteria can be regarded as fulfilled in the present work since a process model based on Mayring (2015) was created, which shows the performed analysis steps in detail. The fulfillment of a further quality criterion, the argumentative interpretation safeguard was aimed. This criterion is based on a well-founded, theory-led, and comprehensible interpretation of the material (Mayring, 2002). A coherent interpretation should be guaranteed. Interpretation rules were drawn up. The fulfillment of the criterion was pursued through the specification of anchor examples in the category descriptions from the source material, the orientation towards the scientific state of research, and the implementation of quantitative frequency analyses.

In the context of this study, the *proximity to the objec*t is also to be assessed. The choice of the methodology, the guideline-based semi-structured interviews, enabled the test subjects to be close to their everyday work, so the criterion can be regarded as fulfilled (Mayring, 2002).

Triangulation describes the attempt to use different methods to answer the question. These results are then compared (Mayring, 2002). Due to the qualitative content analysis and the quantitative frequency analysis, the desired mix of methods was achieved. Since the respondents are ascribed to a high level of competence in qualitative-oriented research, the results' validity can be determined based on a discussion with the test subjects (Mayring, 2002). This process is known as communicative validation and was not implemented for economic reasons.

To complete the qualitative content analysis, the results were compiled in a final step and interpreted regarding the question. Additionally, to the content analysis, we conducted two frequency analyses. With the help of these different methods, different facets of the research issues can be explored. The first analysis was carried out to explore how often the categories were mentioned to make statements about the relative weight of these text components per frequency. Therefore, we assigned each paraphrase to the appropriate category and counted these. The second analysis provided information about how many participants have mentioned a certain sub-category. Thus, it is possible to make statements regarding how many team leaders address a certain topic which under certain circumstances can underpin the importance of a topic (Mayring, 2015). Nevertheless, we need to be aware of our role as researchers. Since we guided the content of the semi-structured interviews to a certain extent by, for example, asking follow-up questions regarding aspects that we think are interesting or simply showing more interest in our facial expressions for certain information, the space and time that is occupied by different statements might be distorted by us interviewees.

Results

In this chapter, results of the analysis regarding leaders' experiences are presented using content analysis of Mayring (2015). This qualitative analysis resulted in a category system as the central result of the present work reflecting the source material (the interviews) in a structured and generalized form. In total, 25 main categories with many sub-categories were extracted, on which further interpretations can be carried out. A detailed description of the main categories, coding rules and anchor examples can be found in Appendix G.

Since the scope of the work does not allow a description of each category, only the content of the categories that are relevant to the research questions and / or show an abnormality in the frequency analyzes is described below. Figure 1 illustrates the assignment of the main categories to the research questions to answer them. Appendix H contains a table that shows the

absolute and relative frequencies for all 25 main categories. Appendix I shows the frequency calculation of the subcategories.

Definition of Virtual Health Promotion

Category one summarized how the leaders understood virtual HPL. In addition, category two lists some of the goals of HPL, along with their definitions. Category six is also classified here, showing where leaders saw their limits and to whom they attributed responsibilities regarding health promotion.

Virtual HPL: A Situational Leadership Style That Continuously Manages Employees Health

With 3.7% of the material, an average frequency, category one can describe how leaders define virtual HPL. More than half of the participants said that HPL includes monitoring and managing employees' physical and mental health. About one-third of the respondents also stated that this is a situational leadership style and that HPL is a daily task with a continuous effort. Two participants understand HPL, to be target-specific, inclusive, and intercultural. To the same extent, some participants stated that HPL is not a unique leadership style and that the leader works for the team and not vice versa.

> Case B: So, from my point this is a very, very important aspect of leadership and this goes way beyond COVID-19. I think health is always an issue, it has to be an issue for the company but also for everyone who is in a leadership or manager position. My understanding of health-promoting leadership is to really be there for your team, and I always tell them you don't work for me; I work for you. (XIX)

Furthermore, a small proportion of the material (0.7%) defined goals for virtual HPL (category 2). Here, the biggest goal was the good work performance of the employees. The second most frequently stated goal was to enable employees to work freely and autonomously.

Different Limits and Responsibilities in Virtual HPL

Category six describes, with an average proportion of 6.4%, the degree of influence leaders believe they have on the health of their employees. Each interviewee reported that they experience certain limits. Some leaders stated that they cannot influence physical health, while others say that they cannot influence the mental or psychological state. In addition, some reported that they cannot influence the health of the employee beyond professional life. Most of the interviewees said that not only they as leaders but also the organization and the individual employees themselves are responsible for health promotion.

Figure 1

Assignment of the Main Categories to the Research Questions

How do leaders define health-promoting leadership in a virtual work environment?	• C1: Definition of health promoting leadership • C2: Goals of health promoting leadership • C6: Degree of leaders influence on employees health
How do team leaders describe helpful behavior and characteristics for virtual health promotion in the virtual work environment?	• C3: Behavior of leader to promote health in employees • C4: Characteristics for being a health promoting leader • C5: Leaders education • C12: Behavior of leader to promote health in themselves • C13: Leaders status of health at the virtual workplace • C14: Benefit for leader to promote own health • C15: Challenge for leader to promote own health
What conditions do leaders experience that enhance and inhibit them from being a virtual health-promoting leader for their team?	• C7: Conditions organizational factors • C8: Conditions social factors • C9: Conditions macro level • C10: Challenges for virtual health promotion • C11: Benefits for virtual health promotion
How do leaders experience the influence of the COVID-19 crisis on everyday virtual health promotion?	• C16: Impact of COVID-19 on the team • C17: Impact of COVID-19 on the leader • C18: Impact of COVID-19 on the organization • C19: Impact of COVID-19 on health-promoting leadership • C20: Crisis leadership • C21: Crisis Management Organization
What are future demands of the leader to promote health in their teams?	• C22: Lessons learned • C23: Need for improvement • C24: Future of health promoting leadership • C25: Future working model

Leaders Approach to Virtual Health Promotion

To answer the second research question, which examines what behaviors leaders experience that reinforce and inhibit them from being a virtual health-promoting leader for their team, categories 3-5 and 12-15 are used. These categories include what leaders perceive as health-promoting behavior towards employees, what characteristics they perceive as important to be a virtual health-promoting leader and how they promote health within themselves. The latter also includes challenges and benefits of virtual work in relation to their health.

Creating a Feasible Workload, Stronger Meeting and Communication Management, and Caring for Health-Related Issues Beyond the Work Context

With one-fifth of the material (20.5%), category three shows which behaviors leaders virtually use to maintain and promote health in their employees. Each of the respondents stated that they could promote health by managing stress and workload. This is regulated by especially creating a feasible workload for employees and distributing tasks and skills evenly across the team. Eleven respondents stated that they can virtually promote the health of employees through measures in communication and meeting management. In particular, they mentioned more regular exchanges with employees on matters related to work, but also on private topics.

Ten participants said that monitoring and managing their employees' health and dealing with health-related issues is part of health-promoting behavior. Monitoring and managing health were described as actions, such as conducting surveys about the team's well-being, monitoring sick days and absences, and having private conversations with team members about their individual health. Dealing with health-related issues includes, for example, the leader's self-initiated education on the topic of employee health, the exchange with peers about virtual health promotion, the knowledge of boundaries and responsibilities in health promotion, and the ability to detect and follow up on health-related signals from employees.

> Case J: I constantly have on my agenda to ask "how are you, how is the situation, what is going well, what can we still do" and so on, so I try to anticipate and also to perceive early warning signals and then to be able to react accordingly before it then actually comes to health problems. (CLXX)

Two-third of the leaders declared awareness of employees' health additionally as health-promoting behavior. In the virtual context, they described it in terms of awareness of isolation,

awareness of health-related signs, and awareness of interindividual differences in health promotion.

Support in Boundaries, Resilience, and Team Cohesion

Eight of the leaders described that supporting boundary management was an important virtual health-promoting behavior. They helped their employees to set boundaries between work and private life at home to maintain a good work-life balance. Leaders supported their team in establishing a daily structure in the home office regarding work and maintaining certain routines. In addition, some gave their employees the opportunity to flexibly distribute their working hours throughout the day to better handle various private matters in between, such as picking up the children from childcare. Leaders also felt that it is helpful to coach their employees in self-leadership to support them in boundary management. Case A: We've set up some sort of ground rules in a way, WHEN we communicate and WHERE. (V)

Half of the leaders declared supporting resilience towards their employees. Here, they described aspects, such as motivating employees to take care of themselves and others, support their problem-solving skills, and enhance their self-efficacy as well as their own stress management. Also, they said it is important to teach employees to learn from failure. Eight of the leaders described behaviors as health-promoting, which can be summarized under creating team cohesion and belonging. In addition, leaders mentioned trying to create a fair work environment in which employees can grow and thrive.

The Virtual Health-Promoting Leader: Being a Role Model, Resilient and Emotional Intelligent

In category four (3.5%), leaders saw being a role model, in essence, exemplifying desired health-promoting behavior as helpful characteristics. Half of the respondents mentioned characteristics that can be summarized as emotional intelligence (EI). This includes awareness of one's own emotions and their effect on others, dealing with the emotions of others, and empathy. Most of all, leaders experienced being resilient as helpful. This includes qualities such as acceptance of challenging situations, optimism, staying positive, self-reflection and solution orientation. Case B: If you want to promote health it's very essential that you lead by example and that you show how health can be, how you can live healthy and how you can work healthy and be conscious about this. (XXIII)

In category five, two-third of the respondents have received leadership training related to the health of their employees, for example, targeting mental health and well-being of the employees at work.

The Importance of Leaders Self-Care Through Exercise, Routines, and Social Resources

7.5% of the material describes the behavior leaders applied to promote their own health. To maintain their own health, most of the respondents stated that they engage in physical activities. In addition, almost half said they implement and stick to certain daily routines, such as exercising before work or getting dressed in the morning as though they would go into the office. Nearly half reported engaging in social activities with friends, families, and colleagues to stay healthy, such as having lunch or a walk together. When asking leaders about health-promoting behaviors toward themselves, they mentioned both challenges and benefits in this regard. The social resources at home and a better work-life balance through virtual work, which in most cases takes place at home, are stated as the main benefits of virtual work and the reasons that help them stay healthy.

One-third said that it is generally more difficult to stay healthy compared to the face-to-face setting. The biggest challenge was the lack of physical activities, such as walking to the office. Also, a quarter said that it is difficult to draw boundaries between work and personal life when working from home or mobile office. Case F: I think it’s not unusual but it’s more difficult to turn off, cause when you walk to the office and back from the office that walk is sort of your cue to turn off the brain. (XCI)

Challenges and Benefits for Virtual HPL

The first frequency analysis revealed that statements regarding perceived challenges for virtual HPL (category 10) make up the second-biggest share of the whole material with 11.04%. In contrast to the previously presented challenges, it can be recognized that participants' statements concerning benefits (category 11) for virtual health promotion make up only 2.18% of the material.

Challenges of Virtual HPL: New Forms of Communicating, Forming Connections and Accessing Employees

Social factors such as connecting with the team over the distance were perceived as most challenging for virtual health promotion. Nine participants drew attention to the difficulties to fully access employees in the virtual work environment because they are less visible. The

detection of crucial warning signs of employees regarding their health was also perceived as more challenging virtually than in the office.

> Case A: I think there is a challenge in a virtual work environment is that you don't get access to full person as easily as you do when you are face-to-face, that there is a lot of signs that you might not pick up on. Also, it is quite hard to understand that what's going on the working environment of that individual in the same way. (IV)

Additionally, leaders indicated that the emotional connection between the team is more challenging to regulate. This circumstance was mirrored by the difficulty of virtually building trust, creating a feeling of belongingness to the team, and creating team spirit.

The second most frequently mentioned challenge to virtual health promotion was general barriers, such as less visibility and less opportunities and room for health-promoting behavior. This demonstrates that most leaders experienced health promotion virtually for physical and mental health as more complex and demanding than in an office workplace. Eight of the leaders experienced that the possibility to communicate virtually with the team was limited. Concerning this, the participants underlined above all that spontaneous, natural conversations with the team and other department members are lacking to a big extent.

A new Flexible, Comfortable, and Less Mobile Virtual Working Space

Half of the leaders pointed out that flexibility and less mobility, such as fewer commuting hours, benefit health promotion since employees appear less strained and have more freedom in structuring their workday, thus experiencing a better work-life balance. Furthermore, more employees could participate in meetings due to time and location independence, and higher productivity could be recorded. Leaders additionally experienced that those meetings can withhold more profound discussions and are interrupted less often. Also, two participants mentioned that the health of their employees has increased since working virtually because due to a lack of commuting in public transportation, employees tended to be less often physically sick. Lastly, four leaders acknowledged that working virtually, can be sometimes more comfortable for employees and that they are more willing to share vulnerable aspects since they feel safe in their own homes. Turning off the camera might be a driving factor here. Leaders describe that employees felt less observed and more comfortable during phone calls.

The Role of Organizational, Social, and Macro Conditions for HPL

In this research, three different conditions that help and hinder interviewees from being a virtual health-promoting leader could be assigned to three different categories: organizational factors (category 7), social factors (category 8), and conditions at the macro-level (category 9).

The Importance of Organizational Values, Corporate Culture and Supporting Offers

The first frequency analysis revealed that the third biggest share of the material focuses on conditions on the organizational level (9.85%). Especially organizational offers regarding health promotion such as virtual events for the employees regarding connecting personally, exercising together, and similar events were perceived as helpful for eleven leaders. One leader reported that their organization approaches health promotion creatively with various games, including physical movement or engaging socially in the family or the community.

> Case F: When we do team events, we order like food for everyone just to have like it's like a nice touch that you don't have to cook that day or we book slots where we just talk about other things, that are not work. Maybe we do like a quiz or do like Pictionary, we play multiplayer games, so we just play games and then people get to bond and laugh and talk about something else that is non-work related. (LXXXVIII)

Furthermore, ten leaders acknowledged the importance of organizational culture and values for health promotion. In this regard, leaders underlined that the organization must prioritize and value health because it provides a base on which to build their health promotion. Next, leaders mentioned a variety of psychological and physical working conditions that support or diminish health promotion. Regarding the physical work environment, a necessary condition that was highlighted was an adequate working environment at home, such as having an ergonomic chair. Additionally, the digital transformation of the organization and the ability to work with digital tools seemed to be a driving factor for virtual health promotion just as it is a diminishing factor. Concerning psychological factors, high workload and pressure appeared to be best counteracted by more flexibility of the working situation.

Trust, Hierarchy and Leaders Prioritization of Health

As the second most crucial condition for virtual health promotion, the leaders mentioned social factors (4.16%). Eleven interviewees mentioned team conditions and ten participants discussed leadership conditions as influencing factors. Concerning conditions in the team, an atmosphere of trust and inclusiveness was perceived as crucial. The team members should support each other in various regards, and health-related issues should be included and accepted

in conversations. Furthermore, the team was essential for leaders to promote health because they depend on open and transparent feedback regarding employees' health-related needs and status of health. A steep hierarchy in the team was perceived as a hindering factor for creating a relaxed atmosphere of trust. Leaders highlighted the need for one-on-one conversations with each employee concerning their health. Moreover, they must have time resources, and will to do so.

In addition, the leaders should have access to resources and have a latitude of decision that enables them to promote health as it is necessary for the team. As most diminishing, a disconnection from the team was mentioned and putting high demands and pressure on employees regardless of their health constitution.

Loans and Health-Related Laws as Support for Virtual HPL

Lastly, with a small share of the material (0.26%), conditions on the macro level (influencing factors from outside the organization) such as loans from tax agencies and laws from governments regarding health were mentioned in relation to health promotion. Leaders perceived loans from tax agencies that provide money for employees that engage in physical activities as helpful, because it was hard for leaders to provide incentives for employees outside of the workspace.

The Overall Negative Impact of the COVID-19 Crisis on the Team, the Leader, and the Organization

The first frequency analysis reveals that COVID-19 has negatively impacted the team (3.57%). Ten leaders observed that the current COVID-19 crisis in combination with virtual work seems to negatively affect employees' physical and mental health due to more experienced strain in private and work life (category 16). This overall negative impact on health is also experienced by the leaders themselves (category 17). They were more strained, had a lack of social life, and limited possibilities of exercising due to, for example, the lockdown in Germany and felt, therefore a decrease in their physical health. Furthermore, they were apprehensive about their family and employees potentially getting infected with the virus. Concerning the experienced workload, the working hours varied from lower working hours to more working hours and differed among the organizations. The leaders and the organization seemed to put more effort into the health of their employees. For instance, in one organization various leaders donated their own money to help employees in difficult situations.

HPL Shaped by Context: Amplification of HPL During the COVID-19 Crisis

In category 19, with 3.17% of the material, leaders discussed which impact COVID-19 had on their health promotion regarding their employees. Ten participants have mentioned that their attitude regarding virtual health promotion changed after one year of leading virtually. Most leaders said that they have an amplified understanding and awareness of health and pay more attention to their own and employees' health. However, only a small number of leaders reported that their leadership style has changed. Case I: I think that the time I spend on leadership has probably doubled (...) I am expected to be considerate of every circumstance, even more so than before. (CLVII)

Answering the question of what aspects are essential for leading their team through the crisis in a health-oriented way, leaders reported that, first and foremost, communication is an important factor, as mentioned by half of the leaders. Leaders experienced that it is crucial to communicate more often with their employees, to practice active listening, and to transparently communicate decisions of the organization and the leader. In these more frequent meetings, checkups with the whole team and being closely connected to the employees seemed to be another critical aspect of crisis leadership. Four of the leaders experienced having a supportive leadership style proved to be beneficial for health promotion during crises. This supportive approach focuses on being an approachable leader, actively offering to help find solutions, and taking time for each employee. Lastly, four leaders accounted for the importance of resilience and actively promoted it in their employees.

Future Demands for Virtual Health Promotion: Limits of Virtual HPL, More Focus on Individual Health Promotion and High Demand for Hybrid Model

With 9.7% of the material, leaders estimated how working models and HPL are currently changing and will develop in the future. They also expressed what things they have learned during a year of virtual HPL and what improvements and needs are required for the future.

In category 22, the feasibility and limits of virtual work and virtual HPL are mentioned by ten participants. Here, leaders noted that most of the work can be done virtually. However, social interactions or constructs such as trust-building cannot be fully replicated virtually. Half of the leaders experienced various methods as helpful to substitute physical interactions, such as virtual coffee breaks or eating together. Five of the respondents identified new requirements in virtual work. These were, for example, the increased need for meeting management because of the lack of conversations in between.

Five leaders stated that there is need for improvement regarding how health can be promoted on an individual or team level, such as improving team spirit, trust and belongingness (category 23). Another five leaders saw a need to adapt organizational offers such events and coaching to a virtual setting. Leaders estimate that there will generally be a greater focus on leadership and health promotion in the future (category 24). More attention will have to be paid to individual health-related needs of employees in the organizational context.

In the last category (category 25), leaders gave their feedback and preference on how they will or want to continue working after the pandemic. Ten leaders said that they want to work in a hybrid model to benefit from the advantages of both working environments, such as fewer distractions at home or personal exchange in the office. This could mean working two to three days in the home office and two days in the office.

Discussion

The study aimed to obtain insights into virtual HPL in times of a crisis based on *virtual leaders' experiences* with the help of a qualitative approach, contributing to current research concerning leadership and situational factors. The main emphasis of this work lies on the leader's application of HPL in the virtual context, the identification of critical conditions for focusing on health, and how the current COVID-19 crisis has affected health promotion. To answer the five research questions, we conducted semi-structured interviews and processed and interpreted these, by applying the content analysis of Mayring (2015).

Leaders in this study defined virtual HPL as specific actions on the one hand and perceived as a situational style or continuous effort on the other hand. Virtual HPL is associated with different perceived limits that vary between leaders. Virtual HPL is rather understood as an additional leadership task than an own leadership style.

The main behaviors leaders described when approaching virtual HPL were managing employees' stress and workload, organizing meetings, increasing virtual communication, and managing and monitoring employee's health. Leaders perceived advantages for promoting health in employees when they were role models, resilient, emotionally intelligent, and behaved ethically. When promoting their health, leaders engaged in physical exercise and a healthier diet. Establishing routines is an aspect that people consider important, both for themselves and for their employees. An important finding from this study was that leadership appeared to be

amplified in the virtual setting and highlights the importance of leadership training and responsibility concerning employee health and leading through a crisis from a distance.

It must be recognized that health promotion also depended on organizational, social, and macro conditions that both supported or inhibited virtual health promotion during the crisis. These factors are, for example, the organizational culture, technical infrastructure, trust, and loans from the government.

Our study further revealed that HPL during a crisis was both valued and applied by leaders even though leaders' health has also suffered since COVID-19. The need for transparent, open communication, a close connection to the team, and active coping strategies are more salient for leading in a health-promoting way during a crisis. Leaders have underlined the importance of resilience within themselves, their employees, and the whole organization to prepare them for future challenging situations and maintaining health.

Since the hybrid work model seemed to be the preferred future work form, research should focus primarily on the leadership competencies needed to successfully lead health-promoting in both work forms. This study provides several directions for research on this.

Defining Virtual HPL

The first research question aimed to answer the question of how leaders define virtual health promotion for themselves. According to this study, monitoring and managing the mental and physical health of employees was the most frequently mentioned factor of virtual HPL. Some leaders felt that virtual HPL is a situational leadership style, other leaders, however, perceived virtual HPL as a constant effort, which does not necessarily match the definition of situational leadership (see Thompson & Glasø, 2015). This would imply that leaders vary their effort in health promotion according to when it is needed.

Another finding reinforces this contradiction, in that, for some leaders, HPL were not a leadership style, but a part of successful leadership. However, it is not clear how leaders define successful leadership, and it is therefore difficult to state how much of it is related to health promotion. Also, health promotion or healthy employees might be understood as a successful outcome of leadership in general (Hogan & Kaiser, 2005). This supports the conception of Rudolph et al. (2020) if HPL can be theoretically captured at all, and how much this differs from previously established leadership styles. The question arises for further research, to what extent a hard demarcation of leadership styles is meaningful, when in practice many different

characteristics of leadership styles were described by *leaders themselves* and partly contradict each other. Especially for virtual HPL, this finding can be informative for further practical insights and leadership trainings, as virtual health promotion is not defined as a specific leadership style, but certain attributes, such as monitoring and managing health, might function as add-ons to already existing leadership trainings as the HoL model suggests. Their concept of HoL is defined as a leadership approach rather than a leadership style (Franke & Felfe, 2011).

It is striking that half of the participants named good performance as their main goal of HPL and only one participant mentioned healthy and happy employees. This result is in line with Eriksson et al. (2011), where leaders' intentions of health promotion are more goal- than health-directed. This may give an indication of the extent to which organizational success influences leadership and health promotion.

Leaders experienced their influence on the health of employees differently. Some noticed an influence only on physical health, for example through the promotion of an ergonomic workplace. Others perceived a virtual influence on mental health by actively trying to avoid stress and strain for the employees. This could be because, first, leaders differ in their background regarding health-related training and knowledge and, second, organizational support options for health promotion can differ. It can be assumed that the perceived influence varies greatly and depends on the leader, the team, and the organizational culture (An et al., 2019; Kragt & Guenter, 2018) but also on the different aspects of health, such as physical and mental. It is of great importance to explore how employees perceive the influence of their leaders while working from home compared to working in the office.

Overall, a clear definition of virtual HPL cannot be derived from this qualitative analysis and virtual HPL is, therefore, more likely to be understood as an additional task or quality of leaders that may become more intense in certain situations, such as crises.

Leaders Approach to Virtual Health Promotion

The second research question covered leaders' approaches for health-promoting behavior in the virtual work environment.

Health-Promoting Behavior of the Leaders Towards Employees

Most of the material included descriptions of leaders' behavior toward employees indicating that all leaders were concerned with promoting their employees' health and that they had various approaches to it. Every leader perceived managing stress and workload as crucial. Leaders

perceived placing excessive expectations on employees and exerting pressure are counterproductive for health promotion. High workload and working hours should be avoided and the work should be distributed equally among all employees in the team. The fact that the management of workload and stress represents such a priority in the described behavior can be explained with the so-called workload-strain model (Richter & Hacker, 1998). It includes factors, such as work tasks, working hours, personal issues or role conflicts, that influence the health of employees. Stressful and demanding situations can be a motivation and release energy in the short term but can cause mental fatigue or psychosomatic diseases and symptoms in the long term. This model is also applicable to the virtual context (Richter et al., 2006). As this study indicates, virtual leaders saw themselves in the task of counteracting these stressors at the workplace and tried to act as buffers.

Most interviewees mentioned meeting frequency and communication style as crucial for health promotion. It was emphasized that a higher meeting frequency is needed virtually compared to working in a non-virtual environment. This could be related to the lack of natural conversations and the lack of physical presence in the office. Every conversation has to be initiated virtually and team members no longer meet naturally, creating a new challenge for the leader regarding improving cohesion and teamwork. The frequent use of ICT indicates a shift for the team's communication (Dragano & Lunau, 2020; Schmidt, 2014). Leaders preferred video conferences as they experienced this tool as convenient to replace facial expressions, gestures and physical appearance of themselves and their co-workers.

The quality of the relationship between leader and employee is a factor that was also determined by communication. Previous research emphasized the importance of leader-member-exchange (LMX) and the influence on employees' physical and mental health (Gregory & Osmonbekov, 2019). LMX refers to the quality and frequency of leader and member interactions and conversations which impact their relationship (Nielsen et al., 2017). It was shown that employees have greater access to a positive and healthy work environment if LMX was effective and successful (Gregersen et al., 2014). This emphasizes the importance of learning to deal with new communication structures, from both the leaders and employees. From the employee and leadership perspective, it remains to be investigated which tools are best suited for what type of communication and purpose of communication. Our research indicates that leaders felt that quick

talks or requests can be replaced with chat functions, but intensive employee conversations need to be held with video calls or one-on-one phone calls.

Dealing with health-related topics and knowledge is part of health promotion. This meant, for example, leaders continuing education regarding especially virtual HPL. This included knowing when to involve external help, exchanging experiences with colleagues on health-promoting topics, and passing on knowledge regarding health-promoting measures from the organization to employees. Furthermore, leaders said they need to put more effort into understanding employees' individual situations at home to better notice and track health-related signs. Eriksson et al. (2011) illustrated characteristics of leaders and organizational culture that value and support employees' health. However, in relation to virtual work and a crisis, new requirements can be derived from these experiences, such as awareness of individual situations at home and emphasis on the need for open exchange between leaders regarding virtual HPL measures. Future research should take these findings into account for creating a holistic concept of virtual HPL.

A helpful behavior that two-thirds of the leaders also mentioned is awareness of employees' health. This refers to the awareness of interindividual differences in the need for health promotion among employees, awareness of the effect of isolation and an open and conscious approach to the health of everyone in the virtual workspace. This, however, might be in contradiction with the approach of distributing work evenly amongst the team, which was mentioned earlier. Health awareness is also an important aspect in the HoL concept of StaffCare in the sense of focus and sensitivity towards health and strain-related topics of employees (Franke et al., 2014) which has been stated also by the leaders in Efimov et al. (2020) study as a part of virtual health orientation. It can be argued that without health awareness, health promotion is not feasible and therefore an inevitable part of HPL and hence, an aspect every leader should apply and train. However, the interviews further showed that health awareness needs to cover new aspects of crisis and virtual space which impact health, such as isolation.

Working virtually in times of crisis imposes the challenges of creating boundaries, structuring the day autonomously, and finding time for recovery since natural boundaries, such as commuting, are missing. Leaders tried to counteract these difficulties by supporting their employees' creating structures and routines together with them. In addition, the self-leadership of the employees was promoted, and the team was encouraged to consciously show boundaries

between their work and private life to increase awareness regarding this topic. Self-leadership has been related to positive health outcomes in previous research but so far only in face-to-face settings (van Dorssen-Boog et al., 2020). Flexibility was increased to allow for a better individual tailored work-life balance (Liao, 2017). When leaders noticed that employees were struggling to set boundaries, they allowed recovery as a health-promoting resource (Richter & Hacker, 1998). Based on this research and the only study conducted on virtual healthy leadership (Efimov et al., 2020), boundary management and self-management, are new core topics in virtual HPL during a crisis.

Interestingly, creating cohesion and belonging was also mentioned just as often as boundary management, partly stated by Efimov et al. (2020). A positive social climate can reduce stress and exhaustion, while an adverse social climate enhances these consequences (Law et al., 2011). According to the leaders, a positive climate included actions, such as connecting with the team, creating healthy relationships, creating a fair work environment, and engaging together in health-promoting activities. Leaders increased the team meeting frequencies involving both work and private matters to create a feeling of belongingness. Previous literature stated that building trust is more difficult from a distance (Efimov et al., 2020; Inceoglu et al., 2018). Interestingly, only one-third see trust as a helpful behavior even though it might be directly related to a feeling of cohesion and belonging within the team (Jarvenpaa et al., 2004). It is not clear if leaders related it to the trust they have in their employees or if they indicated mutual trust as a health-promoting factor. For the latter, the perceptions of employees' trust in their leader might be of interest for future investigations as trust in the leader has been associated with employees' well-being in previous research (Liu et al., 2010).

Monitoring and managing health in the sense of getting health-related information of the employees' health status has been emphasized by most leaders. However, it should be considered that this process must be evaluated in accordance with the employees. Monitoring health, which means the frequent checking and observation of employees' constitution, could be experienced as controlling and distrustful and might therefore be counterproductive (Liu et al., 2010). Leaders seemed to find themselves in an ambiguous position because, on the one hand, there is a higher need for support, meetings, and monitoring behavior since leaders have difficulties gaining access to employees virtually. On the other hand, an essential prerequisite for virtual work and health promotion seemed to be trust, which cannot be established by controlling behavior.

An aspect that has not been explicitly mentioned by previous research in the HPL context is the support of resilience in employees. As resilience has been named as important in crisis psychology (see Meynhardt et al., 2021), these statements may have been stated as the last year has been marked by the pandemic and the additional stress this crisis has created. Nevertheless, for future virtual health promotion research, one approach is to include resilience, as this seems to have a beneficial effect on the stability and health of employees.

Health-Promoting Characteristics of Leaders Towards Employees

Four characteristics emerged that leaders perceived helpful for virtual HPL. Being resilient appears to be beneficial for promoting health since it can be assumed that resilient leaders can also better support resilience in their employees. Previous research has found that resilience was associated with general effective leadership in theory and practice (see Ledesma, 2014; Wang et al., 2017).

Half of the participants indicated characteristics that are related to EI according to Salovey and Mayer's (1990) definition to be helpful for HPL. This is in accordance with previous results stating that high EI can affect leaders' own stress, well-being, and health positively (Slaski & Cartwright, 2003). Further, research has shown that EI is a critical factor in leaders for the effectiveness of teams, also in the virtual context, as there is less verbal and non-verbal information from the team members and thus a less foundation to judge states of the employees (Kerr et al., 2006; Pitts et al., 2012). This is a possible explanation why leaders named aspects of EI as important characteristics for being a good virtual health-promoting leader; however, these are more related to organizational success outcomes than to employees' health. EI has not yet been named in HPL or virtual HPL. Thus, the present paper opens a new direction for future research. Specifically, it seems worthwhile to examine the role of EI in (virtual) HPL in detail as well as the impact that EI training might have on a healthy leader and team.

Half of the interviewees stated that one could only promote health and impose measures by leading by example and acting as a role model. For instance, keeping certain boundaries between work and home themselves or openly communicating health issues. In relation to the component SelfCare from the HoL Model (Franke & Felfe, 2011) and other studies (Efimov et al., 2020; Kranabetter & Niessen, 2016; Köppe et al., 2018) the role model function has emerged as a crucial prerequisite for virtual health promotion. It would be important to investigate to what extent the employees perceive their leader as a role model.

A quarter of respondents further stated that honesty and transparency are essential qualities in virtual HPL. In previous research, these characteristics have tended to be classified as components of ethical leadership (Lawton & Páez, 2015). As the authors stated, ethical leadership cannot be understood as its own style but depends on the organization and situation. In this regard, different situations may need different types of ethical foci. Based on the results of the present study, it can be assumed that honesty and transparency about leaders' own health issues and conditions are crucial factors in effective virtual HPL and that they need the same level of honesty and transparency from their employees.

Future research on virtual HPL, should include beside the above-mentioned characteristics such as EI and resilience ethical leadership, to get a more holistic picture of the concept. Virtual HPL has several similarities with existing concepts such as HoL (Franke & Felfe, 2011) and HPL (Eriksson et al., 2011), which are derived from the face-to-face work situation.

Health-Promoting Behavior of the Leaders Towards Themselves

Leaders in this study also reported maintaining their health through physical activities and a healthy diet (Efimov et al., 2020). Maintaining routines was a helpful measure. Even though most leaders support employees' boundary management, only two explicitly mentioned their boundary management as helpful. This is not entirely in line with the characteristic of being a role model mentioned before and raises the question of why leaders did not mention this more often. One reason for this might be that leaders want to be continuously available for supporting their employees in this new situation, resulting in an inconsistent setting and sticking with their own boundaries and recovery times. Therefore, it would be beneficial for leaders to prioritize and improve their self-management (van Dorssen-Boog et al., 2020) to increase recovery times and boundary management (Allvin et al., 2011).

Leaders named factors that enhance and diminish their health at the virtual workplace. Challenges were mentioned more than twice as often as benefits for promoting leaders' health. This suggests that leaders still need to find ways to maintain their health in this new work environment. This is an important aspect, as the leader is expected to act as a role model (Franke & Felfe, 2011). The lack of experience regarding their virtual health promotion towards themselves might add to the difficulties of promoting health in employees. The biggest challenge was the lack of movement during the workday at home. Physical exercises and activities were

mentioned most often for maintaining their health. The lack of physical activities and their conscious implementation in a daily routine seems to be a core topic in leaders' virtual health promotion. An enhancing factor for leaders' health at the virtual workplace was the proximity to social resources, such as friends and family, and the higher feasibility of a work-life balance, which in part contradicts boundary management as a challenge. Social activities with friends, families, and colleagues were perceived as beneficial (Efimov et al., 2020). Especially in times of pandemic, social support and interaction are important factors that significantly promote mental health (Grey et al., 2020).

Regarding the components of HoL (Franke & Felfe, 2011) it can be said that SelfCare leader and StaffCare follower overlap with the leaders' experiences in this study and fit with Efimov's et al. (2020) findings. In their results as well as in the experiences of the leaders participating in this study, commitment to health-related measures and personal activity (behavior), the importance of health and personal interest (value), as well as being sensitive to health and strain related topics (awareness) is stated. As their own health-promoting behavior was not the main topic of the study and the interviews, these experiences might not be described as detailed as their health-promoting behavior towards their employees.

Influencing Conditions on Virtual HPL

The third research question focused on identifying conditions that support or hinder virtual team leaders from promoting health in their teams. The interviews indicate that leaders' health promotion depends to a considerable extent on the defined critical organizational, social, and macro conditions. This finding underlines the importance of not just focusing on how leaders should behave or what characteristics they ideally embody but to actively account for the system in which the leaders act (Efimov et al., 2020; Eriksson et al., 2011; Jiménez et al., 2017a). The high need for discussion in the interviews about experienced challenges for virtual health promotion indicates that leading virtually is still perceived as a challenge and leaders seem to struggle with grasping this concept. The circumstance that the interviewees are involuntarily virtual leaders with little preparation might contribute to this knowledge gap. Our findings regarding conditions appear similar to those by Efimov et al. (2020), which could identify organizational, social, and technical factors that influence leaders' virtual health promotion.

Organizational Conditions

Leaders with the goal to promote health in their team perceived a corporate culture that prioritizes and values health as a crucial factor. Without this foundation, virtual leaders could not succeed with their health promotion regardless of their effort. Furthermore, a strong culture might have enhanced the credibility of the leader's health promotion acts. When employees saw other colleagues, leaders, and even the top management acting health-promoting in their everyday practice (e.g., avoid overworking, engage in physical exercise), they might have engaged in the same behavioral patterns. This further underlines the importance of the leader being a role model (Franke et al., 2014; Kranabetter & Niessen, 2016) and multiplying the organizational culture (Franke & Felfe, 2011). These results are in line with the previous understanding of HPL, in which Eriksson et al. (2011) set the goal of establishing an organizational culture that values the employees' health and motivates them to act in accordance with this culture. Additionally, the top management might have an extensive influence on the organizational culture (Hu et al., 2012; Tsui et al., 2006). When top management participates in actions that correspond to the organizational culture, the likelihood is higher that employees perceive the corporate culture as more robust and adhere to that culture (Hu et al., 2012), resulting in a higher person-organization fit (Hoffman et al., 2011). This elevated fit might increase the employees' commitment to the organization (Kristof-Brown et al., 2005) and might have positive effects on their subjective well-being (Park et al., 2011). Thus, it can be assumed that organizational culture might have played an essential role in health promotion in virtual teams before the COVID-19 pandemic. This indicates that culture and values are important for different leadership contexts and should be studied empirically, in, for instance, mediation or moderation studies between leadership and health.

In line with previous literature, virtual leaders perceived that it is alleviating for them if the organization provides offers that target the health and well-being of the team (Efimov et al., 2020). During the COVID-19 crisis, feelings of loneliness and isolation among the workforce seemed to increase (Tuzovic & Kabadayi, 2021). Therefore, virtual social events that help people connect seemed to offer an essential tool for leaders' health promotion. Since people move less physically when working from home most organizations provided virtual exercising. Exercising is beneficial since it both might increase physical health, such as lowering the blood pressure (Wen & Wang, 2017), and mental health such as less anxiety and stress (Mikkelsen et al., 2017). Further literature indicates that physical activity is related to higher levels of resilience (Wu et al.,

2013). It is important to mention that these offers might only attract those employees who like to engage in such activities. To motivate every employee to involve in and benefit from these programs, the leader could, for instance, initiate exercising as a team event. By creating a team calendar, the feeling of belongingness in the team might increase, and attendance is raised (Kordsmeyer et al., 2019).

To observe and monitor their team's health, virtual leaders depend on technical infrastructure (Efimov et al., 2020). Technology was seen as both enhancing and inhibiting virtual leadership. An essential tool for leaders is video conferencing which support them to gain access to the work environment and constitution of the employees while critical social cues, such as eye contact, are not lost. In contrast, the results revealed that cameras might play an essential role in the level of comfort for the employees. It was underlined that without a one-on-one conversation with intimidating direct eye contact, some employees were able to share more vulnerable work- and private aspects than before. This way, leaders gain critical insights into employee's health status and work environment. Based on these insights leaders might provide more appropriate, individual support. However, it is important to acknowledge that during these times, employees might be vulnerable and share more of their private lives than usual. Here, the leaders find themselves in a complex situation in which, on the one hand, they need to find out more about the critical health status of the employee but, on the other hand, must respect their privacy. This is a critical aspect for future practice in which, when needed, it could help to offer one-on-one meetings on the telephone for employees who have trouble opening up. Further, ICT can cause frustration and stress since it is used permanently (Kordsmeyer et al., 2019), and employees are continually available. Thus, creating boundaries between work and private life shows to be more challenging. To counteract this, the leader should, together with the team, set up rules for virtual communication, such as finding times for writing and answering emails. Here, the leader should be a role model and stick to the agreed time slots.

As previous literature indicates, flexible working conditions can enhance and inhibit health promotion. The virtual work environment is characterized by less strict working structures, affecting the individual negatively because work time might uncontrollably expand, especially for leaders (Kordsmeyer et al., 2019). However, this flexibility enables a more individualized work design tailored to the individual needs, helping to create a better work-life balance (Liao, 2017). Employees who are self-managing their time and gain a higher latitude of decision over

their work seem to show more positive health (Joyce et al., 2010). Leaders can support employees in successfully managing their time and recovery periods to limit experienced strain.

Social Conditions

Another essential condition for health promotion of the leader identified in this work are social conditions. Having a positive, supporting climate in the team in which the team members and the leader are looking out for each other and being approachable is a crucial factor for occupational health (Horstmann & Remdisch, 2016). In this work, especially the team factors feedback, hierarchy, and trust were highlighted by the participants. Feedback has been identified early in literature as a critical aspect of HPL (Vincent-Höper et al., 2012) and is seen as a valuable job resource (Jiménez et al., 2017c). A well-established feedback culture is a valuable resource, since feedback provides the basis for developing skills and improves the relationship between the person who provides and the person who receives feedback (Chen et al., 2007). The social bond and appreciation for each other can increase, which positively influences the virtual team's social climate and social relationships (Horstmann & Remdisch, 2016). The need for feedback has been acknowledged mainly from the employee's perspective (Winkler et al., 2014). Leaders also benefit from their team's feedback regarding their health and health-related needs to target individual needs, such as managing the workload. Thus, not only the leader can be seen as a resource for health promotion, but also the followers. This conclusion follows the argumentation of Franke et al. (2014), emphasizing the role of employees in their health-oriented leadership model and sees health promotion as a dyadic relationship between leader and followers.

High hierarchies and a big power gap between leaders and followers can also diminish the feedback culture because followers might be afraid of providing honest feedback to leaders, fearing that leaders, for instance, feel offended. In this study, leaders aimed to counteract the hierarchical order by being transparent and increasing trust. Smaller groups and one-to-one meetings supported employees to open up. To counteract difficulties resulting from hierarchies, implementing a shared leadership style in which all team members exert leadership tasks might be helpful. Previous literature identified shared leadership as a promising tool to increase trust levels, commitment, job satisfaction, and performance, in virtual teams (Robert & You, 2018). A closer inspection revealed that only Swedish participants mentioned hierarchy as hindering, indicating that there might be a cultural difference which should be considered in future research.

Furthermore, a highlighted factor was that leaders need to have time to engage in health promotion. This circumstance is connected to organizational factors, such as prioritizing health in the organizational culture and values and by top management, which provides the leaders with resources to focus on health as one of their tasks (Efimov et al., 2020; Eriksson et al., 2011).

Macro Conditions

Lastly, macro conditions, such as health-related laws and regulations, were mentioned to enhance virtual health promotion. Here, the countries' labor laws were mentioned as a helpful basis for acting health-promoting. In Sweden and Germany, the employer is responsible for the work equipment and environment (AFS 2015:4; Bundesamt für Justiz, 2021). However, during these times, it is difficult to influence the home office of employees. Due to the closing of childcare facilities, parents need to take care of their children at home, which might be disturbing.

In previous literature, the role of these laws and regulations has not been studied (Dellve & Eriksson, 2017). Swedish and German leaders might have perceived the impact of macro conditions to a more considerable extent since the respective countries were under different private and work-life restrictions. This might have impacted the leaders' experiences concerning virtual health promotion in terms of how strained their followers were, how this crisis impacted the organization, and how much leadership and support was needed. In this study, a county comparison is not the focus of our research and would exceed the scope of this thesis. Moreover, the groups of five and six respondents were somewhat too small to make a valid comparison.

Virtual Health Promotion during Crisis

Impact of Crisis on Health

The fourth research question aimed to answer how leaders experience the influence of the COVID-19 crisis on everyday virtual health promotion. As previous literature has described (Bavik et al., 2021), participants experienced this crisis as highly salient. The COVID-19 crisis has diverse effects on virtual teams and leaders in terms of workload, stress, and the impact of governmental regulations. This diversity of effects underlines how difficult it is to prepare for such a unique event (Bavik et al., 2021). Leaders’ preparation for a crisis varied significantly, with no leader confidently saying to be prepared for a health-threatening crisis of this scope. The role of the leaders has intensified since the increasing experienced strain by employees. Leaders observed that employees seem to depend more on health promotion and seek more conversations

and support. The team's health and the leader, the social climate in the team, and the leader's attitude and value towards health promotion all amplified during this crisis.

A similarity in all interviews was that the health and well-being of virtual teams and their leaders were negatively affected. This result is in line with previous research revealing that a health-threatening crisis (SARS) has had adverse effects on people's mental health in terms of stress levels (Bonanno et al., 2008; Bonanno et al., 2010) even one year after crisis (Lee et al., 2007). Current research on health consequences during the COVID-19 pandemic in the Chinese population reveals that people showed higher levels of depression and anxiety (Li et al., 2020; Ran et al., 2020; Zhao et al., 2020). These results were found in a sample of participants who were rating their health low before the crisis. Comparable studies regarding how the COVID-19 crisis affected the mental health of people in Europe are lacking. However, the results regarding the negative impact of the crisis on mental health highlight the need for a preventative, systematic approach focusing on resilience factors for protecting individuals in future uncertain events.

Virtual HPL and Crisis

This study identified factors that leaders experienced helpful for virtual health promotion during this crisis. These factors can be the content of future crisis leadership training. Communication was perceived as the most helpful skill that enables leaders to promote health. Leaders depend on the feedback and willingness of employees to share critical health-related topics and are therefore required to listen actively to their staff. The uncertainty and constant change of circumstances during crises might be why more frequent meetings are needed and conducted. During these, the leaders can, on the one hand, gain access to their employees and identify their needs and, on the other hand, inform their employees about new regulations and changes in the company (Wooten & James, 2008). By mindfully communicating with followers, leaders can show their empathy and respond to employee's needs (Teo et al., 2017). Leaders seem to be able to strengthen their relational connections in the team and therefore provide social resources that enable coping and create mutual trust and resilience (Teo et al., 2017). Being a supportive leader that makes the employees feel seen is one of the goals that interviewees tried to achieve. Before this crisis, communicating about and accepting health-related topics, providing support, and being closely connected to the team were essential (Eriksson et al., 2011; Franke et al., 2014). These factors seem to be even more critical during the COVID-19 crisis.

Resilience is another crucial factor for setting the foundation of health and helping to cope during crises mentioned by the leaders and literature (Meynhardt et al., 2021; Teo et al., 2017). Research on crisis leadership has shown the importance of this skill for the whole organization to focus on in training, everyday practice, and individual coaching (Meynhardt et al., 2021). Thus, it is crucial to understand how leaders can activate resilience in their followers. A qualitative study conducted in Singapore on the SARS crisis in 2003 found that primarily through forming social connections, restructuring hierarchies, and mindful communication, leaders were able to activate social, emotional, and cognitive resources for resilience (Teo et al., 2017). Future leadership should highlight the formation of social networks, developing active coping strategies, and engaging in positive appraisal (Chesney et al., 2006; Zacher & Rudolph, 2021). Surprisingly, only four leaders mentioned promoting resilience during this crisis.

Leaders that reported perceived social support by their family or friends described having fewer struggles accepting this novel situation. Social support was also an essential factor for building resilience (Gaffey et al., 2016; Sippel et al., 2015) and adapting to uncertain situations (Meynhardt et al., 2021). A recent study has identified that social support seems to buffer the relationship between resilience and mental health during the COVID-19 crisis (Li et al., 2021). Thus, leaders should focus on improving the social climate in the team and building up the team as an additional social resource that can counteract loneliness due to the crisis, helping employees and themselves to be more resilient. Following the stress and strain concept (Rohmert, 1984), it is crucial to accept that it is impossible to eliminate the stressors in this crisis quickly, but by coaching and promoting protective factors such as promoting resilience, providing social support, and appropriate coping, the perceived strain of people can be reduced.

Comparison of Virtual HPL in Crisis to Healthy Leadership Models

This study revealed that leaders perceived health promotion as necessary during crises and made an effort, despite being strained themselves. During a crisis, virtual health promotion has several similarities with existing concepts such as HoL (Franke & Felfe, 2011) and HPL (Eriksson et al., 2011), which are derived from face-to-face work situations. Interviewed leaders defined virtual HPL instead as an additional task as a leadership style which is an important implication for the design of future leadership training. Our findings match with previous understanding of HPL by Eriksson et al. (2011) and Jiménez et al. (2017a) regarding the importance of closely connecting to the team, providing feedback, and structural support such as

an organizational culture that values health. However, virtual health promotion during a crisis is perceived as an additional leadership task and not a leadership style itself, thus matching the holistic definition of HoL by Franke and Felfe (2011) to a more considerable extent. Our results indicate the importance of the involvement of employees regarding their own health. Especially when leaders have difficulties accessing employees, they depend on honest feedback regarding employees' health status to tailor health promotion to their needs. This underlines the dyadic relationship between leader and follower for health promotion. The importance of health-oriented communication is underlined. Furthermore, the HoL model and our study acknowledge the need for a healthy leader who shows awareness, values health, and behaves health-promoting. Leaders in their function as role models are especially relevant because they can influence directly (through, e.g., communication and behavior), and indirectly (through, e.g., redesign of work tasks) the health of their employees (Franke et al., 2014). Further, the leaders have acknowledged the importance of being healthy themselves for promoting health in employees.

Our findings overlap with previous research and models, but new evidence shows that virtual HPL in crises includes additional factors. Adding these new factors to the HoL approach supports closing the knowledge gap for healthy leadership and situational factors, resulting in a more holistic model. Since there is a high probability that crises might appear more often in the future, it should be of interest to all organizations to prepare themselves, their leaders and employees, and offer appropriate crisis management training.

Future Demands for Virtual Health Promotion

The fifth research question covered the lessons learned and perspectives on future virtual HPL. Almost all leaders were able to identify new opportunities but also limits of virtual work, which have an impact on their leadership and health promotion. They found that many work processes can also be performed online, nevertheless, various interventions cannot be carried out completely virtually. Interestingly, some leaders perceived the virtual working environment as more efficient, because of fewer interruptions, while others experienced it as less efficient, because of less exchange with others. It could be interesting for future research on virtual leadership behavior to clarify which work processes benefit more from face-to-face or virtual space and what influence this has on the health of the employees and the leader.

Regarding lessons learned, leaders have found ways to substitute physical interactions. Overall, it was noticeable that physical interactions have gained in importance and attention, and

some leaders believe that purely virtual workplaces can never fully replace physical interactions. It also should be kept in mind that working from home might cause a feeling of isolation, which can harm mental health (Tuzovic & Kabadayi, 2021).

These results provide content for leadership training and a more precise insight into where further research is needed. Furthermore, it is crucial for future adverse events and everyday practice that the organization, leaders, and the employees are learning from this situation (Pearson & Mitroff, 1993). Here, internal lessons learned, created knowledge, and necessary improvements should be stored, shared, and made available for the whole organization.

Nearly half believe that leadership in general and health promotion specifically will become more of a focus in organizations and training in relation to virtual work. Another factor that highlights the importance of virtual leadership in general is that almost all leaders want to continue working in a hybrid model. Future research should review what behaviors, characteristics, and challenges hybrid leadership has as it has not been sufficiently investigated yet (Minder, 2020). Based on the results of this study, a hybrid model seems to be the best work environment for leaders, as it allows them to engage in certain physical interactions while giving themselves and employees flexibility which improves their work-life balance (Liao, 2017). The hybrid model is associated by some leaders with freedom in choosing where to work. It will be interesting to see in future practice and research how outcomes, such as health, team dynamics, performance, or effectiveness, might change because of a hybrid working environment.

Strengths and Limitations

This study is the first one to investigate virtual health promotion in the context of a pandemic. One advantage of this study is the time of data generation. The crisis is still ongoing, so that there is likely to be no distortion of memory. This research is of interest since crises can appear at all times, and thus, the investigation of leadership in different crisis contexts can contribute to closing the knowledge gap and help future preparation for threatening situations.

There are some limitations in this study that need to be addressed. It is essential to discuss limitations in terms of the validity of the study. The sample consisted of Swedish and German virtual leaders from various industries, departments, and professions, enabling our results to be generalized to various contexts in white-collar teams. However, even though the sample size of 12 participants is appropriate for the applied extensive qualitative content analysis method the study's external validity is limited. With this content analysis, no objective, measurable, or

generalizable statements can be made (Willig, 2001). The obtained results only relate to the interviewees' perception. Far fewer women than men were interviewed, which may have influenced the results in terms of different experiences and measured frequencies as some gender differences in leadership behaviors were found in previous research (Oshagbemi & Gill, 2003).

Given that the participants were interviewed about their own experiences and behavior, the data in this study might be distorted through, for example, social desirability of the interviewed leaders (Bergen & Labonté, 2020). It would also be beneficial to include the employees' perspective to investigate how the leaders' actions and intentions are perceived and evaluated. The study of Winkler et al. (2014) revealed that employees mentioned that they do not experience a direct effect from their leaders' behavior on their health. Therefore, another source of information could add to the objectivity of the study. This study was cross-sectional in nature, meaning that no information regarding the development of the leaders' actions during different stages of the COVID-19 crisis can be reported.

Since the interviews were conducted via video telephony due to the COVID-19 crisis no complete control of the interview environment was possible. In some interviews, the conversation flow was interrupted due to technical difficulties. Additionally, the interviews were conducted in German for German participants and in English for Swedish participants which might have had effects on the comprehensibility of the interview questions for the Swedish participants.

Considering the internal validity, it can be mentioned that by using a guideline during the interviews, relevant areas were addressed and with the obtained responses from the interviews, the research questions could be answered. Carrying out a pretest confirmed that the guideline is appropriate. The almost perfect value of the intercoder reliability shows a high internal validity for the implementation of the data analysis and enhances the quality of the investigation. This high value might be caused by the paraphrases being formulated directly on a generalized level by the two researchers. As a result, the quality criterion of internal validity is largely met.

Furthermore, the qualitative content analysis, according to Mayring (2015), is, on the one hand, an economically very complex process that requires a vast amount of time and attention. On the other hand, the analysis enables detailed processing of the material. Kuckartz (2016) criticizes that through the early generalization (abstraction) of the statements, complex content can be lost. This way, the paraphrases are directly generalized even if they were only mentioned once in the data generation (Kuckartz, 2016). This critique was counteracted in our present

research with the quantitative frequency analyzes in which the frequency of the categories mentioned was calculated. Based on these additional calculations, the quality criterion of triangulation (Mayring, 2002) was met.

The question arises if another analysis method would be appropriate, such as deductive categorizing of the material. In favor of an explorative and more detailed approach towards the limited researched field of interest, deductive processing was renounced.

Implications for Research and Practice

Beyond the implications in the discussed results, one can distinguish between further implications for research and practice. From the crisis, which forced leaders, employees, and organizations to a structural, virtual change and endangered the health of all, lessons for future virtual health promotion and crisis prevention can be drawn. Virtuality may grow, and crises, such as pandemics, may also reappear.

The findings on the first four research questions can be the foundation for future research in terms of identifying moderators and mediators, such as organizational health offers, leaders' own health or education of the leader regarding health, for specifying and further understanding the relationship between the role of leadership and followers' health and well-being (Rudolph et al., 2020). One factor that was not addressed in this study is the experiences regarding the behavior of the leader's own leader or superior. As Gurt et al. (2011) determined, leaders' awareness of their health is related to the behavior a leader exhibits toward his or her employees regarding health. It could be that experiencing a virtual health-promoting leader or superior impacts their own leadership behaviors, understanding and perceptions of challenges related to health in the virtual work environment.

The different and diverse behaviors indicate that it is difficult to capture a specific leadership style. It can be said that the appropriate leadership style must adapt to the situation, person, and organization (Thompson & Glasø, 2015). As was shown several times in the results, for future HPL, it is essential to pay attention to interindividual differences. Therefore, for future leadership training, specific skill sets should be created that enable leaders to adapt to the circumstances rather than implementing specific leadership style such as, for instance, transformational or transactional. The importance of organizational conditions was emphasized at a variety of levels in the leaders' experiences. This shows to what extent the organizational culture must give importance to virtual health promotion and provide the leaders with appropriate

tools to carry this out, as was already emphasized by the concept of HPLC in face-face settings of Jiménez et al. (2017b).

A hybrid work model seems to be favored by most leaders in the future, and health promotion also seems to be best implemented in a hybrid way if virtual work continues to be applied. With the findings, characteristics can be derived which are important for a hybrid virtual health promotion and may be developed into a general model or update existing models in further research. Quantitative analyses could then measure various outcomes, such as health, effectiveness, productivity, or team dynamics under these leadership characteristics.

Conclusion

This research has shown that virtual HPL cannot be fully mapped with previous models. In addition to overlaps in the literature (i.e., Eriksson et al., 2011; Jiménez et al., 2017a; Franke & Felfe, 2011), new aspects have been identified that leaders find helpful for virtually promoting health during a crisis. These should be referred to and implemented in further research and practice. An important finding from this study was that leadership appeared to be amplified in the virtual setting and highlights the importance of leadership training and responsibility concerning employee health and leading through a crisis from a distance. It has been shown that in the leaders' experience, many aspects from virtual health promotion also help manage a team during the COVID-19 pandemic. The results also suggest that a prior health promotion measure has a preventive effect on employees' health when a crisis appears. Leaders have found that not every measure is applicable in the virtual context, such as building trust and cohesion within the team. However, HPL seemed to be a promising resource for improving and or maintaining employee's health. Future research needs to evaluate with the help of studies involving the whole team if these efforts are perceived as valuable by the employees.

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Appendix A

Table 1

Sociodemographic Characteristics of Participants and Their Work Team

Variable	n	%
Gender		
Male	10	83,3
Female	2	16,7
Nationality		
Sweden	7	58,3
Germany	5	41,7
Industry		
IT/Software	2	16,7
Consultancy	1	8,3
Telecommunication	1	8,3
Marketing and Advertising	1	8,3
Retail	2	16,7
Finance	3	25
Insurance	1	8,3
Audio Streaming Podcasting	1	8,3
Team Size		
1-5	2	16,7
6-10	6	50
11-15	1	8,3
15-20	1	8,3
>20	2	16,7

Note. $N = 12$

Appendix B

Consent Form

Dear Participant XX,

In the following, we want to inform you about your rights concerning the upcoming interview. Our Master Thesis aims to gain insights into health-oriented employee leadership in a virtual work environment based on virtual leaders' experiences. With the help of qualitative data analysis (semi-structured interviews), we want to explore the extent to which health-promoting leadership can be implemented in a virtual working environment and what challenges and obstacles there may be in doing so. The main topics of the interview are how virtual leaders define health-promoting leadership, what skills or behaviors are helpful in practice when promoting health at the virtual workplace, necessary conditions for health-promoting leadership and the influence of the COVID-19 pandemic on health-promoting virtual leadership. These findings can be the basis for further research and give organizations a scientific basis for how virtual work can be made better.

Our thesis is designed according to the ethical guidelines of psychology research in Sweden and is supervised by a University Lecturer of the department of psychology of the University of Lund at all times.

Participation in the interview is completely voluntary and you have the right to withdraw from the study at any time. This is valid also after the interview is finished. There will be no reward for taking part in the study. However, we as the researchers are happy to share the results of our Master Thesis.

To analyze the data deeply the interviews will be recorded. Before the interview starts, the researchers will ask again if you agree to the recording. Data gathered by the study will be transcribed anonymously (no names, just Person A, etc.). Sensitive personal data will be crossed out of the transcription to ensure participants' privacy. Data will be saved in a password-protected file of the researchers' computers and deleted after the master thesis is handed in and graded. The results presented in the paper of the master thesis will be displayed in the form of a category system, ensuring that no information can be connected to the participants.

You are welcome to contact us at any time for further questions, concerns, or remarks.

Thank you again for sharing your important insights with us!

Yours Sincerely,
Lea Carolina Kraft and Charlotte Myllynen

Lea Carolina Kraft
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Charlotte Myllynen
E-Mail: ch4401my-s@student.lu.se

Appendix C

Interview Guideline

Interview guideline - Health-Promoting Leadership

Framework

- In the interview there are two people present (1 interviewer & 1 interviewee)
- Recording is done by two different softwares (directly via Zoom and mobile phone)
- Duration approximately 45 minutes
- The time frame of the interviews is set between 17. February 2021 and 13. March 2021
- Important! Sentences in italics in the guide are not spoken

1. Small talk & Introduction

Thank you for the zoom call, introduction of the researchers, as well as project presentation & process

Hello Mr. / Ms. Dr. ..., thank you for taking the time to answer our questions. I will briefly introduce our topic to you and then explain the process. If anything is unclear or if you have any questions, please feel free to ask.

Project presentation: My fellow student Ms. Kraft / Ms. Myllynen and I are currently studying our master's in psychology at Lund's University.
As part of our master thesis, we examine which behavior you as a leader need to promote health-oriented leadership in a virtual context. We also focus on how you implement health-promoting leadership at the moment, what possible boundaries for the application there are and how the COVID-19 pandemic has influenced health promotion. I would be pleased if you answer all questions as openly as possible and are not afraid of possible critical aspects. There are no right or wrong answers. The participation in the interview is completely voluntary, and you are always allowed to stop.
The interview will take about 45 minutes and is divided into 4 different blocks of questions.

→ timeframe: This interview is mainly about the leaders' experience of the last 12 month & all questions are directed to the virtual work environment

2. Legal Matters

First, I want to ask you if you have written the consent form, we have sent you? Do you still agree to us, recording the interview, and using your data for further scientific analysis? Are there any further questions so far?
If so, answer them to avoid any confusion. If not, you can continue straight away.

We can start the interview now.

3. Start of the Interview

Questions regarding Demographics (professional situation and characteristics of the team)

1. In which department do you work?
2. What is your task?
3. How long do you usually work?
4. For how long have you been a virtual leader? (how do you usually work?)
5. How big is your virtual team?
6. Is your team national or international?
7. How many hours do you lead your team virtually?
8. How do you communicate virtually? What tools do you use?
9. How often do you have face-to-face meetings?
10. Have you worked in a virtual setting before COVID-19?
11. How would you describe your leadership style?

First Part: Definition of health-promoting leadership

1. What do you understand under the term health-promoting leadership?
    1. relation to a virtual work environment?
2. What do you currently do to promote health in your team?
    1. Can you tell us about a specific situation in which you promoted health in your team?
    2. What are health-related policies in your organization? (Do leaders themselves follow the policies? And why)
2. Have you received any training (theoretical/ practical) yourself regarding healthy leadership?

Second Part: helpful behaviors/ skills for virtual health-promoting leadership

1. Can you recall a specific situation in which you were able to positively influence the health of your team or a certain team member?
    1. How did you behave in this situation?
    2. Which behaviour do you personally deem the most helpful to promote your follower´s health?
2. Can you recall a specific situation in which you were not able to positively influence the health of your team or a certain team member?
    1. How did you behave in this situation?
    2. Which behaviour do you personally experience to be the most obstructive to promote your follower´s health?
2. Which skills did you experience helpful when promoting health for you employees?
3. *To which extent do you think are you able to influence your team´s health?*
4. How do you experience your own health at the virtual workplace?

1. What are you doing for your own health at the virtual workplace?
2. What are the biggest challenges for yourself to remain healthy?

Third Part: Necessary Conditions for virtual health-promoting leadership

1. What do you need as a virtual leader to promote health in your team?
    1. What conditions enhance virtual health promotion? *(or tools)*
    2. What conditions diminish virtual health promotion? *(or tools)*
2. What challenges do you face in the virtual setting when promoting health?
    1. What inhibits you to be a virtual health-promoting leader?
    2. further question: compared to face-to face setting
    3. Can you tell us a specific situation in which this happened?
2. *In which situations do you reach your limit when promoting health?*
3. *In which situations do you feel like you are needed most by your employees?*
4. How important is healthy leadership in your organization?
5. Did you receive support from your organization?
    1. If yes, please explain.
    2. Did you find this sufficient or did you miss something? If yes, what?

Fourth Part: Influence of COVID-19 on health-promoting virtual leadership

1. How do you experience the impact of COVID-19 on your leadership
    1. Did your leadership style change?
    2. Can you give an example for this?
2. In which way did the COVID-19 pandemic influence your health and the health of your employees?
3. Did the COVID-19 crisis change your attitude or value regarding health-promoting leadership?
4. Do you promote health in your team differently since the COVID-19 crisis?
5. Were you prepared for a sudden virtual based work? (How?)
6. Were you prepared for the crises? Do you have any procedures for these occasions?
7. What is important for leading your team during such a crisis?
8. How do you think health -promoting leadership will develop in the future?
9. Would you continue to work virtually in your team?

End of the Interview

Thank you for answering the questions honestly and openly. I'm done with my questions now. Do you have any comments or something that is important to you, but we haven't discussed yet?

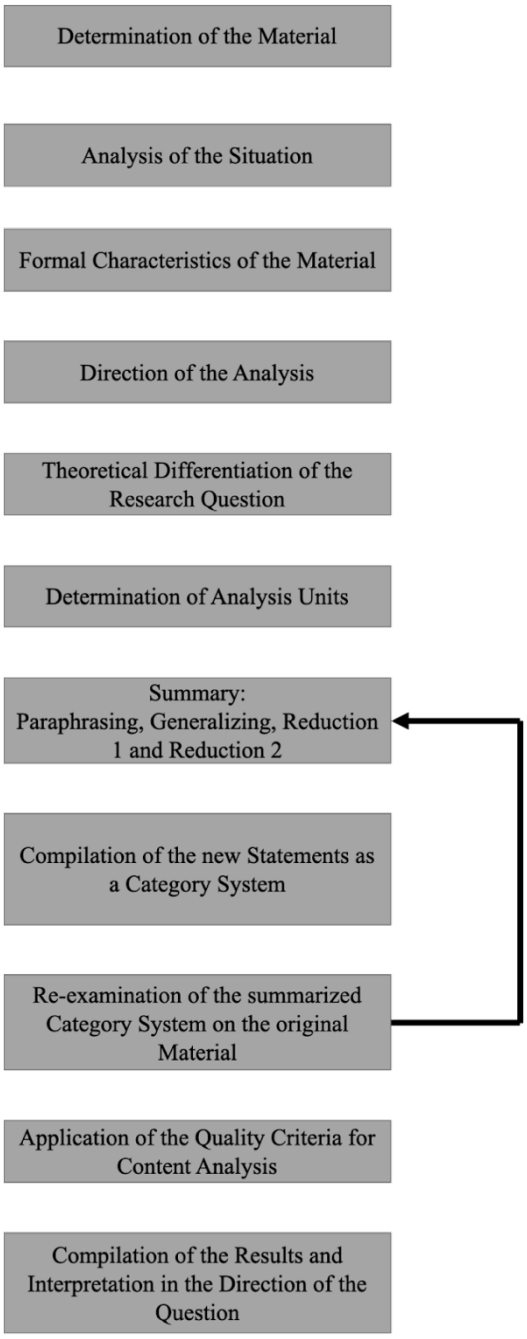
5. Further procedure

Regarding the procedure: We will analyze and evaluate the interviews over the next few weeks. We will finish our master thesis approximately at the end of May. If you are interested, we are happy to send you our work. Until then, I wish you all the best and have a nice day!
Switching off the record.

Appendix D

Model of the Summarizing Content Analysis

Illustration based on Mayring (2015, p.62 & 70)



Appendix E

Example of an Edited Transcription

Interviewer: what do you understand under the term health-promoting leadership? #00:07:00-8#

Interviewee: what do I understand, ehm (..) well I think, I'm not sure, if it is a distinction from any other leadership for me. I think leadership in general should promoting aiming for making sure that we have healthy relationships, healthy work environments, healthy work conditions, healthy teams and things I'm focused on as a leader will help promote that environment to make sure that employers and individuals can drive and grow in an organisation. #00:07:48-8#

Interviewer: and in relation to virtual work environments? #00:07:52-2#

Interviewee: I think there is a challenge in a virtual work environment is that you don't get access to full person as easily as you do when you are face-to-face, that there is a lot of signs that you might not pick up on. Also, it is quite hard to understand that what's going on the working environment of that individual in the same way. And also, in a way it is harder to connect, because it is a distance in a way virtually, where are not as close, but I think there is way to overcome that though, I think there is lot of opportunity in the virtual world as well. #00:08:48-6#

Interviewer: okay. what do you currently do to promote health in your team virtually? Is there a specific situation you come across when thinking about that? #00:10:48-0#

Interviewee: I think over this past year, I think we've learned to (..) help each other with boundaries, I think boundaries is one of the challenges with working from home or virtually, to sort of create that sense what is work and when is your workday over. Like the idea of accessibility as you don't transition into like you don't get on the subway and go home in the same way. So I think, we've set up some sort of ground rules in a way, WHEN we communicate, WHERE and we've had some good conversations around, I don't know if you have google, but its google hangouts, so you can sort of PING each other with just like a short message. It's like a chat basically, but I had one of my employees who said I get really nervous when you ping me and say what's going with this or

where are with this, like a short question. And then we talked about that and why it made her nervous, because you know, she felt like she was not like maybe we should have, she felt „maybe I should know this“ or „Have I not circled back to you“, but then we talked about what it was, so if you PING someone, it’s more like pretend we’re in the office we’re both sitting there and I raise my head over the computer and say „hey, where are with this?“ or it is that kind of communication so it helped us, when we sort of translated into the office environment because than it made sense for us to decide what are we doing in which channel and also like how do we communicate in like when we comment on things in documents for example, because you can’t write „hi, I think…“. It’s like more quiet short sentences or / I think that took a while to sort of sort out. #00:13:23-9#

Appendix F

First (Table 3) and Second Reduction (Table 4)

With the following link you can access both tables of the first and second reduction. Since these two tables are large, we did not include them in this work. Both tables do not include any sensitive data that could reveal participants identity, to preserve research ethics.

Link to both reduction tables:

Table 3

First Round of Reduction: Formation of the Generalized Paraphrases and Subsequent Reduction

https://docs.google.com/document/d/1uKFFJfX-n3Uj4ZEmwznEA8D2uThHevV6/edit?usp=sharing&ouid=105960601169328591847&rtpof=true&sd=true

Table 4

Second Round of Reduction: Generalized Reduction Based on the Reduction of the First Round

https://docs.google.com/document/d/1vmWU4K5tmQ5eGsoJd_7kF5797fAHDJIV/edit?usp=sharing&ouid=105960601169328591847&rtpof=true&sd=true

Appendix G

Table 5

Presentation of the Categories created by the Interviews, their Definitions and Examples

Category	Definition and Demarcation	Example
C1: Definition of HPL	All statements describe the leadership style of interviewees with which they aim to promote health in their teams. These statements include a description of the applied leadership style, demarcations to other known leadership styles, key action areas of HPL, and a definition of health. Excluded from this category are the description of desired outcomes of HPL (C2) and descriptions of concrete behavior that leaders show to promote health in their employees (C4) or themselves (C12).	"What do I understand, hmm (…) well I think, I'm not sure if it is a distinction from any other leadership for me." (Case A, IV) "So, from my point this is a very, very important aspect of leadership and this is way beyond COVID-19. I think health is always an issue, it has to be an issue for the company but also for everyone who is in a leadership or manager position. My understanding of health-promoting leadership is to really be there for your team, and I always tell them you don't work for me; I work for you. " (Case B, XIX)
C2: Goal of HPL	The statements describe desired outcomes of HPL that relate to the employees and the team from the leader's point of view Descriptions of the concrete leadership style of HPL are not included (C1).	"I have at least the intention that the best way to reach our business goals is to have people that have the health, feel good, feel included, feel that they are contributing, that's when they do their best job and that's how we read our goals." (Case E, LXXVIII)
C3: Behavior of leader to promote health in employees	This category lists the behaviors that leaders mentioned to exhibit to promote their employees' health virtually. These statements include actions that the leader	"I think it is extremely important as a leader to listen to your team VERY actively and to be EXTREMELY

	carries out explicitly to avoid health risks and promote health in the team and the individual employee. This does not include how leaders experience themselves to be helpful when promoting health in their employees (C4).	aware and you know like, VERY conscious how they act, how they speak, how they behave in order to see if someone is doing well or not." (Case B, XVI) "We've set up some sort of ground rules in a way, WHEN we communicate and WHERE." (Case A, V)
C4: characteristics for being a health-promoting leader	Category 4 describes the characteristics that leaders consider helpful when promoting and maintaining the health of their employees virtually. This needs to be distinguished from concrete behaviors and actions regarding virtual health-promoting leadership, which are described in category 3.	"If you want to promote health it's very essential that you lead by example and that you show how health can be, how you can live healthy and how you can work healthy and be conscious about this." (Case B, XXIII)
C5: Leaders Education	In this category, all statements regarding education or training that leaders participate in regarding virtual and/or h HPL and their content are included. Statements about training that focuses on crisis leadership are included in category 23. Information regarding structural organizational offers of training is included in category 7.	"All the managers and leaders at my company have been through several training sessions with an external consultancy specialized in coaching leadership so we have been trained to sort of uh dig in or find out or get to the core or bottom of issues" (Case G, CXII)
C6: Degree of Leader's Influence on Employees' Health	The category concerning the degree of influence on the employees' health includes all descriptions of leaders regarding their perceived influence on employees' health. Furthermore, experienced limits of virtual and general health promotion towards employees are reported here. Opinions of leaders concerning who is responsible for the health of employees are included here as well. Excluded from this category are general statements regarding obstructive conditions of virtual health promotion (C7-9)	"The only thing that I can't impact for example is how big their apartment is or if, you know, they have a partner and they live in a small apartment and they don't have space to separate. That's it, that's the only thing that basically I can't really impact" (Case F, XCI)

C7: Conditions Organizational Factors	In category 7, the both helpful and obstructing conditions for virtual HPL at the organizational level are described. A distinction is made between culture and values, top management, working conditions, and health-related offers in the organization. Helpful conditions at the social and macro levels are described in categories 8 and 9.	"I think the first thing is that the tools that we need to function effectively are there." (Case F, XCII) "I think first of all that it's leadership is prioritised and people are prioritised in the organisation, so I think it needs to come from the top." (Case A, X)
C8: Conditions Social Factors	Category 8 describes helpful and obstructing conditions for virtual HPL on a social level. This category includes conditions within teams, such as an atmosphere of trust. On the leader's level, this, for instance, includes their connection and access to the team and on the employees' level, this includes the precise formulation of feedback regarding their health.	"The basic condition for this is trust, a relationship, open cooperation and, above all, the willingness of the leadership [...] to take time for the people." (Case I, CLV)
C9: Conditions Macro Level	In this category, the leader names conditions on a social/political level that they experience to influence the organization and, thus, HPL in the virtual work environment. These include occupational laws and loans. These conditions can vary in the respective countries (Sweden vs. Germany).	"We have this / we get a certain number each year to spend on training, exercise or whatever. It's a loan by the tax agency here in Sweden." (Case G, CVI)
C10: Challenges for Virtual Health Promotion	In this category, challenges for HPL in the virtual work environment are shared by the leaders. A distinction is made between challenges in virtual communication and the barriers of working at a distance such as being a present and visible leader. In addition, the challenges of boundary management are mentioned and various social factors are presented, such as the difficulty of building relationships and trust with employees virtually. Finally, team dynamics that arise virtually and can be challenging are noted. For demarcation,	"You no longer have these conversations at the coffee machine, where you come across things by chance in a personal conversation and you can organize them, instead you always have to initiate something." (Case H, CXXIX) "So that's the main problem in the virtual world, that people also have to know how to use

	category 11 lists the benefits that leaders have experienced during the last year of virtual HPL. The category should also be distinguished from the helpful and obstructive conditions at the organizational (C7), social (C8) and macro level (C9) that leaders describe for virtual health leadership.	the tools." (Case J, CLXXIX)
C11: Benefits for Virtual Health Promotion	Next to challenges (C 10), leaders may also experience benefits in the virtual work environment for promoting health. A distinction can be made between comfort through distance, equality due to the same working conditions, flexibility due to, for example, being less tied to a specific location and increased health and productivity due to, among other things, less contact with others.	"It's easier to be conscious when we are in a zoom meeting for example to make sure that everybody's voice is heard (...) in a way easier to create more equitable and equal meetings virtually." (Case A, XI)
C12: Behavior of leader to promote health in themselves	In this category, all statements regarding concrete actions that leaders show to maintain or increase their health in the virtual work environment are included. Excluded from this category are actions that are directed towards maintaining/ improving the health of employees (C3) and challenges (C15) or benefits (C14) for leaders to remain/ enhance their own health.	"I am more aware of what I eat, and I eat healthier, and I try to take vitamins and drink a lot of water and stuff like this. But it is actually something between Netflix and eating fruit (laughs)." (Case B, XXI-XXII)
C13: Leader's status of health at the virtual workplace	Included in this category are all descriptions regarding the status of the leader's health concerning the virtual work environment. Here, the exclusive impact of COVID-19 on leaders' health is excluded and can be found in category 17.	"Interviewer: How do you experience your health at the virtual workplace? Interviewee: Negative. Very, very negative." (Case C, XL)
C14: Benefit for leader to promote own health	In this category, all information regarding resources and conditions that leaders experience helpful for promoting their own health are included. This category differs from category 11, in which experienced favorable circumstances for virtual health promotion regarding employees are incorporated.	"I would actually say that the challenges are lower than before, I have kids that are a very natural part of getting outside of the house, so I don't have that challenge. I have more time for exercise, I don't have team practice,

		playing in a team that's out but otherwise I would say actually that I have more freedom to do exercise than I had." (Case D, LVI)
C15: Challenges for leader to promote own health	All information regarding circumstances that impede the health promotion of the leaders towards themself in the virtual work environment are assigned to this category. Statements regarding difficulties concerning general challenges of virtual health promotion of the team are included in category 10.	"I think it's not unusual but it's more difficult to turn off, cause when you walk to the office and back from the office that walk is sort of your cue to turn off the brain." (Case F, XCI)
C16: Impact of COVID-19 on team	Category 16 contains all observations the leader made regarding the impact that COVID-19 has had on employees and the team in general. These observations include, for instance, the employees' status of health, quality of work, and team dynamics. Here, only the observations regarding the employees and not the perceived impact of the COVID-19 situation on the leader (C17) are incorporated.	"So I think that's maybe the main thing of COVID, but also of course there is a lot of stress around COVID that's different, because people have relatives and they are not being able to see their families and you know, their mother and father and they have people dying and so of course that's a completely, I wouldn't say it's new but in the way of that there are so many people affected by something and affected by the same thing." (Case A, XIII) "So, it's more that kind of challenges where they become really isolated or not sitting well and they have no social contacts." (Case L, CCXXIII)
C17: Impact of COVID-19 on leader	In this category, the experiences of the leaders are collected regarding the influence of COVID-19 on themselves. The impact this situation has on their health is described, and the consequences	"I myself am a very communicative person who also likes to be outdoors among people, at least as far as sports are concerned,

	for their working and private lives associated with regulations in their respective countries regarding the pandemic.	playing in teams and such, and that all goes away [due to COVID-19 regulations]." (Case C, XLVI)
C18: Impact of COVID-19 on the organization	Category 19 contains all the leader's observations regarding the impact that COVID-19 has had on the overall organization. These observations include assessments of what new role the organization needs to fulfill in terms of, for instance, policies or responsibilities in this unique situation. In this category also national differences in handling the COVID-19 situation of German and Swedish organizations are incorporated. Statements concerning the general role of the organization for virtual health promotion are excluded here and can be found in category 7.	"It's [health] been a bigger part of the well-being of both our organization and our teams and individuals of course. It's been more of a focus on that." (Case A, XIII) "Yeah, it's the lockdown feeling in Sweden we don't have a lockdown but in other countries we have lockdown, it's a present feeling that some people have not pushed out by natural means, it has impacted their life that they are not moving, they are indoors all the time." (Case D, LXII)
C19: Impact of COVID-19 on HPL	This category contains statements about the experienced influence of COVID-19 on HPL. It includes the change in attitudes and perceptions of HPL and the new expectations and tasks that leaders perceive themselves to have since the pandemic.	"I think that the time I spend on leadership has probably doubled (...)I am expected to be considerate of every circumstance, even more so than before." (Case I, CLVII)
C20: Crisis leadership	In category 20, all aspects that leaders experience necessary for successfully leading during this crisis are incorporated. Furthermore, aspects that leaders need in the form of support from the organization to lead are incorporated. Aspects regarding requirements of good crisis management of the organization are included into category 21.	"To stay close to people, to make sure that people know that my door is always open, to make sure that we as an employer do what we can that we sort of create a foundation for people to be as healthy as possible." (Case G, CXVIII)
C21: Crisis Management Organization	In this category, requirements for a successful crisis management of the organization, as rated by the leader, are included. Furthermore, the level of	"We had a management or crisis management team, and they were prepared for different types of

	preparation for virtual work and crisis are assigned here. Aspects that are needed for successful crisis leadership are included into category 20.	communication, they had structures for that and yeah, it was very well managed both in terms of like how they communicated and the resources that they set up for people and the opportunities that we were given. So, I think that was very well managed." (Case A, XIV)
C22: Lessons learned	This category lists various lessons learned by the leaders within one year of virtual leadership during a pandemic and virtual health promotion. The possibilities and limits, the new ways in which physical interactions can be substituted, the new demands of the virtual work environment, and the developments the leader and the organization have made in the process are described. Excluded from this category are aspects that are still to be improved.	"What I learned from COVID detached or not, you don't really need to travel around the world anymore, you can do everything, EVERYTHING via video calls." (Case H, CXX) "I also think there will be things that we will definitely continue doing physically or face-to-face, for example, some parts of team development, but I still think a lot of it works, that's really something I learned this last year, a lot of it works virtually as well" (Case A, V)
C23: Need for Improvement	In category 23, suggestions for improvement and needs of the leaders are named, which they need for successful virtual health promotion in the future. These include health promotion at the individual and team level, needs for the virtual workplace, supportive conditions in the organization, and financial support from the organization and the state.	"I still lack tools to have the team's visibility in the virtual sphere, which is no longer present, to have access to the team members there too. (...) Coaching, for example, that would definitely have to be tightened up again, especially with regard to the health area." (Case C, XLII; XLVI)
C24: Future of	In this category, leaders' predictions about	"I think it will be so much

HPL	the future of virtual health promote leadership regarding whether and how HPL will change or develop in general. Leaders' wishes concerning the future of virtual work are assigned to category 25.	MORE important." (Case G, CXVIII) "I'm curious. I have little idea, you probably have to pay very, very close attention to the individual workload, you have to make sure that the employee does not work overtime out of his sense of duty, he says 'yes, I have to do this for the company', even when it is not required from his direct leadership." (Case C, XLIX)
C25: Future working model	In category 25, leaders' wishes, estimations, and plans for future working models for their team are included, such as the wish for a future hybrid model for working. Wishes or estimations that concern the future of health promotion in the organization are included in category 24.	"Yes and no, so we have already developed a model for us as a company on how we would like to work in the future. I would personally be really convinced of a hybrid model. I definitely think that there are projects and tasks you could do more effectively when you do them at home…" (Case B, XXXI)

Appendix H

Table 6

Absolute and Relative Frequencies of the Main Categories (in relation to the material)

Main Category	Absolute Frequency	Relative Frequency
C1: Definition of HPL	56	3.70%
C2: Goals of HPL	11	0.73%
C3: Behavior of Leader to promote Health in Employees	310	20.49%
C4: Characteristics for being a Health-promoting Leader	53	3.50%
C5: Leaders Education	21	1.39%
C6: Degree of Leaders influence on Employees Health	97	6.41%
C7: Conditions Organizational Factors	149	9.85%
C8: Conditions Social Factors	63	4.16%
C9: Conditions Macro Level	4	0.26%
C10: Challenges for Virtual Health Promotion	167	11.04%
C11: Benefits for Virtual Health Promotion	33	2.18%
C12: Behavior of Leader to promote Health in Themselves	56	3.70%
C13: Leaders Status of Health at the Virtual Workplace	7	0.46%
C14: Benefit for Leader to promote own Health	14	0.93%
C15: Challenge for Leader to promote own Health	36	2.38%
C16: Impact COVID-19 on Team	54	3.57%
C17: Impact COVID-19 on Leader	40	2.64%
C18: Impact COVID-19 on Organization	25	1.65%
C19: Impact COVID-19 on HPL	48	3.17%
C20: Crisis Leadership	73	4.82%
C21: Crisis Management Organization	49	3.24%
C22: Lessons Learned	57	3.77%
C23: Need for Improvement	33	2.18%
C24: Future of HPL	27	1.78%
C25: Future Working Model	30	1.98%

Sum	1513	100%

Appendix I

Table 7

Absolute and Relative Frequencies of the Subcategories (in Relation to the Interviewees)

Category	Absolute Frequency	Relative Frequency
C1: Definition of HPL		
no unique leadership style, part of successful leadership style	2	16.67%
situational leadership	4	33.33%
target specific	2	16.67%
people-oriented	3	25.00%
includes monitoring and managing mental and physical health	8	66.67%
health is when employees enjoy their work and are happy	1	8.33%
to be an inspiring leader	1	8.33%
to be a present leader	1	8.33%
is a continuous effort, everyday task	4	33.33%
leader works for the team	2	16.67%
needs to be inclusive and intercultural	2	16.67%
includes educating employees	1	8.33%
includes coaching	1	8.33%
includes mindfulness	1	8.33%
includes promoting own leaders' strengths	1	8.33%
business goal needs to be in the focus nevertheless	3	25.00%
C2: Goals of HPL		
team has a sense of belongingness	1	8.33%
team maintains its health and is happy	1	8.33%
good performance	6	50.00%

enable employees to be free and autonomous	2	16.67%
C3: Behavior of Leader to promote Health in Employees		
create cohesion and belongingness	8	66.67%
create trust	4	33.33%
managing and monitoring employees' health	10	83.33%
dealing with health-related topics and knowledge	10	83.33%
managing employees' roles	2	16.67%
managing structures	3	25.00%
managing stress and workload	12	100.00%
support resilience	6	50.00%
support boundary management	8	66.67%
managing meetings and communication	11	91.67%
awareness of employee's health	8	66.67%
promotion of health-promoting activities	6	50.00%
motivation of employees	5	41.67%
support workplace set up	3	25.00%
C4: Characteristics for being a Health-promoting Leader		
emotional intelligence	6	50.00%
honesty/ transparency	3	25.00%
being a role model	6	50.00%
resilience	7	58.33%
C5: Leaders Education		
virtual leadership training	2	16.67%
leadership training health promotion	8	66.67%

no training	1	8.33%
C6: Degree of Leaders Influence on Employees Health		
influence on employees regarding work-related tasks	8	66.67%
influence on employees regarding health-related issues	7	58.33%
individual differences of employees in health promotion	4	33.33%
limits of virtual health promotion on employees	12	100.00%
influence of leaders' health on employees	2	16.67%
difficulties to promote health in the virtual work environment	3	25.00%
responsibility for employees' health	10	83.33%
C7: Conditions Organizational Factors		
culture and values	10	83.33%
top management	6	50.00%
working conditions	10	83.33%
health-promoting offers of the organization	11	91.67%
C8: Conditions Social Factors		
team conditions	11	91.67%
leadership	10	83.33%
C9: Conditions Macro Level		
labor law	3	25.00%
loans	1	8.33%
C10: Challenges for Virtual Health Promotion		
communication	8	66.67%
boundary management	5	41.67%
barriers of virtual health promotion	9	75.00%
technical difficulties	2	16.67%

access to employees	9	75.00 %
connection between the team	10	83.33%
disruptive team dynamics	4	33.33%
disruptive side effects of virtual health promotion	1	8.33%
C11: Benefits for Virtual Health Promotion		
comfort	4	33.33%
equality	1	8.33%
flexibility and less mobility	6	50.00%
increased health of employees	2	16.67%
increased productivity	4	33.33%
C12: Behavior of Leader to promote health in themselves		
physical activity	8	66.67%
healthy diet	4	33.33%
enough sleep	2	16.67%
taking breaks and day offs	3	25.00%
leisure activities	1	8.33%
creating feasible workload (asking own manager as well)	2	16.67%
stick to routines	5	41.67%
boundary management (working hours, flexible working schedule)	2	16.67%
keep adapting to the situation	1	8.33%
openly communicate about health and well being	1	8.33%
keep reflecting and be aware about own behavior	2	16.67%
create ergonomic workspace	3	25.00%
participate in health-promoting activities offered by the organization	2	16.67%

social activities with friends, family and co-workers	5	41.67%
C13: Leaders Status of Health at the Virtual Workplace		
leaders' health varies to a big extend (very negative, healthy)	2	16.67%
feeling of being threatened is impacting leader's health negatively	1	8.33%
leader feels sometimes psychological stress in his position	1	8.33%
C14: Benefit for leader to promote own health		
social resources	3	25.00%
perceives virtual work environment as less challenging for maintaining own health	1	8.33%
more time and freedom for exercise since virtual work	1	8.33%
experience good work-life balance at virtual work environment	2	16.67%
leaders perceive less interruptions in the virtual work environment	1	8.33%
is not striving for physical contact	1	8.33%
enjoy the work	1	8.33%
having a fulfilling job	1	8.33%
being engaged and motivated	1	8.33%
employees didn't have bad experiences with COVID-19, which helped leader to remain healthy	1	8.33%
C15: Challenge for leader to promote own health		
challenge to remain healthy	4	33.33%
seasonal negative effects on health	2	16.67%
high pressure due to responsibility to promote own and employee's health	1	8.33%
lack of routines and structure in virtual work	2	16.67%
high workload (e.g., taking over employee's tasks)	2	16.67%
lack of physical activity	4	33.33%
actively initiate self-care	1	8.33%

leader cares less about his own health since working virtually	1	8.33%
working in front of a screen has negative impact on health	1	8.33%
lack of social contact and natural conversations with co-workers and other departments	1	8.33%
lack of access to members of other departments	1	8.33%
disconnected from team	1	8.33%
boundary management	3	25.00%
stress management	1	8.33%
own responsibility	2	16.67%
C16: Impact of COVID-19 on team		
intraindividual differences in experiencing	1	8.33%
amplifies situation of already overworked employees	2	16.67%
overall negative impact on health (physical and mental) due to higher strain in work and private life	10	83.33%
sick leave in team is lower than before COVID-19	1	8.33%
high uncertainty	1	8.33%
social resources are important	2	16.67%
higher challenge to take vacation and rest	1	8.33%
team was prepared for virtual work	2	16.67%
lack of autonomy and freedom of way of working	1	8.33%
varying workload throughout pandemic	1	8.33%
same quality of work from employees	1	8.33%
lack of physical meetings and health-promoting trainings	4	33.33%
challenge for working globally due to different regulations for COVID-19	1	8.33%
more frequent meetings	2	16.67%

more employees wish to come back to the office again	1	8.33%
C17: Impact of COVID-19 on leader		
adaptation to new situation individually different (Difficulties to adapt to new situation, no difficulties to adapt to new situation, no more stress)	2	16.67%
overall negative	4	33.33%
negative impact on physical health (lack of exercise, also due to lockdown)	3	25.00%
negative impact due to missing social and cultural life	3	25.00%
higher strain (worry, stress)	2	16.67%
more home office, higher workload, same working hours, no more additionally stress, adapted well	3	25.00%
harder to take care of themselves (fun activities and needs fulfillment)	1	8.33%
need for more resilience	2	16.67%
throughout pandemic more and more pessimistic and hopelessness	1	8.33%
loss in trust for German and European Government	1	8.33%
lack of physical meetings with whole team	1	8.33%
loosening of lockdown improved health of leader	1	8.33%
leader benefitted und grew stronger	1	8.33%
increased own health awareness	1	8.33%
C18: Impact of COVID-19 on organization		
role of the organization in times of COVID-19	7	58.33%
national differences in handling COVID-19	7	58.33%
attitude changes	3	25.00%
organization is working on a concept for “new normality”	1	8.33%
C19: Impact COVID-19 on HPL		
attitude regarding HPL	10	83.33%

new expectancies of the leader since COVID-19	3	25.00%
C20: Crisis Leadership		
account for emotion	3	25.00%
resilience	4	33.33%
close connection to team	5	41.67%
include employees' suggestions	1	8.33%
transparency	2	16.67%
communication	6	50.00%
supporting leadership	4	33.33%
creating safe workplace	1	8.33%
flexibility	2	16.67%
digital transformation	1	8.33%
support from organization	2	16.67%
healthy team	1	8.33%
leader was prepared for crisis	2	16.67%
leader was prepared for virtual work	3	25.00%
leader was not prepared for (leading) virtual work	3	25.00%
C21: Crisis Management Organization		
organization had successful crisis management (rating leader)	5	41.67%
communication	3	25.00%
digital transformation / tools	3	25.00%
clear responsibilities and roles	3	25.00%
new forms of virtual events	1	8.33%
fast adaptations to new demands	3	25.00%

frequent meetings	1	8.33%
organization was prepared for virtual work	6	50.00%
organization was prepared for crisis	3	25.00%
organization was not prepared for a crisis	2	16.67%
C22: Lessons Learned		
feasibility and limits of virtual work	10	83.33%
substitute physical interactions	6	50.00%
new requirements of virtual work	5	41.67%
leaders' development	3	25.00%
organizational development	4	33.33%
lessons learned HPL	4	33.33%
C23: Need for Improvement		
promoting health in the team and individual	5	41.67%
virtual work environment	5	41.67%
improvement of health promotion conditions in the organization	5	41.67%
financial support	2	16.67%
C24: Future of HPL		
same awareness and sensitivity of leaders and organization will remain regarding health	2	16.67%
more focus and importance of leadership in general and health promotion	5	41.67%
more awareness on emotions	2	16.67%
more account for intraindividual differences of employees regarding health-related needs and ways of working	5	41.67%
more health-related training for the whole organization (more tailored)	1	8.33%
creating more health-awareness of employees	1	8.33%
ways of living with the virus will be find	1	8.33%

more importance of relationships and social contact between employees	1	8.33%
C25: Future Working Model		
hybrid model, benefit of both working environments	10	83.33%
continue to work virtually	5	41.67%
working in the office	1	8.33%
meet at least once a week employee to pick up signs which are not visible in the virtual work environment	2	16.67%
autonomy for choosing workplace	3	25.00%
work environment appropriate to task	1	8.33%