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Internal Crisis Communication During the COVID-19 Pandemic and Its Association With Work-Related Stress: A Mixed Methods Study

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Abstract

In previous years, the crisis communication literature has increasingly emphasised the need for closer examination of internal crisis communication, thereby focussing on employees during crises. Additionally, so far, no research has been conducted exploring internal crisis communication and its impact on employee well-being. The present study aimed at closing this gap by investigating whether internal crisis communication has been a health-promoting, so-called salutogenic, job characteristic during the COVID-19 pandemic. Specifically, internal crisis communication was measured as symmetrical and transparent communication, which were hypothesised to be negatively associated with work-related stress. Additionally, the present research further examined whether work-related sense of coherence mediates the association between these two communication strategies and work-related stress. Thus, a mixed methods study with a sequential explanatory design was conducted. Accordingly, quantitative data was collected from employees ($N = 205$) via an online survey in Study 1. All hypotheses were supported by the data; however, work-related sense of coherence was found to be only a partial mediator in the present research model. In Study 2, semi-structured interviews were conducted with seven employees. A thematic analysis was carried out and the resulting four themes were integrated with the findings of Study 1. In summary, internal crisis communication might be a salutogenic job characteristic and an important job resource during crises. Therefore, the present paper emphasises the importance of including employees into crisis management via internal crisis communication. Additionally, it provides practitioners with specific internal crisis communication strategies, namely symmetrical and transparent communication.

Keywords: internal crisis communication, symmetrical communication, transparent communication, work-related sense of coherence, work-related stress, COVID-19 pandemic

Crisis Communication Within Organisations During the COVID-19 Pandemic and Its

Association With Work-Related Stress: A Mixed Methods Study

In 2019, a survey by PwC found that 95% of respondents were certain that crises would happen to their organisations in the future. Shortly after these survey results, the world was faced with the outbreak of the COVID-19 pandemic. Since then, life was and, at the time of writing, still is characterised by uncertainty, health concerns, and threats of societal as well as economic losses (Brinks & Ibert, 2020). However, not only is the COVID-19 pandemic a major health crisis but it also has had a tremendous impact on many organisations. This was reflected in terms of immense economic loss (Cutler & Summers, 2020), information uncertainty (Lin et al., 2020), high job insecurity for employees (Wilson et al., 2020), and the bitter reality of increasing numbers of unemployment in countries such as the US (Cutler & Summers, 2020) and Germany (Tagesschau, 2021).

Accordingly, the outbreak of the pandemic developed into a crisis for many organisations, confirming the apprehensions of participants in the survey by PwC in 2019. An organisational crisis is defined as "an unpredictable event that threatens important expectancies of stakeholders related to health, safety, environmental, and economic issues, and can seriously impact an organisation's performance and generate negative outcomes" (Coombs, 2015, p. 19) as well as create uncertainty (Coombs, 2015). Even though many would not have anticipated a crisis of this scope, there were indications that crises constitute a very realistic threat to organisations even before the outbreak of the COVID-19 pandemic. In line with this, the survey by PwC (2019) found that 70% of respondents indicated that their organisation experienced at least one crisis in the previous five years, with a mean value of three crises. These findings as well as recent changes in organisational life due to the COVID-19 pandemic point towards the importance of preparing organisations for crises.

Much of the literature about managing crises has focused on large quantitative studies or case studies that concentrated on managers or leaders of organisations (e.g., Johansen et al., 2012; Mazzei & Ravazzani, 2015) and external stakeholders (Coombs, 2007). However, employees and their roles in organisational crises have mainly been neglected (Johansen et al., 2012). This is surprising since employees constitute important key actors in organisations, hence it is crucial that they are able to perform and work to the best of their ability during crises to avoid an exacerbation of events (e.g., Coombs, 2015; Heide & Simonsson, 2015; Kim, 2018). On that account, it is essential that organisations invest resources into maintaining their employees' well-being. Specifically, it has been assumed that work-related stress levels during crises are increased due to uncertainty (Lin et al., 2020) as well as job

insecurity (Wilson et al., 2020). Accordingly, it has been shown that crises in general and the COVID-19 pandemic in particular have a considerable negative impact on well-being (Coombs, 2015; Gloster et al., 2020; Godinic et al., 2020; Public Health England, 2021). Therefore, it seems crucial to explore organisational antecedents of employee well-being in terms of reducing work-related stress.

Previous research, which has focused on health-promoting organisational antecedents, has demonstrated that effective communication within organisations is connected to higher levels of well-being (e.g., Coombs, 2015; De Nobile et al., 2013)[1]. Consequently, we assume that communication is an important factor influencing employee well-being. However, communication during crises has not yet been specifically associated with employees' work-related stress, pointing toward a gap in the literature. In line with this, researchers have called for a more in-depth exploration into the topic of communication within organisations during crises (e.g., Johansen et al., 2012; Taylor, 2010), also called internal crisis communication. The present paper focuses on filling this gap as well as underlining the importance of the shift in the literature towards a more employee-centred perspective.

Particularly, the present research is based on Antonovsky's salutogenic model (1979, 1987), which focuses on finding the origin of health, and aims at shedding light onto health-promoting antecedents, so-called "salutogenic job characteristics" (Jenny et al., 2017, p. 197), in the context of organisational crises. Based on this theory, we assume that internal crisis communication during the COVID-19 pandemic is an important salutogenic job characteristic, which decreases employees' work-related stress. The central concept in Antonovsky's model is the sense of coherence, which is defined as a buffer against stress and is comprised of three subcomponents, namely comprehensibility, manageability, and meaningfulness, which together form an important promoter for well-being (Antonovsky, 1979, 1987b). In the present paper, we suggest that the concept of work-related sense of coherence explains the relationship between internal crisis communication and work-related stress. Consequently, this research provides new insights into the domain of internal crisis communication regarding antecedents of employee well-being during crises, aiming at providing organisations with evidence-based strategies for including employees in their crisis management.

Internal Crisis Communication

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[1] According to the World Health Organisation, health "is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (WHO, n.d., para. 1).

The field of crisis communication generally distinguishes between external and internal crisis communication. Most papers in this discipline focus on external crisis communication (e.g., Coombs, 2007; Coombs & Holladay, 1996; Ulmer et al., 2007; Zheng et al., 2018), which refers to the communication during crises between the organisation and external stakeholders (Coombs, 2015), such as customers, suppliers, and investors. In contrast, internal crisis communication (ICC) refers to communication within organisations. For the purpose of the present research, ICC is defined as "the communicative interaction among managers and employees, in a private or public organisation, before, during and after an organisational or societal crisis" (Johansen et al., 2012, p. 271). In comparison to external crisis communication, ICC has been under-researched in the past (e.g., Frandsen & Johansen, 2011; Heide & Simonsson, 2014; Johansen et al., 2012).

Gaining deeper insights into the field of ICC is especially important since the need for effective internal communication and information-sharing dramatically increases during an organisational crisis compared to non-crisis situations (Coombs, 2010; Heide & Simonsson, 2014; Pursiainen, 2018). This is mainly the case because organisational crises are unpredictable and non-routine situations, which are associated with high levels of uncertainty (Coombs, 2015) as well as with a great need for information about the current circumstances (Coombs, 2010; Johansen et al., 2012). A situation characterised by uncertainty and an enhanced need for information requires the organisation and its employees to engage in sensemaking. This concept refers to a process of seeking out information to give meaning to an unexpected and threatening event, thereby making sense of a situation (Weick, 1988; Weick et al., 2005). To make sense of a crisis, it is crucial for employees to be given the opportunity to discuss the situation and engage in a dialogue with their colleagues and managers (Heide & Simonsson, 2014). This process reduces the amount of uncertainty experienced by employees, since the dissemination and processing of information into knowledge through communication fulfils the heightened need for information (Coombs, 2010), thereby creating a more certain environment. Accordingly, ICC is expected to enable employees to engage in sensemaking during uncertain and threatening situations, such as organisational crises.

While the employees' needs for information as well as communication during crises has been established (Coombs, 2010, 2015; Heide & Simonsson, 2014), previous literature noted that there is a lack of independent internal communication strategies that focus on employees. For example, Strandberg and Vigsø (2016) remarked that managements often copy the pre-written communication strategies used for external stakeholders hoping that they

will work equally well for internal stakeholders, such as employees. Further, Johansen et al. (2012) conducted a study with a total of 465 private and public organisations in Denmark and found that about two thirds of the organisations had specific guidelines for communicating with external stakeholders while only one third had specific guidelines for internal stakeholders.

However, according to Frandsen and Johansen (2011), internal stakeholders are inherently different to external stakeholders. The authors assumed that this is mainly due to their contractual relationship with the organisation. Based on these contracts, internal stakeholders are likely to be more committed to and emotionally involved in their organisation as they have different stakes in them compared to external stakeholders. Consequently, employees experience distinct feelings during crises, such as uncertainty, stress, confusion, and anxiety (Frandsen & Johansen, 2011). As it has been shown that communication is negatively related to uncertainty (Coombs, 2015) as well as occupational stress (De Nobile et al., 2013), and was proposed to reduce anxiety (Baek et al., 2013), it seems crucial to engage in effective crisis communication focused on employees. Therefore, strategies that are employed to communicate with external stakeholders may not be appropriate to use when interacting with internal stakeholders. Rather, it seems necessary to develop and employ specific ICC strategies targeted at employees and their needs.

Senders and Receivers of Information

The existing ICC strategies and literature have traditionally distinguished between senders and receivers of information (Frandsen & Johansen, 2011; Heide & Simonsson, 2014; Johansen et al., 2012). Accordingly, senders were assumed to include top management as well as crisis communication management whereas employees were considered to be the receivers, depicting a hierarchical view of organisations. It has been criticised that the literature has been particularly sender-oriented by mostly focusing on the managerial level (Frandsen & Johansen, 2011; Heide & Simonsson, 2014), thereby neglecting the receiver (Heide & Simonsson, 2015; Johansen et al., 2012). Strandberg and Vigsø (2016) stated that this focus extends from the literature to the practice as well since the development and implementation of crisis communication plans always include the management while rarely involving employees.

Therefore, several researchers emphasised the need of shifting the focus of ICC strategies, namely, to seeing employees as receivers *and* senders of information during crises (Frandsen & Johansen, 2011; Mazzei et al., 2012). This is mainly due to employees having insights into different processes, procedures, and activities compared to managers, which

could help in preventing an exacerbation of the crisis (Frandsen & Johansen, 2011; Kim, 2018). Thus, employees are boundary-spanning actors who collect and communicate potentially important information and insights from within the organisation as well as from and to external sources (Kim, 2018; Leifer & Delbecq, 1978). Consequently, the ICC perspective has recently shifted to view employees as important actors in the crisis communication process. However, this line of research is still in its beginning and there have not yet been many studies that put employees into the centre of ICC research. Unfortunately, so far there has not been a consensus about how to operationalise ICC while taking the perspective of employees as receivers as well as senders. Therefore, in the present paper, we decided to explore two specific communication strategies, which we assume to be important for ICC, namely symmetrical communication and transparent communication.

Symmetrical Communication

Dozier et al. (1995) have pointed to symmetry as a characteristic that contributes to excellent communication management within organisations. Symmetrical communication (SYC) is characterised by a two-way relationship between the organisation and the internal stakeholders, which entails the flow of information from an organisation's management to employees and vice versa (Dozier et al., 1995; Grunig et al., 2002). Further, symmetrical communication systems emphasise the efforts of creating a dialogue between both parties to promote mutual understanding (Dozier et al., 1995; Men & Stacks, 2014). For example, previous research has shown that symmetrical communication is positively associated with the employee-organisation relationship, in terms of reciprocal trust as well as satisfaction with and commitment to each other (Men, 2014). Accordingly, the definition of ICC highlights its interactive, symmetrical nature and the importance of communicative interaction, which requires the input from management as well as employees.

The influence of SYC on employees during crises has been previously studied by Kim (2018) in order to understand in what ways employees are involved in crisis communication. In his study, the author created crisis scenarios with the help of vignettes that were specifically designed for various occupations. In particular, he conducted a study among 544 employees in the US and found that SYC was positively associated with employees making sense of a crisis through receiving and communicating information about a crisis to internal as well as external stakeholders. This finding provides support for the effect of SYC on employees' role as receivers and senders of information during crises. Therefore, it can be assumed that SYC is an important factor that enables employees to adequately understand and interpret a crisis. However, despite vignettes having many advantages in research, such as

being able to collect data which is not otherwise accessible (Erfanian et al., 2020) when using written vignettes to induce crisis situations, there is a risk of not capturing all relevant information of the hypothetical situation and thus not representing the reality to a full extent (Erfanian et al., 2020). To test the effect of ICC in reality, the present research will therefore focus on SYC during the COVID-19 pandemic, thereby avoiding the use of vignettes.

Transparent Communication

Another aspect that has been associated with effective internal communication is transparency (Rawlins, 2008, 2009). Rawlins (2009) defined transparency as the opposite of secrecy as it requires the organisation to provide all relevant information "in a manner that is accurate, timely, balanced, and unequivocal" (Rawlins, 2008, p. 7). In this way, the organisation holds itself accountable and makes it possible for its stakeholders to engage with them in an ongoing and honest fashion (Rawlins, 2008). Rawlins (2009) primarily considered employees, customers, and investors as key stakeholders; however, in his study he exclusively focused on employees and found three factors to be relevant for transparent communication (TRC) in organisations: substantial information, active participation, and accountability.

First, substantial information needs to be revealed so that the stakeholders can make informed decisions in relation to the organisation. However, this does not imply that all information needs to be provided but exclusively information that is relevant and useful for the stakeholders. Rawlins (2009) argues further that substantial information primarily concerns the stakeholders' needs. Second, to meet these needs it is crucial that stakeholders are able to actively participate in the process of gathering and sharing substantial information with the organisation. For active participation to take place, transparent organisations must invite stakeholders to engage in the communication process. Without knowing and understanding its stakeholders' needs, the organisation is not able to release information that is useful and relevant for its stakeholders (Rawlins, 2009). Third, to be transparent, an organisation must be accountable for their actions, decisions, and policies. Organisational accountability entails contemplating decisions and wording since the responsible individuals are likely to be required to justify their actions in front of stakeholders (Rawlins, 2009).

Furthermore, advancements in technologies allow information to be sent, received, and accessed within seconds, leading to enhanced expectations of stakeholders for open and honest communication, thereby dramatically increasing the demand for transparency in organisations over the past decades (Men & Stacks, 2014). This has been especially important during the COVID-19 pandemic since regulations, policies, and guidelines constantly change depending on the trajectory of the situation.

TRC might be an important aspect when managing crises. As pointed out by Heide and Simonsson (2014), employees feel an increased need for sensemaking during crises and try to fulfil this need through communication. In addition, crises bring a heightened degree of uncertainty into organisations and their stakeholders, creating a need for more information to reduce this uncertainty (Coombs, 2015; Lin et al., 2020). Since transparent organisations communicate information that is relevant for the employees' needs after having established what those needs entail, we propose that TRC is an important factor in effective ICC.

The concept of TRC has been used previously when studying ICC. For example, Kim (2018) measured TRC in addition to SYC in his study. He found that transparent and open communication led to an increase in voluntary employee behaviour in terms of making sense as well as sending information during crises. These results support previous findings (Men & Stacks, 2014) and provide evidence for TRC being an effective and necessary tool in crisis communication.

The Impact of ICC on Work-Related Stress

In the literature on occupational well-being, work-related stress has increasingly been emphasised as an important concept (Allvin et al., 2011; Collin et al., 2019; Gabriel & Aguinis, in press). For the purpose of the present study, we will explore stress in terms of psychological distress, thereby excluding any physical and positive aspects of stress. According to the World Health Organization (2020), work-related stress is defined as employees' reaction to work demands and strains that exceed their capabilities and that put their coping abilities to a test. Stress situations could consist of heavy workload that is not matched to the individual's capacity, social conflict at the workplace, lack of information as well as unclear instructions (Rosen et al., 2010; World Health Organization, 2020), and job insecurity (Wilson et al., 2020). As a consequence of being exposed to sustained levels of work-related stress, employees can suffer from various psychological diseases (Bakker & Demerouti, 2007; Demerouti et al., 2001). For example, Khamisa et al. (2015) have shown that work-related stress was significantly associated with burnout in a sample of nurses. Further, high levels of work-related stress negatively affect job commitment (Abdelmoteleb, 2019; Sadłowska-Wrzesińska & Mościcka-Teske, 2016), job performance (Rosen et al., 2010), life satisfaction (Collin et al., 2019) as well as job satisfaction (Khamisa et al., 2015), and is positively associated with turnover intentions (Mohammad Mosadeghrad, 2014). Consequently, work-related stress negatively affects well-being. Therefore, it is important for organisations to exert efforts into keeping employees' work-related stress to an appropriate and manageable level.

Figure 1

The JD-R Model as Found in Bakker and Demerouti (2007)
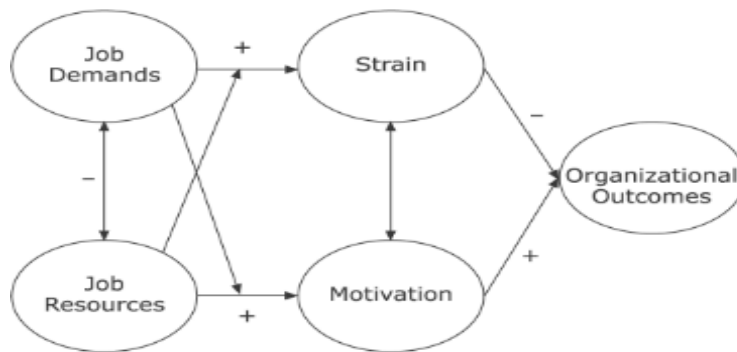
According to the job demands-resources (JD-R) model (Demerouti et al., 2001; see Figure 1), which is an occupational stress model, job demands increase strain, thereby negatively affecting employees' health and potentially leading to impaired psychological and physical health. These demands "refer to those physical, social, or organisational aspects of the job that require sustained physical or mental effort and are therefore associated with certain physiological and psychological costs" (Demerouti et al., 2001, p. 501). Job demands during crises that increase strain on the employee and that have been associated with elevated work-related stress include job insecurity (Wilson et al., 2020), heavy workload (Gabriel & Aguinis, in press) as well as general uncertainty and lack of information (Coombs, 2015). Further, information uncertainty has been shown to be related to acute stress disorder in a sample of Chinese college students during the COVID-19 pandemic (Lin et al., 2020). The authors found that, through inconsistent and conflicting information, information uncertainty increased, which resulted in a heightened risk for developing an acute stress disorder. The authors conclude "that it is not the negative news but the "bad news" (unverified, inconsistent, and self-conflicting news) that causes stress" (Lin et al., 2020, p. 7). We therefore assume that employees experience increased work-related stress during the COVID-19 pandemic as a result of the aforementioned job demands.

Contrarily, according to the JD-R model, job resources, such as social support and autonomy, can increase employees' motivation as well as reduce the costs of job demands and might thereby have a direct influence on health (Bakker & Demerouti, 2007; Demerouti et al., 2001). In the present research, we assume that job resources in crises may include various forms of organisational communication. This is in line with Coombs (2015) who suggested that crisis communication can be used to promote psychological well-being. Further, in their

study among staff in primary schools, De Nobile et al. (2013) found that supportive communication in the form of interest and appreciation from the management was negatively associated with occupational stress. Since SYC facilitates a dialogue between management and employees as well as seeks to establish mutual understanding among both parties (Dozier et al., 1995; Men & Stacks, 2014), it can be assumed that SYC entails taking interest in employees by asking about their opinions, hence including them in the communication process, which, as a result, may decrease work-related stress. Furthermore, it can be expected that employees working in organisations that engage in SYC receive information about important changes and decisions during crises while at the same time providing crucial information about their situation and needs. This, in turn, may enable the management to more precisely react to their employees' needs and to take measures to reduce work-related stress in employees. Therefore, we hypothesise the following:

H1: SYC is negatively associated with work-related stress.

Furthermore, De Nobile et al. (2013) found that openness of communication and democratic communication are negatively related to work-related stress. More specifically, sharing information (openness) and being able to influence one's work processes (democracy) decreased work-related stress levels in school staff. Since TRC promotes active participation from employees as well as accountability through open and transparent communication, it can be assumed that transparent organisations facilitate a working environment with low work-related stress levels during a crisis. Additionally, preventing information overload as well as information underload was shown to benefit employees' health in terms of reduced work-related stress (De Nobile et al., 2013). This finding suggests the influence of TRC on the extent of work-related stress in employees, as TRC promotes releasing sufficient information to fulfil employees' needs but refraining from sharing irrelevant information, thereby only communicating necessary and relevant information. Consequently, the following hypothesis is proposed:

H2: TRC is negatively associated with work-related stress.

The Mediating Role of Work-Related Sense of Coherence Between ICC and Work-Related Stress

The Salutogenic Model and Sense of Coherence

Based on the aforementioned connection between crises and well-being, the present study assumes that it is highly important to also study health promoting factors during crises.

For this purpose, the salutogenic model serves as a theoretical foundation. The salutogenic model was developed by Antonovsky (1979, 1987) and is concerned with the origin of health. He was interested in answering the question of why some individuals can cope with specific demands, thereby maintaining good health, whereas others become ill as a consequence of the same demands. This way, he specifically aimed at moving away from considering health and disease as a dichotomy towards seeing it distributed along a continuum (Antonovsky, 1979, 1987b). For this purpose, he developed the health ease/dis-ease continuum, which captures the idea of human health moving between the two ends of health and disease (Antonovsky, 1979).

Central to his salutogenic model is the concept of sense of coherence (SoC). Antonovsky (1987b) defines SoC as the following:

> "a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that (1) the stimuli deriving from one's internal and external environments in the course of living are structured, predictable, and explicable (comprehensibility); (2) the resources are available to one to meet the demands posed by these stimuli (manageability); and (3) these demands are challenges, worthy of investment and engagement (meaningfulness)." (p. 19)

Thus, a strong SoC is characterised by high levels of the three subcomponents and can generally be seen as a factor that increases resilience to stress, thereby promoting good health (Antonovsky, 1987b). Originally, Antonovsky (1987b) assumed that SoC develops until the age of approximately 30. However, he clarified that SoC is not completely stable after this point but instead "fluctuations around the mean" (Antonovsky, 1987b, p. 124) are normal. In line with this, in a longitudinal study, Feldt, Kinnunen, et al. (2000) found intraindividual fluctuations in SoC, thereby showing that SoC should be regarded as a flexible concept rather than as fixed and stable.

Furthermore, Antonovsky (1979, 1987b) assumed that stress is an ordinary aspect of life that humans face on a daily basis. He theorised that the strength of an individual's SoC defines how well they will react to stressors, which in turn has an impact on the individual's location on the health ease/dis-ease continuum (Antonovsky, 1979, 1987b). Individuals with a high SoC not only have the perception that the world makes sense as well as that the complex and constant stressors imposed on them are solvable but also perceive stressors as a positive challenge (Antonovsky, 1987b). In line with this, empirical research on SoC has repeatedly connected a strong SoC with good mental and physical health (e.g., Eriksson & Lindström,

2006; Malagon-Aguilera et al., 2019; Mikami et al., 2013) and health-related variables, such as quality of life (Eriksson & Lindstrom, 2007) as well as sleep quality, physical exercise, and stress (Szovák et al., 2020), supporting Antonovsky's claim that a strong SoC is related to good health (Antonovsky, 1979, 1987b).

Especially in times of crises, more stressors than usual are present. For instance, it has been supposed that crises increase feelings of job insecurity in employees (Wilson et al., 2020). In accordance with this, in a study by Feldt, Kinnunen, et al. (2000), SoC was shown to be a mediator between feelings of job insecurity and well-being. Additionally, Antonovsky (1979, 1987b) assumed that people with a strong SoC are confident that they have the necessary resources to handle challenging conditions, such as crises. Therefore, SoC might be an extremely important concept to consider during crises and the new stressors they elicit, especially when it comes to maintaining good health and well-being during a crisis.

Work-Related Sense of Coherence

Previously, researchers have studied SoC in the organisational context (e.g., Albertsen et al., 2001; Feldt, Kinnunen, et al., 2000; Feldt, Leskinen, et al., 2000; Grødal et al., 2019; Mayer & Krause, 2011). However, Bauer et al. (2015) theorised that there might be context-specific SoCs that are influenced by the situation and which in turn are assumed to shape a person's overall SoC. In line with this assumption, the researchers developed the concept of work-related sense of coherence (Work-SoC, Bauer et al., 2015). This concept is defined as the extent to which employees perceive their work circumstances to be comprehensible, manageable, and meaningful (Vogt et al., 2013). In particular, comprehensibility refers to the amount that an employee perceives their situation at work as consistent, structured, and understandable. Manageability refers to employees' perception of whether appropriate resources are available to cope with workplace demands. Lastly, the subcomponent of meaningfulness entails that employees perceive their work situation as worth getting involved in and committed to. Therefore, Work-SoC is similar to the concept of SoC but specifically focuses on the work context and employees' abilities to handle stressors at work (Vogt et al., 2013).

In line with Antonovsky's (1987b) assumption about the changeability of SoC, Vogt et al. (2013) suggested that Work-SoC can be influenced by the interaction between the employee and their work environment, such as work structures and processes. Thus, the concept of Work-SoC has the underlying assumption that it is dynamic in its nature and that external stimuli can modify it (Vogt et al., 2013). Further, previous research showed that the organisational environment is associated with a change in employees' Work-SoC. In

Figure 2

Adapted Version of the JD-R Health-SoC Model by Jenny et al. (2017)
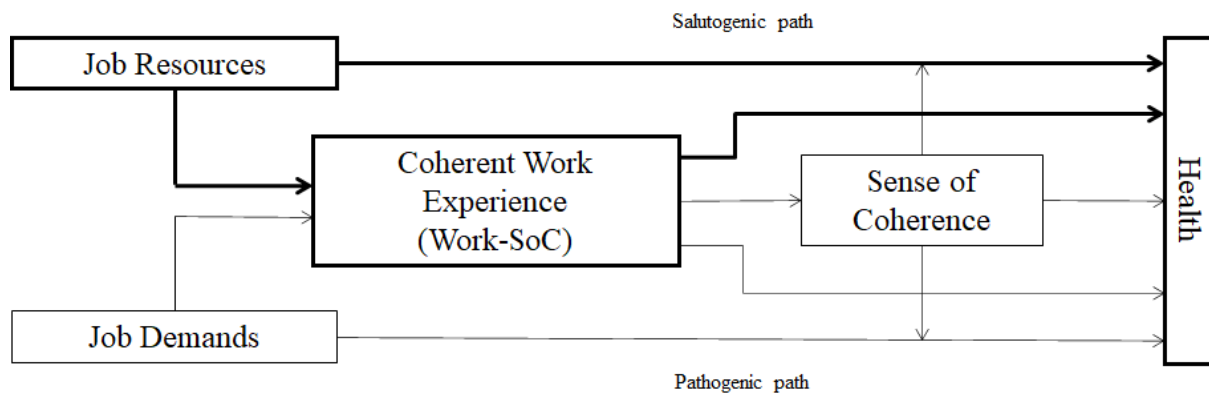
Note. The relevant pathways for the present studies are printed in bold.

particular, Vogt et al. (2013) found that depending on work characteristics, that is, job demands or job resources, employees' Work-SoC decreased or increased, respectively. Consequently, one can assume that various job demands or job resources will have an impact on the Work-SoC of employees, which in turn will impact employees' location on the health continuum.

Against the backdrop of these findings, Jenny et al. (2017) developed the JD-R Health-SoC model (see Figure 2), which is based on a paper by Brauchli et al. (2015). The JD-R Health-SoC model builds on the JD-R model by Demerouti et al. (2001) and expands it with Work-SoC and SoC as mediators. Additionally, instead of focusing on general organisational outcomes, the model concentrates on health outcomes. The JD-R Health-SoC model has been supported by previous research (e.g., Bauer et al., 2015; Grødal et al., 2019; Vogt et al., 2013) and presumes that, in addition to the direct influence of resources and demands on health, job resources as well as job demands are important influences on Work-SoC, which in turn influences the person's health. As hypothesised above, we propose a direct influence of ICC as a job resource on employee work-related stress. Additionally, we suggest that ICC indirectly influences work-related stress via an employee's Work-SoC, thus counteracting the negative impact of crisis specific job demands on employee health. This will be elaborated on in the following sections.

Communication and Work-SoC

The connection between ICC as a job resource and Work-SoC has not been established before, pointing towards a gap in the literature. We propose that communication lays the foundation for employees' Work-SoC by influencing its subcomponents in various

ways. The subcomponent of comprehensibility has been described as the cognitive aspect of the concept and generally refers to whether a person has the necessary information to make sense of the situation and perceive it as clear and organised rather than chaotic, unplanned, and unexplainable (Antonovsky, 1987b). Rawlins (2009) states that TRC does not only require organisations to supply relevant information but this information also needs to be correct, well-timed, and unambiguous. Thus, TRC emphasises that communication is aimed at increasing understanding by providing relevant and sufficient information. Additionally, as stated above, SYC focuses on a two-way dialogue between management and employees, thereby promoting mutual understanding (Dozier et al., 1995; Men & Stacks, 2014). Therefore, based on this definition, when engaging in SYC organisations aim at increasing the understanding of the crisis and its impact on the organisation. Thus, TRC and SYC are especially needed as crises bring much uncertainty (Coombs, 2015), which can be challenged by openly talking and exchanging opinions with employees, thereby increasing the situation's comprehensibility to employees.

Further, the literature has pointed out that comprehensibility might often be an important foundation for the second subcomponent, manageability (Faltermeier, 2005). When comprehending the workplace, employees are more likely to feel as though they can manage their work by using the appropriate resources. In this context, Antonovsky (1987b) clarifies that resources do not only refer to internal but also external resources, such as colleagues or managers, who the employee perceives as reliable and trustworthy. This is in line with a study by Rawlins (2008) who found that TRC was positively associated with trust perceptions at the workplace. Therefore, as TRC increases perceptions of trust, it might also facilitate perceiving managers or colleagues as valuable resources, thereby having an impact on manageability. In addition to this, SYC has previously been positively associated with reciprocal trust as well as satisfaction with the relationship between employee and organisation (Men, 2014), suggesting a positive influence of SYC on manageability.

Lastly, meaningfulness has been described as the motivational aspect of SoC (Antonovsky, 1987b). When Antonovsky (1987b) studied individuals with a strong SoC he often found that they did not only experience that events cognitively made sense to them but also emotionally. These individuals seemed to perceive situations as challenging, or in other words, "worthy of emotional investment and commitment" (Antonovsky, 1987b, p. 18). In a study by Men (2014), SYC was shown to be positively related to commitment between employees and management, pointing towards a significant influence of SYC on Work-SoC. In addition to that, Antonovsky (1979) stressed that meaningfulness entails the importance for

people to participate in shaping their fate and day-to-day experiences. As active participation is a subcomponent of TRC, it emphasises the importance and active role of the employee to get involved in the ICC process, thereby increasing meaningfulness and consequently employees' Work-SoC.

In conclusion, the Work-SoC concept emphasises the importance of organisations to actively include their employees, engage in a dialogue with and be transparent to them, thereby recognising employees' ability to act and contribute with their opinions. This is in line with the concepts of SYC and TRC and the need to include employees into an organisation's crisis management through ICC.

Work-SoC and Work-Related Stress

Additionally, we assume that a strong Work-SoC is associated with a decrease in work-related stress of employees during the COVID-19 pandemic. Antonovsky (1987a) proposed that individuals with a strong SoC are more successful in obviating stressors. In addition to that, he proposed that SoC enables individuals to judge stressful situations as an opportunity instead of evaluating it as a negative event. Consequently, SoC has an important impact on the extent to which an individual perceives an event as stressful (Antonovsky, 1979, 1987b) while at the same time determining the individual's location on the health ease/dis-ease continuum (Feldt, Kinnunen, et al., 2000).

This is in line with previous research that has supported a relation between SoC and stress. For instance, Albertsen et al. (2001) found a significant negative relation between SoC and behavioural, cognitive, emotional, and somatic stress in Danish employees. Another study by Schäfer et al. (2018) specifically looked at medical staff in an anaesthesiology unit at a hospital in Germany in which the work environment was hypothesised as being highly stressful. Having a high SoC while working in this environment was shown to be associated with a significantly better general mental health and less symptoms of post-traumatic stress (Schäfer et al., 2018). These results are in line with the assumption that a strong SoC is associated with better stress management, thereby positively influencing health (Antonovsky, 1979, 1987b; Mayer & Krause, 2011). However, the very specific sample characteristics and the small sample size of only 54 employees used in the study by Schäfer et al. (2018) limits the generalisability of the results to a wider population.

The findings by Schäfer et al. (2018) and Albertsen et al. (2001) support the assumption that SoC might be an important mediator between job demands as well as job resources and employee well-being. In particular, Albertsen et al. (2001) found SoC to be a mediator between the workplace's psychosocial environment and various stress symptoms. In

line with this, a study by Vogt et al. (2013) established that Work-SoC mediated the association between job resources and work engagement as well as the association between job demands and exhaustion. Furthermore, in the validation study of the Work-SoC scale, Bauer et al. (2015) supported these results further by finding significant positive correlations between various job resources, such as social support, supervisor support, and autonomy and Work-SoC. Additionally, they found significant negative correlations between job demands, such as time pressure, interruptions at work as well as task-related uncertainty, and Work-SoC. Work-SoC in turn was significantly positively correlated to various concepts of good health and negative correlations were found with bad health.

In conclusion, based on the JD-R Health-SoC model we assume Work-SoC to be a mediator between job resources and employee well-being. Therefore, we hypothesise that:

H3: SYC is positively associated with Work-SoC which in turn is negatively associated with work-related stress, therefore Work-SoC mediates the relationship between SYC and work-related stress.

H4: TRC is positively associated with Work-SoC which in turn is negatively associated with work-related stress, therefore Work-SoC mediates the relationship between TRC and work-related stress.

Aim and Significance

To our present knowledge ICC has not yet been studied in connection to well-being as most research on ICC stems from the field of communication studies (e.g., Heide & Simonsson, 2014; Johansen et al., 2012; Mazzei & Ravazzani, 2015). Especially in regard to the current COVID-19 pandemic and its detrimental impacts on well-being (Gloster et al., 2020; Godinic et al., 2020; Public Health England, 2021), it seems crucial to focus on ICC and its connection to employee well-being. Consequently, our research aims at shedding light on possible antecedents of employees' psychological well-being during the COVID-19 pandemic and in this way filling a gap in the ICC literature.

In order to do this, we will conduct a mixed methods study. This approach has been described to have great advantages as it enables researchers to gain a more detailed understanding of the conclusions made from quantitative research by conducting additional qualitative investigations (Creswell & Plano Clark, 2017). Combining a quantitative survey with qualitative interviews, as done in the present research, allows for a general exploration of ICC and its impact on employee well-being among a considerably large sample while still

studying a few individuals and their perceptions in great depth. With this approach, we aim at gaining a holistic picture of ICC and employee well-being during the COVID-19 pandemic, thereby providing novel insights into the field and establishing an evidence-based foundation for future research to build on.

Lastly, the present research will contribute to the theoretical development of the Work-SoC concept by Bauer et al. (2015) as the research on this concept is still in its infancy (Grødal et al., 2019). Further, the literature emphasises the need to study whether changes in employees' circumstances at work influences their Work-SoC (Vogt et al., 2013). Therefore, we are testing if ICC is a salutogenic job characteristic that decreases stress in employees during crises. Additionally, we intend to test whether the JD-R Health-SoC model can be supported and generalised to a crisis context. Thus, this study does not only contribute to crisis communication research but will also further our knowledge on the role of SoC in the workplace.

Overview of the Present Research

The present research is a cross-sectional mixed methods study including a quantitative online survey (Study 1) as well as semi-structured interviews (Study 2; see Figure 3). Therefore, the present paper used an explanatory sequential design with a follow-up explanations variant for the mixed methods data (Creswell & Plano Clark, 2017). Accordingly, we decided to first build on previously established theories and data by aiming at supporting our hypotheses by collecting and analysing quantitative data from a survey.

Figure 3

Overview of the Present Research
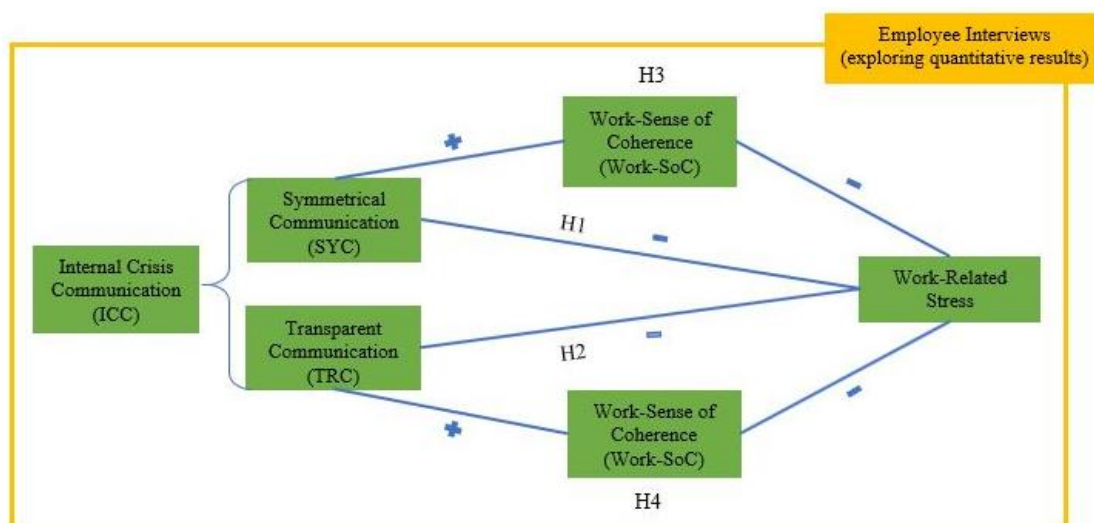
However, we saw the collection of qualitative data as a crucial step in furthering the knowledge in this field. Thus, in a second study, we conducted interviews with a random selection of the survey participants, aiming to answer the following research question: How do employees perceive themselves, their well-being, work, and communication within their organisation in the midst of a crisis? Consequently, for our quantitative as well as qualitative analysis we used a deductive approach to data collection.

Study 1

Method

Design

Study 1 comprised a cross-sectional data collection using an online survey.

Participants

All data was collected on employees who had to fulfil two requirements to participate in the study, namely working at least 20 hours a week and not being self-employed. In total, 302 employees responded to the online survey, which was available in both English and German. However, nine did not fulfil the requirements, 81 responses were excluded due to too many missing values[2], and seven participants failed to answer the attention check items correctly. Consequently, a total sample of $N = 205$ (112 females, 91 males, two preferred not to say) employees participated in this study (see Table A1). Most participants (60%) were between 18 - 30 years old with 45% of participants indicating a tenure of one to five years at their current organisation. Most participants (66%) reported to work in Germany, followed by 10% working in the UK, and 7% working in Sweden.

Additionally, we assessed several questions regarding the COVID-19 pandemic. When asked about the impact of the pandemic on the communication within their organisation, 27% responded that the COVID-19 pandemic had a positive impact, followed by 25% saying it had a negative impact, 27% indicating it did not have an impact at all, and 21% who did not know. One hundred thirty-five participants (66%) indicated that they have been working from home due to the COVID-19 pandemic. Moreover, 48% of the participants agreed to some extent (i.e., *somewhat agree*, *agree*, and *strongly agree*) with the statement that their work-related stress increased due to the COVID-19 pandemic. Furthermore, 38% of participants partly perceived the COVID-19 pandemic as a crisis for their organisation, followed by 35% who did not perceive it as a crisis, and 27% who fully perceived the pandemic to be an organisational crisis.

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[2] Participants were excluded if they did not complete an entire measure or if it was obvious that respondents abandoned the survey and did not fill it out until the end.

To test whether there were significant differences between participants taking the survey in German (65%) or English (35%), we conducted Welch's two sample t-tests (see Table A2). Significant differences between participants were found in SYC ($t(177.72)$ = -4.18, $p < .001$), showing that participants who took the survey in German indicated significantly lower values of SYC compared to participants who took the survey in English (M_{DE} = 4.52, SD_{DE} = 1.19; M_{EN} = 5.14, SD_{EN} = 0.91). Additionally, we also found significant differences between user language and TRC ($t(148.71)$ = -3.65, $p < .001$), which means that participants taking the survey in German had significantly lower values in TRC than participants who filled out the survey in English (M_{DE} = 4.31, SD_{DE} = 1.12; M_{EN} = 4.90, SD_{EN} = 1.07). However, no significant differences were found for Work-SoC, work-related stress, or an item focusing on participants' perception of the COVID-19 pandemic as an organisational crisis. Thus, we decided not to differentiate within our sample between participants with German or English as user language. Nevertheless, we concluded to add user language as a control variable in the hypotheses testing.

Procedure

At the beginning of March, participants were contacted through the private network of the researchers. As an incentive for participation, participants could take part in a lottery for one of three Amazon vouchers. All participants received a link to the study. The survey started by explaining the purpose of the study and asking for informed consent, followed by the assessment of demographics, such as age, gender, and tenure. Next, we asked questions specific to the COVID-19 pandemic in relation to their organisation and the resulting communication. This part was followed by measures assessing SYC, work-related stress, TRC, and Work-SoC. At the end of the survey, participants were shown a debrief and were informed about the possibility of further participating in a 45-minute-long interview. To ensure anonymity, we asked participants to click on a link which redirected them to another survey where they could indicate their email address as well as whether they would like to take part in the lottery and/or the interview. Finally, participants were thanked for their participation and had the opportunity to leave comments for the researchers.

Measures

All scales used in this survey were adapted to the crisis context by informing participants before every measure that the statements only refer to the situation in their organisation during the COVID-19 pandemic. All items, including the German translations, can be found in Appendix A.

SYC. SYC was measured with seven items adapted by Kim (2018) from Dozier et al. (Dozier et al., 1995). The response format used was a 7-point Likert scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*. The items were back-translated into German and the translation process as well as the final translations were checked by multiple independent researchers with German as their first language. The Cronbach's alpha found in this study was α = .86.

TRC. TRC was assessed by 18 items developed by Rawlins (2008) with six items assessing the participation subcomponent, seven items assessing substantial information, and five items assessing the accountability component. All items were scored on a 7-point Likert scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*. The same translation process as for SYC was used to translate the items into German. The overall Cronbach's alpha value for the TRC scale was α = .94, with α = .74 for the items assessing participation, α = .90 for the items assessing substantial information, and α = .87 for the items assessing accountability.

Work-Related Stress. Work-related stress was assessed with 33 questions developed by Holmgren et al. (2009). Seven questions were scored on a 4-point Likert scale ranging from 1 = *always* to 4 = *never*. Fourteen questions assessed whether stressors were present to the participant and could be answered with *yes*, *partly*, or *no*. Depending on the answer to these questions, participants were asked whether they perceive this as 1 = *not stressful* to 4 = *very stressful*. Three items on this scale were reversely scored. The German items were back-translated as described above. The present study found a good internal reliability for this scale (α = .88).

Work-SoC. Work-SoC was measured with nine items developed by Bauer et al. (2015). Four questions were used to assess comprehensibility (α = .73), two items to assess manageability ($r_s(205) = .53, p > .01$), and three to assess meaningfulness (α = .81). The Cronbach's alpha from the overall scale was α = .77. The scale is a bipolar adjective rating scale and was adapted to the COVID-19 context by asking, "How do you personally find your current job and work situation during the COVID-19 pandemic?". Next, participants were shown two opposing adjectives and could indicate on a 7-point Likert scale which adjective described their feelings most closely. Six items scored reversely. The German translation used for these items was taken from Vogt et al. (2013).

Ethical Considerations

All employees that participated in this study gave their informed consent and were informed about the option to terminate the survey at any time, thereby excluding their data from any subsequent data analysis. Furthermore, participants were given the option to raise

concerns or leave comments at the end of the study. However, no inquiry of concern reached the researchers. The anonymity of data was ensured by not collecting any sensitive data that could be traced back to the individual. At the end of the survey, participants were redirected to a different online form in which they could sign up for an interview and/or the lottery. This way, personal data was stored separately from the data collected in the survey and could not be connected in any way. Thus, we do not see any ethical concerns for this study.

Analysis

The analysis of the quantitative data collected in this study was conducted using the statistical software "R" (R Core Team, 2021). The hypotheses were tested with different regression analyses using a cut-off score of $\alpha = .05$ to determine statistical significance. The "mediation" package (Tingley et al., 2014) was used to carry out the mediation analyses for H3 and H4 with indirect effects being calculated using 1,000 bootstrapped samples. Additionally, we conducted an exploratory analysis using *t*-tests and regression analyses.

Results

Correlations and Assumptions

The means, standard deviations, and correlations between the two independent variables as well as the mediator Work-SoC and the outcome variable of work-related stress are displayed in Table 1. Significant negative correlations were found between work-related stress and all other variables. Further, SYC and TRC both correlated positively with Work-SoC to a significant extent. Lastly, as expected SYC and TRC showed a significant positive correlation.

The assumptions of linear regression analysis, namely normality, homogeneity, and linearity, were tested for all models. Independence of residuals was ensured due to the study design. All assumptions of the model testing H1 were met except for a slight violation of the assumption of normality. The Shapiro-Wilk test showed a significant result ($W(205) = .98$, $p = .02$); however, skewness (0.37) and kurtosis (-0.28) as well as the histogram did not indicate severe abnormalities. The testing of the regression models for H2 and H3 resulted in a slight violation of the assumption of homogeneity of variance. After visually inspecting the data, no grave violations were found. All other assumptions of these models as well as of the models testing H4 were met.

Every model was tested for outliers by calculating Cook's distance and it was investigated whether the observed outliers would need to be excluded. After analysing the individual data points of the outliers, it was found that there were no apparent irregularities. Further, the exclusion of outliers did not result in a significant change in the hypothesis

Table 1

Means, Standard Deviations, and Correlations of the Measured Variables

Variable	*M*	*SD*	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Age	-	-	-							
(2) Gender	-	-	.10	-						
(3) User language	-	-	-.28**	.02	-					
(4) Crisis perception	2.09	0.79	-.15 *	.11	.00	-				
(5) SYC	4.73	1.13	-.24 ***	-.18 **	.26**	.21 **	(.86)			
(6) TRC	4.51	1.13	-.24 ***	-.10	.25**	.17 *	.73 ***	(.94)		
(7) Work-SoC	4.66	0.91	-.06	-.06	.10	.21 **	.39 ***	.31 ***	(.77)	
(8) Work-related stress	1.93	0.48	-.09	.03	-.13	-.28 ***	-.41 ***	-.42 ***	-.54 ***	(.88)

Note. *M* and *SD* are used to represent mean and standard deviation, respectively. Cronbach's alpha values are displayed on the diagonal in parentheses. Crisis perception was assessed with one question, namely "Do you perceive the COVID-19 pandemic as a crisis for your organisation?". Answers were scored with 1 = Yes, 2 = Partly, 3 = No. * indicates $p < .05$; ** indicates $p < .01$; *** indicates $p < .001$

testing for any of the tested models. Thus, we decided to not exclude any outliers and conducted the analysis with the complete dataset. Finally, missing values were identified and replaced with the respective item mean. Controlling for user language did not lead to any changes in the conclusions about the hypotheses testing. Therefore, following suggestions by Becker (2005) it was decided to report findings without including these covariates in the model.

Hypothesis Testing

H1 assumed that SYC is negatively associated with work-related stress. To test for the main effect of SYC on work-related stress, a linear regression analysis was performed (Model 1). The results indicated that SYC explained 16% of the variance in the model ($R^2_{adj} = .16$). Additionally, it was found that SYC was significantly related to work-related stress scores ($\beta = -.41$, $p < .001$; see Table A3 for all model parameters). Therefore, H1 was supported. Further, H2 suggested that TRC is negatively associated with work-related stress. The conducted linear regression (Model 2) indicated that TRC was significantly negatively associated with work-related stress scores ($\beta = -.42$, $p < .001$). TRC also explained a significant proportion of variance in work-related stress ($R^2_{adj} = .17$). Thus, H2 was supported as well.

H3 assumed that the relationship between SYC and work-related stress is mediated by Work-SoC. For identifying a mediation in the data, three conditions should be met. First, the direct effect of the independent variable (SYC) on the dependent variable (work-related stress) should be significant (Step 1). As can be seen above, this is the case since H1 was

Figure 4

Standardised Regression Coefficients for the Relationship Between SYC and Work-Related Stress as Mediated by Work-SoC (H3)
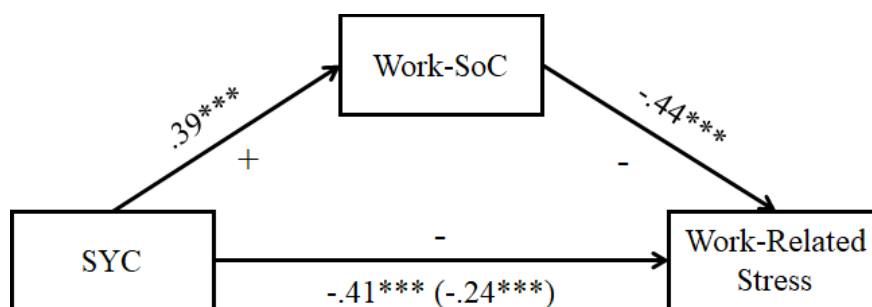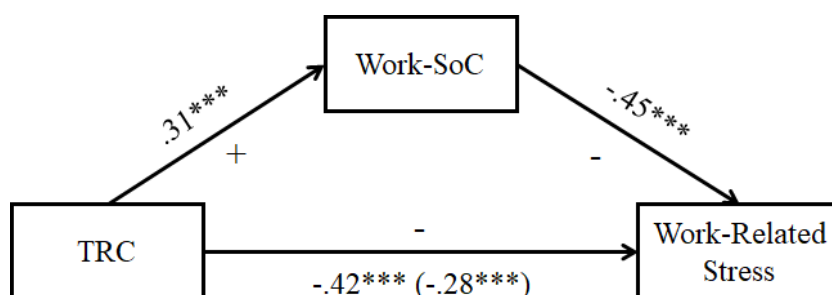

Note. The value in parentheses is the effect of SYC on work-related stress when controlling for Work-SoC. (-.24***) indicates the effect of the independent variable onto the dependent variable after including the mediator. *** indicates $p < .001$.

supported. Second, the independent variable must be significantly associated with the mediator (Step 2). To test this, we conducted a linear regression of SYC onto Work-SoC. The results showed a significant effect, in the way that SYC showed a significant positive relationship with Work-SoC scores ($\beta = .39$, $p < .001$) and explained 15% of variance in Work-SoC ($R^2_{adj} = .15$). Third, the effect of the mediator on the dependent variable should remain significant while controlling for the independent variable (Step 3). As required, the regression coefficient of Work-SoC for work-related stress remained significant ($\beta = -.44$, $p < .001$) when controlling for SYC ($\beta = -.24$, $p < .001$; see Figure 4 and Table A3, Model 3). To conclude a complete mediation, the direct effect of the independent variable onto the dependent variable should turn insignificant after including the mediator. However, in the present analysis the direct effect of SYC onto work-related stress was not rendered insignificant, suggesting only a partial mediation. In other words, Work-SoC accounts for some, but not all of the relationship between SYC and work-related stress.

To ensure the confidence in the results from the stepwise analysis above, we calculated the standardised indirect effect for H3 and conducted bootstrapping. The indirect effect of the independent variable on the dependent variable via the mediator is estimated by the standardised effect of the independent variable (SYC) on the mediator (Work-SoC) multiplied by the standardised mediator's effect on the dependent variable (work-related stress), resulting in a standardised indirect effect of -.18 ($p < .001$). Indirect effects were computed for each of 1,000 bootstrapped samples, and the 95% confidence interval was calculated, ranging from -0.11 to -0.05. Thus, H3 was partially supported.

Figure 5

Standardised Regression Coefficients for the Relationship Between TRC and Work-Related Stress as Mediated by Work-SoC (H4)

Note. The value in parentheses is the effect of TRC on work-related stress when controlling for Work-SoC. (-.28***) indicates the effect of the independent variable onto the dependent variable after including the mediator. *** indicates $p < .001$.

H4 proposed that Work-SoC mediates the relationship between TRC and work-related stress. The procedure used to test H3 was also followed to test H4. Step 1 of the mediation analysis was covered by the testing of H2. In Step 2, TRC was significantly associated with Work-SoC scores ($\beta = .31$, $p < .001$). Further, TRC explained 9% of variance in Work-SoC ($R^2_{adj} = .09$). Lastly, the linear regression for TRC and Work-SoC onto work-related stress in Step 3 indicated significant regression coefficients between TRC and work-related stress ($\beta = -.28$, $p < .001$) as well as between Work-SoC and work-related stress ($\beta = -.45$, $p < .001$; see Figure 5 and Table A3, Model 4). Similarly to H3, the relationship of the direct effect between TRC and work-related stress was not rendered insignificant once the mediator was introduced to the analysis. Therefore, Work-SoC partially mediates the relationship between TRC and work-related stress. Further, the standardised indirect effect was estimated to be -.14 ($p < .001$). The bootstrapping procedure with 1,000 samples revealed a 95% confidence interval, ranging from -0.09 to -0.03. Thus, H4 was partially supported.

Exploratory Analysis

According to Heide and Simonsson (2015) as well as Coombs (2015), organisational crises are perceptual phenomena, suggesting crises exist only if they are perceived as such by the organisations' stakeholders. To investigate this assumption, we conducted an exploratory analysis to test whether perceiving the COVID-19 pandemic as a crisis for their organisation has an influence on participants' scores of SYC, TRC, Work-SoC, and work-related stress. Consequently, we ran Welch's two-sample *t*-tests to establish whether there were differences on the variables included in the present research model between participants who replied with "Yes", "Partly", or "No" to the question "Do you perceive the COVID-19 pandemic as a crisis for your organisation?". It was found that all *t*-tests comparing "Yes" and "Partly" on SYC, TRC, Work-SoC, and work-related stress as well as those between "Yes" and "No" were significant. However, all *t*-tests between participants who replied with "Partly" and participants who replied with "No" were non-significant (see Table B1 for all values), hence we decided to compute the new variable "Crisis" in which "Yes" was coded with 0 ($n = 55$) and "Partly" and "No" with 1 ($n = 150$).

To test if the conclusions from the hypotheses testing described above depended on whether the COVID-19 pandemic was perceived as a crisis, we added the newly created variable to the regression models. The results indicated that there was no difference in significance between the models (see Table B2 and Figure B1 and B2 for all values). However, the models containing the variable "Crisis" were able to explain more variance compared to the models without the variable, which was reflected in the adjusted R^2 values.

Accordingly, perceiving the COVID-19 pandemic as an organisational crisis is associated with employees' scores of SYC, TRC, Work-SoC and work-related stress; however, it did not change the conclusions derived from the hypothesis testing.

Discussion

The aim of Study 1 was to deepen the knowledge about ICC, which in the present study we operationalised as SYC and TRC, and its association with work-related stress. In line with the JD-R model, we assumed that ICC is an important job resource for employees' well-being during crises. Additionally, based on Antonovsky's salutogenic model and the JD-R Health-SoC model, we suggested that Work-SoC can explain the relationship between ICC and work-related stress, hence mediating the association.

The data collected in this study supported H1, which stated that SYC is negatively associated with work-related stress. Additionally, it was found that TRC has a significant negative relationship with work-related stress, thus supporting H2. These findings suggest that SYC and TRC were important communication strategies during the COVID-19 pandemic and point towards SYC and TRC being crucial parts of ICC as hypothesised in the present paper. Furthermore, these results are in line with the literature on ICC emphasising the importance of including the employee more into crisis communication (e.g., Frandsen & Johansen, 2011; Heide & Simonsson, 2015) since the study shows the significance of ICC for employee well-being during a crisis. Additionally, the results from Study 1 support the JD-R model by indicating that ICC functions as a job resource which has a negative association with occupational strain, in terms of work-related stress, and extending it to the crisis context.

Lastly, in the present study it was found that Work-SoC partially mediates the relationship between work-related stress and SYC (H3) as well as TRC (H4). This shows that ICC, specifically SYC and TRC, could be seen as a salutogenic job characteristic. However, as the results did not indicate a complete mediation, they point towards the existence of other mediators in the relationship between ICC and work-related well-being. Thus, the present study only partly supports the JD-R Health-SoC model and shows that in a crisis context, the model might overestimate the importance of Work-SoC as a mediator between job resources and good health, and might neglect other possible mediators. Another potential mediator could be organisational trust as previous literature has found a significant positive relationship between SYC and reciprocal trust between employees and organisation (Men, 2014) as well as TRC and employees' trust into the organisation (Rawlins, 2008). Furthermore, Mazzei and Ravazzani (2015) emphasise the importance of ICC to preserve trust relationships between employees and organisations during the financial crisis in 2008. Moreover, a previous study

has supported the link between organisational trust and work-related stress in a non-crisis setting (Oktug, 2013). Consequently, trust might be another mediator explaining the relationship between ICC and work-related stress.

Exploratory Analysis

The results from the exploratory analysis indicated that employees perceiving the COVID-19 pandemic as a crisis for their organisation reported significantly lower levels of SYC, TRC as well as Work-SoC, and significantly higher levels of work-related stress compared to participants that perceived the COVID-19 pandemic only partly or not at all as a crisis for the organisation they work for. These results are highly interesting and in line with Heide and Simonsson (2015) as well as Coombs (2015) who took a social constructionist approach to organisational crises, stating that organisational crises only exist once people perceive them as such. However, it is important to note that significant results were found for both groups when testing the hypotheses again while differentiating between those who fully perceived the COVID-19 pandemic as a crisis and those who did not at all or only partly. Therefore, even though the perception of whether the COVID-19 pandemic constituted an organisational crisis was associated with significant changes in all variables in the models, the hypotheses were still supported for both groups. This indicates that the model tested in the present paper might hold true independently of whether a crisis is present or not. However, the results further show that values on the variables included in the present research become more pronounced during crises. Thus, it could be that SYC and TRC generally influence work-related stress but that those variables become even more important in crisis situations. This is a highly interesting departure for future research.

Study 2

There has not yet been any research on the relationship between ICC and work-related stress, therefore we deemed it important to extend the quantitative results of Study 1 with qualitative research. More specifically, the qualitative Study 2 was carried out to explore potential explanations of the partial mediation found in Study 1 in terms of assessing other variables that could act as mediators between ICC and work-related stress. Furthermore, giving participants the opportunity to elaborate on the application of TRC and SYC and its impact on occupational life in reality offers an additional, insightful way of investigating whether the theory-based assumptions made in Study 1 would hold true in the applied field. Therefore, we aimed at answering the following research question based on the interviews in Study 2:

RQ: How do employees perceive themselves, their well-being, work, and communication within their organisation in the midst of a crisis?

Method

Design

In line with the follow-up explanations variant of mixed methods (Creswell & Plano Clark, 2017), we designed a semi-structured interview based on the survey results, thereby aiming to gain more insights into the results from Study 1. We took a critical realist approach to enquiry, which assumes that there is a "real" world that can be captured; however, collected data does not mirror this world directly, but needs to be critically reflected upon and interpreted to understand it (Willig, 2013).

Participants

At the end of the survey in Study 1, 33 employees indicated that they were interested in participating in an interview. From these participants, we randomly selected seven employees to take part in an interview[3], four of which were conducted in German and three in English. Two of our participants were female while five were male with their age ranging from 25 to 55. Furthermore, participants were working in various industries, such as construction, production and industry, health and social welfare, administration as well as IT.

Procedure

The interviews were conducted at the beginning of April, three weeks after the end of the quantitative data collection (Study 1). The randomly selected participants were contacted via email with information about the interview and the informed consent. Additionally, a time and date for the online interview was arranged. At the beginning of each interview, we introduced ourselves, gave a general overview of the interviewing procedure, and asked the participant to confirm the informed consent. Next, we followed the semi-structured interview guide. The interview duration ranged from 38 - 47 minutes and lasted 44 minutes on average. Interviews were conducted via an online video call in either German or English. Additionally, all interviews were recorded and afterwards transcribed verbatim as recommended by Willig (2013).

Measures

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[3] In Braun et al. (2019), the authors criticise the usage of the common concept of "saturation" of data as being based on perfunctory impressions usually made prior to data analysis. They further state that knowledge about whether the data is saturated or not is often actively generated by the researcher(s) in the process of interpreting and analysing after data has already been collected. Therefore, the authors conclude that there is no clear rule in thematic analysis to sample sizes hence they are most often based on pragmatic reasons. Consequently, due to the scope of the present research project it was decided to conduct interviews with seven employees.

Interview Guide. The semi-structured interview guide (see Appendix C) was designed based on recommendations by Howitt (2010) and Willig (2013). We started the interview with a broad introduction and asked a couple of general questions about the employee and their job, aiming at building rapport with the participant (Willig, 2013). Based on recommendations in the literature we decided to structure the interview guide around four main topics (Howitt, 2010; Willig, 2013). Additionally, we formulated some examples for open-ended questions per topic that aimed at encouraging the participant to speak freely and openly about their experiences (Willig, 2013). However, as commonly practiced in semi-structured interviews, the interview guide was only used as a supporting tool during the interview and not strictly adhered to (Howitt, 2010; Willig, 2013). Furthermore, participants were encouraged to report their experiences and to use specific examples to explain these. Willig (2013) described this technique as useful when aiming at gaining deeper insights into topics of interest. The interview ended with information about the results from our study, asking whether the participant had any further questions and expressing our gratitude for the participation in our study.

Ethical Considerations

All individuals who took part in the interviews gave informed consent. First, we sent participants the informed consent in an email and mentioned that by signing up for a time slot they will agree to the informed consent. Moreover, at the beginning of each interview, the participants were reminded of the informed consent and asked for their permission to record the audio of the interview. Further, they were notified that they could terminate the interview at any given time, in which case no data would have been used. Additionally, during the transcription process all names and sensitive information was omitted from the interviews, thereby ensuring anonymity. Therefore, we do not have any concerns regarding ethics for Study 2.

Analysis

The interviews were conducted, transcribed, and analysed by the two authors of the present paper. As a first step after the interviews, we transcribed the audio recordings. The transcriptions were then used to conduct a reflexive thematic analysis inspired by Braun and Clarke (2006). We used an inductive approach to the thematic analyses, meaning that themes were not decided upon before the analysis but developed after inspecting the data. We aimed for a rich description of our dataset (Braun & Clarke, 2006) and created semantic themes that were able to "explain large portions of a dataset" and "unite data" (Braun et al., 2019, p. 845). For the analysis, we followed the six-step approach suggested by Braun and Clarke (2006).

The initial familiarisation with the transcripts and the first analysis was done by both authors of this paper independently and the results were compared and discussed afterwards. The final qualitative results were retrieved from this process and several steps were taken to ensure their trustworthiness.

Trustworthiness is an important concept (Lincoln & Guba, 1985) when considering the quality of thematic analyses (e.g., Nowell et al., 2017), in terms of increasing the readers' trust in the process and results of the analysis. The present study increased trustworthiness in various ways. Firstly, transcripts were separately analysed by the researchers in an initial step and the results were generated by discussing the preceding analysis. Secondly, using quotations to support the results shows that our interpretations have bearing within the raw interview data. Thirdly, the results from the study are in line with previous research (e.g., Frandsen & Johansen, 2011; Heide & Simonsson, 2014; Johansen et al., 2012 Kim, 2018) and the conclusions from Study 1. Lastly, throughout the analysis both researchers used a high degree of reflexivity and to ensure the transparency of the analysis Table C1 depicts an example of the coding process and the development of a theme.

Results

The qualitative analysis resulted in four main themes including various subthemes (see Figure 6). The four themes are "Employees as Senders and Receivers of Information?", "Impact of Organisational Structures", "Important Well-Being Factors", and "Colleagues as Resource". A detailed description of the results can be found below.

Figure 6

Thematic Analysis: Overview of the Themes Including Subthemes

Employees as Senders and Receivers of Information	Impact of Organisational Structures	Important Well-Being Factors	Colleagues as Resource
• Employee Involvement • Communication Characteristics • Receiving Information: Impact on Stress Levels • Influence of Communication on Work-SoC	• Task Differentiation in Communication Across Levels • Employee as Important Asset	• Positive Working Climate and Atmosphere • Shared Experience • Stressors at Work	• Helping and Supporting Role in Difficult Situations • The Importance of Social Contact

Employees as Senders and Receivers of Information?

An important theme that we observed in all interviews was that the participants perceived themselves mainly as receivers of information during the COVID-19 pandemic. Nevertheless, throughout the interviews, there were some signs of employees as sender during the COVID-19 pandemic.

Employee Involvement. In the context of being in the receiving role, one participant said: "I received but I didn't really have much involvement in acting or acting on anything." Further, another participant mentioned that they and their colleagues would be waiting on instructions about what to do concerning changes and guidelines during the crisis, being on the receiving end of the communication process. Only one participant noted to be an important sender in the communication process during the crisis: "So, I have pretty good contact through actually all levels and that they simply get information from me and how I see the situation outside at the moment. Also feedback on Corona." This participant was also the only one that seemed to have a boundary-spanning function in the organisation:

> "But it is always asked when we have a conversation. People always ask: listen, you have just been out with the customers. (…) And there I am actively asked. But I also actively approach my colleagues and superiors. That means, if I have anything outside, there is always some "news to the weekend", as I call it. That is usually on Fridays, when I write a few lines to my superior and to the superior above him."

Surprisingly, none of the other participants seemed to have a boundary-spanning function in their organisation. Throughout the interviews it became apparent that participants did state their opinions or fed back to their supervisors but only when it was about personal issues or the progress of projects that needed to be discussed. Only one participant made suggestions during the crisis on a more organisational level aiming at improving communication and productivity in the organisation by changing communication platforms.

Even though most participants had a more receiving function in the communication process during the COVID-19 pandemic, several participants also mentioned that they would like to be in a more sending role. In particular, they were having ideas for improvements but were not asked by the organisation for their opinion or felt like they did not know who to turn to with their suggestions. The following quote also indicates the participant's knowledge about employees' boundary-spanning function, while noting that the organisation was not utilising this:

"So, there are actually a lot of ideas from the employees, because they are the executors right there and it would actually be good, I have also said that to the deputy head of department several times, if there would be meetings more often where the management really comes. (…) So it would be kind of cool if there was something more often where everyone can bring their ideas or everyone could express where... where something could be improved."

Communication Characteristics. The participants emphasised the importance and their appreciation of regular, direct, quick, clear, and relevant communication during the COVID-19 pandemic. Specifically, one participant said, "A lot of communication was always really good. I really appreciate that. (…) Well not just like, random shit, like sorry, random stuff. But like, actually important stuff." Furthermore, some participants mentioned that their organisation communicated dishonest or misleading information, eliciting a lack of understanding from the participants. Specifically, one participant reported that the organisation stated they could not offer the option of working from home due to technical reasons which was met with incomprehension since the employees believed other motives to be the reason for this statement. Interestingly, participants also described some downsides of the digitalisation of communication, such as its "asynchronous" nature due to receiving messages in different chats at different times, thereby being "a waste of time" and slowing down work processes. One participant illustrated the situation as follows:

"Okay, so it [Slack] is like, we have the, we have personal messages, we have boards, channels, and threads (…). And all of this is kind of asynchronous, like I write something and I get a response, maybe in five minutes, maybe the other day. (…) Like, a lot of information gets lost in this way."

Receiving Information: Impact on Stress Levels. In line with the results from Study 1, one participant noticed, "So, I also have the feeling that the less communication there was, the higher my stress level was and accordingly when I then asked what it looked like, it lowered my stress level". In accordance with this, another participant spoke about communication and the resulting clarity decreasing stress levels, particularly saying:

"Yeah, I feel a lot less stressed, like a lot more relaxed. Because I know what I have to do. And they know what's expected of me. So, I just do what I, what I know I have to

do. And that's it. Like, I'm not scared that they might think I'm doing whatever, like I'm doing too little or that I'm not doing it correctly, because it's all clear now."

Additionally, one participant who worked in an organisation with very low levels of communication mentioned: "And this uncertainty about when it will start again [with work]. Was kind of stressful for me. So that was the most stressful thing I would say." Furthermore, this participant initiated the communication with their supervisor and asked to be informed once new information was coming up. According to the participant this decreased the previously described stress levels.

Influence of Communication on Work-SoC. Throughout the interviews it became apparent that communication might be an important influence on employees' Work-SoC. However, communication did not seem to be an important factor for meaningfulness of work in any of the interviews. Instead, examples for meaningfulness named by the participants were "fun", "interesting", "success", "excitement", and "money". Contrary to this, it seemed that communication was important for comprehending and managing work. Most participants mentioned to first think and structure inconsistent information. As a next step, they would turn to colleagues or supervisors and ask for clarity or more information. In regard to manageability, all participants said that they know where to find resources or who to communicate with about resources or questions.

Impact of Organisational Structures

Across all interviews it became apparent that participants clearly differentiated between organisational levels. Even though less clear, this was also the case for participants who worked in organisations with less hierarchical structures.

Task Differentiation in Communication Across Levels. Especially in regard to the communication during the COVID-19 pandemic, all participants described communication roles from different organisational levels in a similar manner. It seemed that the upper management in organisations was responsible for general updates on the situation in the organisation. This information would go directly from the management to the participants. In contrast to that, supervisors were more responsible for the communication about occupational well-being and employees' issues during the crisis. One participant described this as follows:

"I guess, like when, when it comes to like the crisis, it was more like higher management, like upper management that like was in charge of that, they will tell us what the new rules were or what we had to do in the office in case something, but my direct supervisor was only in charge of this project. So, she didn't really have anything

to do with the crisis or like, managing a lot of people. But so the messages were a little different. So, it was less general, more specific."

A few participants explained that if they had important issues to discuss regarding the crisis, they would rather turn to their supervisors instead of the management. However, for two participants it seemed that the gap between management and participants was not as pronounced. Further, they reported to work in an organisation with a flat hierarchy. They mentioned that their CEO or upper management actively invited them to contact them and ask questions, for example, in a "Q&A session". Particularly, one participant stated,

"And since the rules were always changing, like, the CEO, and all these people high up there, like they were always contacting the employees and saying, like, this is what we have to do now. And please let us know that if you have any questions, you can talk to us and whatever."

Employee as Important Asset. Most participants perceived themselves as a crucial asset for their organisations, especially during the COVID-19 pandemic. However, the extent to which the organisations seemed to care and value their employees during the pandemic varied. On the one hand, some participants described that their organisation did not pay enough attention to the "human resource": "But like this, yeah this feeling that you are taken care of. I think this is missing again in many organisations (…)." Additionally, one participant mentioned that especially during the crisis, the organisation did not spend time or resources on their employees: "(…) so currently with the crisis and at the moment there is no space for any special things from the employees, that is what I feel like." However, on the other hand, some participants reported that their organisation appreciated them as an important asset by showing their gratitude in various ways, for example, by writing thank you notes or emails, being open to compromises to meet every employees' needs, management that waived their salaries, or care packages for employees. These acts were highly appreciated by the participants and interpreted as signs of caring and valuing their employees. The importance of showing these aspects to the employees was summarised by one participant: "Actually organisations have to do that because the most important thing is still the employee who is currently under extreme strain."

Important Well-Being Factors

Throughout the interviews, three major factors which the participants deemed important for work-related well-being were found, namely a good working climate and atmosphere, shared experiences, and stressors at work.

Positive Working Climate and Atmosphere. Many participants reported that they consider feeling good about going to work (or starting the computer at home) as a crucial characteristic of their work-related well-being. Factors favourably influencing this feeling included "nice colleagues", interesting work tasks and decent working conditions, such as "regulated breaks and working hours". Further, one participant mentioned that a comfortable work environment and an open climate as well as communication among colleagues constitutes well-being at work for them, adding: "That is always important, regardless of via online meetings or phone or via other communication. So that you, that colleagues are open for questions and available." Another aspect relating to a good work climate and atmosphere refers to a sense of autonomy and freedom at work. Many participants reported that being able to decide freely upon their work tasks as well as structures forms a big part of their well-being at work, for example, being able to live out their creativity during their performance at work.

Shared Experience. Another factor of well-being at work during the COVID-19 pandemic refers to participants' feelings of being in a similar stressful or difficult situation as their colleagues and managers, thereby creating a sense of shared experiences: "And good to know that there are people who feel the same way as I do. We share a work environment, (…) we are going through the same thing." Participants further reported that knowing colleagues are experiencing similar situations reduced feelings of isolation and separation. However, while this sense of shared experiences was present among colleagues, a few participants noted that the same was not the case between management and employees:

> "So, I could rather imagine, it would be like, what I said before, that one [the management] could maybe give people more the feeling, it is okay. And we are all at home and everyone is struggling. The managing director also has three little kids who are skipping around the desk at home. More like, more like human things."

This participant emphasised that they would appreciate a more "human" communication between management and employees, showing that they are experiencing the same difficulties and obstacles, thereby conveying a sense of understanding and empathy from the management.

Stressors at Work. A final factor concerning work-related well-being relates to various stressors at work. For example, some participants reported that unclear instructions and expectations are sources for increased work-related stress:

>"Yeah, in the previous team, my stress levels were like, way higher. Because, yeah, the unclear instructions and the unclear tasks, but also because I didn't know what was expected of me. (…) And they never told us like what was expected and so on this gives me like, more stress if things are so unclear."

As a result, doubts emerged that referred to an uncertainty about either taking too long for certain tasks or appearing careless when finishing a task quickly, which further increased stress levels. Additionally, poor organisation and planning of projects created situations characterised by uncertainty for one participant. This participant reported that questioning the planning, trying to clarify ambiguous information and instructions, and waiting for answers ended up being more stressful than working on a work intensive project with structured planning and clear communication. Accordingly, most participants reported that clear communication of task instructions as well as knowing what is expected of them decreased work-related stress levels. Another "de-stressor", as one participant called it, referred to the availability of supervisors. Knowing that they are readily available and open for questions regarding work procedures had a diminishing effect on participants' stress levels. Finally, all participants reported that talking to colleagues and having informal conversations with them served as a major de-stressor and balanced out other stressful aspects. This is further elaborated on in the final theme of this analysis.

Colleagues as Resource

The theme "Colleagues as Resource" was present throughout all interviews and represents an important part of the employees' reality during the crisis. It further connects well to all previously mentioned themes as colleagues have been described as sources for "de-stressing" through informal conversations, for seeking understanding and support in ambiguous situations as well as for sharing and sending information.

Helping and Supporting Role in Difficult Situations. Some participants explained that they seek out their colleagues' advice when facing problems or difficulties at work. One participant described a situation in which they asked for feedback on a presentation they were insecure about. Further, another participant reported to often ask for help and guidance in a group chat amongst colleagues when being confronted with a difficult task. Additionally, colleagues were described as sources for help and support in cases where the management

could not or would not support the participant. In those instances, colleagues provided understanding and emotional support when participants felt misunderstood or neglected, as depicted in this statement: "(…) the closest colleagues understand that and it is okay then." It was also mentioned that colleagues or supervisors were often regarded as more important than official, written resources (e.g., guidelines) and that they "wouldn't have been able to do it [the task] without their [colleagues'] support."

   The Importance of Social Contact. Another aspect, which was repeatedly mentioned, was the lack of social contact at work during the past year. Talking to "faceless people" via digital communication tools while working from home created a sense of isolation for some participants:

> "So, it's, this kind of distance from the physical world, it's, I guess I'm too old for this, I can't get used to this at all, like, just sitting down and not even discussing something important, but just seeing the person finally in person is kind of like, wow, this person exists. Otherwise, all this can be, as well as some kind of simulation."

Further, the lack of work-unrelated, informal conversations among colleagues was often mentioned as an aspect that participants missed immensely. All participants emphasised that these moments that typically occur spontaneously during breaks, at the coffee machine, or on the way to the printer, for example, need to be compensated through arranged, mostly digital, meetings. Consequently, some participants reported the introduction of virtual coffee breaks to balance out the lack of social interactions. During those conversations, participants "exchange jokes", "let off steam", "talk about their well-being" and share the experiences of being in similar situations. These meetings were described by participants as highly beneficial for their well-being at work as well as necessary for maintaining a good spirit throughout the past year.

Discussion

   Study 2 aimed at expanding the results found in Study 1 by using qualitative data from interviews to deepen the understanding of ICC and well-being at the workplace. As previously described, we created four main themes summarising the results from Study 2. Throughout the interviews it became apparent that most of the organisations that participants worked for were described as having a rather traditional, hierarchical organisational structure, which was represented in the theme "Impact of Organisational Structures". Hierarchical organisations typically follow a top-down approach for most internal processes. Decisions are made by the management and communicated to the executives who forward the information

to the employees, thereby creating a downward chain of command in which the employees are traditionally perceived as the recipients of information (Hankinson, 1999). Accordingly, our findings are in line with Strandberg and Vigsø (2016) who suggested that the development and implementation of crisis management plans is executed by the management while the employees are not involved in this process at all or are merely being informed about it.

Further, several researchers proposed that only seeing employees as receivers of information while neglecting their potential of senders is an aspect that needs to be revised and shifted to a more progressive and modern perspective of employees as active participators in ICC (Frandsen & Johansen, 2011; Heide & Simonsson, 2014; Johansen et al., 2012). Moreover, in the literature it was repeatedly stated that employees are important boundary-spanning actors who are able to provide additional and necessary information to the organisation to successfully manage the crisis (Frandsen & Johansen, 2011; Kim, 2018; Leifer & Delbecq, 1978). Interestingly, only one participant mentioned being in such a boundary-spanning function, showing that the traditional view of employees as receivers and management as senders is still present in many organisations during crises. Additionally, this was supported by other participants who reported being in the receiving role but wishing for more direct involvement, specifically in regard to the expression of their ideas for improvements since they are performing tasks as well as instructions and in close contact with external actors, such as clients. In contrast, two participants described working in horizontal organisations in which the gap between employees and management was not as pronounced compared to traditional, hierarchical organisations. Accordingly, those employees were asked for their opinions, ideas and needs by the management and were more involved in the ICC process. This is in line with the call for a stronger involvement of employees (Frandsen & Johansen, 2011; Heide & Simonsson, 2014; Johansen et al., 2012), especially in terms of perceiving them as senders *and* receivers of information.

Consequently, these findings emphasise that while strong hierarchical structures provide a clear assignment of responsibilities, tasks, and accountability, they also involve a certain inflexibility in terms of reacting and adapting to environmental and outside pressure as well as a lack of autonomy for and involvement of employees (Hankinson, 1999). Therefore, the findings of the present study point toward the need to decrease the segmentation between separate levels of an organisation by creating more horizontal structures within the organisation. Flat organisational structures invite employees to be more involved through decentralised decision-making (Carzo & Yanouzas, 1969) and a democratic style of

management (Hankinson, 1999), which could fulfil the wish of sharing needs and ideas reported by participants.

Furthermore, participants did not only describe characteristics of the employee-organisation relationship but also emphasised the importance of relationships amongst employees during the COVID-19 pandemic, which has been referred to in the themes "Important Well-Being Factors" and "Colleagues as Resource". This connects to another finding, namely that participants highly valued but missed social interaction with their colleagues, which in turn was described as having a negative impact on their well-being. These results are in line with a study on university students by Elmer et al. (2020), who found that a lack of social interactions and physical isolation resulted in a negative mental health trajectory during the COVID-19 pandemic. Accordingly, the immense need of social, informal contact as described by the participants and its reported impact on their well-being could be related to a general decrease in mental health due to the sense of isolation created by the COVID-19 pandemic. Thus, the creation of measures such as virtual coffee breaks and the search for social interaction may be a result of the effort of balancing out the physical isolation experienced by many participants, thereby improving employees' well-being.

However, the importance that was assigned to social interaction and relationships with colleagues by our participants also supports the results of a study conducted before the outbreak of the COVID-19 pandemic by Kun and Gadanecz (2019) that found positive, well-functioning relationships among employees to be an important factor of well-being at the workplace. This may indicate that relationships among colleagues at work are generally highly important for well-being, even outside of the very specific circumstances of the COVID-19 pandemic. Therefore, communication among colleagues and the resulting relationships might be an important factor to include in the concept of internal communication during crises as well as non-crisis situations.

Lastly, employees constitute another form of asset for each other in terms of sharing experiences during the COVID-19 pandemic. Knowing that others are in the same or similar situation and experience the same emotions and feelings created a sense of togetherness as reported by the participants. This is in line with previous research, which found that sharing personal experiences is beneficial for individuals' mental health as well as for creating the perception of decreased perceived loneliness in challenging situations (Due-Christensen et al., 2012). The findings of the present study further provide additional support for another study, which has shown that the knowledge of sharing an emotional experience with a peer was subjectively rewarding, resulting in more positive affect compared to when experiencing

emotional situations alone (Wagner et al., 2015). Interestingly, during the interviews, it became clear that employees not only valued sharing experiences with colleagues but wished for the same to occur between them and the management, which could facilitate a more personal relationship between employee and management.

Consequently, promoting the view of employees and management as resources for each other, providing means for social interaction, and encouraging employees to engage in, for example, virtual coffee breaks is suggested to have a positive impact on their well-being. Further, ICC strategies could be employed in order to establish an exchange of experiences during crises between the management and employees. This may be beneficial in reducing the perceived distance between the two parties in hierarchical organisations as well as in creating a sense of shared experiences.

General Discussion

In the present paper, Study 2 was conducted to gain deeper insights into the field of ICC by further researching the quantitative results from Study 1. Integrating the knowledge from both studies, the present paper contributes to the existing literature with several interesting findings.

Firstly, TRC and SYC were mentioned to some extent in all interviews. In line with the results from Study 1, a connection between communication characteristics of TRC and well-being or stress was made in most interviews, emphasising the importance of these characteristics. Additionally, establishing that high levels of SYC are related to lower levels of work-related stress, the present paper shows that during crises, employees should be seen as receivers as well as senders of information. This also became apparent during the interviews since participants often did have suggestions or ideas for improvements but felt like their organisation did not approach them or they did not know who to turn to. Therefore, it seems important that organisations encourage SYC in order to benefit from employees' function as boundary-spanning actors as previously described in the literature (Kim, 2018). Thereby the present paper contributes to the operationalisation of ICC by supporting the notion of SYC and TRC as important ICC strategies. Moreover, in Study 2 it became clear that communication among employees might also have an important impact on well-being during crises. In line with this, Frandsen and Johansen (2011) have theorised that ICC is not only the communication between management and employees but also includes the communication among employees. In conclusion, the concept of ICC might be broader than initially assumed in the present study and communication among employees might constitute another important part of ICC in addition to SYC and TRC.

Secondly, since the research on Work-SoC is still in its beginning (Grødal et al., 2019), the results of the present study can be seen as a starting point aiming at expanding the limited body of literature on the Work-SoC. Therefore, the present study contributes to the knowledge about Work-SoC and possible antecedents. Study 1 supported the hypotheses that Work-SoC partly mediates the relationship between SYC or TRC and work-related stress, indicating that communication might be an antecedent of Work-SoC. However, throughout the interviews, we noticed that there might only be a relationship between specific subcomponents of Work-SoC and ICC, pointing towards the importance of different antecedents for the three subcomponents. For instance, meaningfulness seemed to be more related to money, colleagues, fun, and autonomy at work. A possible explanation for this might be that Antonovsky (1987b) described meaningfulness as the motivational component of SoC. Additionally, in Antonovsky (1987a) he defines it as "the joy and pride in work or discretionary freedom" (p. 159), which points toward meaningfulness resembling motivational theories such as self-determination theory (Deci & Ryan, 1985; Deci & Vansteenkiste, 2004) in which motivation is high if the needs for relatedness, autonomy, and control are satisfied. This theory seems to connect all aspects mentioned in Study 2 for meaningfulness (money, fun, colleagues, and autonomy) to motivation. However, further research needs to assess whether this proposed link can be supported.

While communication with colleagues or the organisation was not mentioned in connection to meaningfulness in any interview, it seemed to be more related to comprehensibility and manageability. According to Antonovsky (1987b), comprehensibility is the cognitive aspect of SoC. He explained that comprehensibility can be increased by "[t]hings that fit together, unknowns satisfactorily explained, and ordered patterns" (1987a, p. 162), pointing towards the importance of communication for this component. However, it is important to note that for comprehensibility, participants in Study 2 described that they would first try to understand the situation by themselves and only as a second step communicate with others. Additionally, throughout the interviews we noticed that asking others for potential resources to comprehend the situation had an important influence on the perceptions of manageability, which in turn supports Faltermeier's (2005) assumption about the close link between these two subcomponents. Lastly, manageability was the only subcomponent that was described in connection to stress reduction. Participants often perceived the knowledge about and availability of resources as reducing stress levels in ambiguous or complex situations.

Thirdly, both studies indicated that there might be other important mediators explaining the relationship between ICC and work-related stress. Consequently, in Study 1 we assumed that trust, might play an important role in this association. Similarly, during the interviews many participants mentioned the relevance of social support during the crises and its effect on work-related stress. This points toward the importance of factors influencing interpersonal relationships in the association between ICC and work-related stress, since trust is an important base for emotional support, which in turn represents one type of social support (House, 1981). This connects to the interviews, in which participants talked about a "shared experience" of the crisis and how they wished that management would provide them with more emotional support by communicating on a more "human" or personal level with employees about day-to-day struggles during the crisis. Furthermore, emotional support has been suggested to be closely linked with communication as it is proposed to be a product of interactive communication (Weber & Patterson, 1996). Additionally, research has linked emotional support to health outcomes, such as emotional exhaustion, personal accomplishment, and physical symptoms of strain, such as headaches, backaches, or sleeping problems (Mathieu et al., 2019). Therefore, it seems plausible that emotional support, including trust, might be an interesting variable to add to the present research as a potential mediator.

Lastly, it was surprising that throughout the interviews participants clearly differentiated between the levels in their organisations and their role in ICC, pointing toward a more traditional and hierarchical perspective of an organisation in the ICC process. This was unexpected since we initially did not deem this to be an important aspect of ICC, mainly focusing on employees and their perceptions in Study 1. Considering that many participants were working in Germany, this finding could be due to the rather hierarchical nature of organisations in Germany (Deutsch-Schwedische Handelskammer, 2014; Santander, 2021). In hierarchical structures, roles, and responsibilities are strictly distributed and are clearly separated between levels (Hankinson, 1999). Accordingly, Study 2 found that participants clearly differentiated between management and supervisors, their respective roles as well as responsibilities during the crisis. Management was often described as being responsible for general information regarding work and restrictions considering the COVID-19 pandemic. Supervisors, however, focussed more on well-being and more personal issues, thus supervisors were supposed to fulfil different tasks and satisfy other employees' needs than the management. Thus, it seems that the assignment of tasks and responsibilities concerning ICC still follows a hierarchical fashion in most of the participants' organisations in Study 2,

pointing toward an interesting direction for future research in organisations with a rather horizontal organisational structure.

Theoretical Implications

This study supports the JD-R model in a crisis context by showing that job resources are related to employees' well-being during crises, thereby confirming the importance of effective ICC in organisations. Furthermore, it partially supports the JD-R Health-SoC model, showing that during crises Work-SoC can explain the relationship between ICC and well-being to a certain degree. Thus, the present research supports the assumption that ICC has acted as a salutogenic job characteristic during the COVID-19 pandemic. However, Work-SoC does not fully account for the relationship, pointing toward a need to extend the model to be able to explain the entire relationship. Consequently, the JD-R Health-SoC model in its current version might overestimate the importance of Work-SoC and should be expanded by adding other possible mediators, such as emotional support. However, it is important to note that the JD-R Health-SoC model has been developed for a routine context in an organisation, hence it might need to be adapted to a crisis context.

Furthermore, throughout the interviews in Study 2, two aspects regarding Work-SoC became apparent. Firstly, in all interviews comprehensibility and manageability seemed to be closely intertwined. This is in accordance with previous literature that has emphasised that comprehensibility often is an important basis for manageability (Faltermeier, 2005). Secondly, throughout the interviews, it seemed that communication might not be important for the subcomponent meaningfulness. Instead, it seemed that communication is mainly important for the comprehensibility and manageability components of Work-SoC, showing that the subcomponents of Work-SoC might have different antecedents. This is contrary to the present literature on SoC as well as Work-SoC, which so far assumed that environmental characteristics influence SoC or Work-SoC in its entirety (Feldt, Kinnunen, et al., 2000; Vogt et al., 2013). However, in Study 1 we consciously decided to refrain from investigating the Work-SoC components individually based on recommendations by Antonovsky (1987b, 1993). Antonovsky assumed that the subcomponents of SoC are highly interrelated and dynamically intertwined and, therefore, strongly advised against a deeper separate exploration of the subcomponents of (Work-)SoC. Based on the results of the present research, however, it might be worthwhile to explore the possibility of different antecedents for the respective subcomponents.

Practical Implications

Based on the findings of the present study, we assume that during crises organisations should aim at a more active involvement of employees into crisis communication strategies, thereby acknowledging as well as encouraging the boundary-spanning function employees have. Therefore, simply asking "What do you think about the current situation?" and generally encouraging SYC as well as TRC might not only increase employee well-being but will also enable organisations to benefit from their employees' knowledge and ideas. Generally, in Study 2 employees seemed to highly appreciate feeling cared for by the organisation during crises, which could be shown through care packages, asking questions about well-being, and creating a sense of shared experiences by showing empathy, being open, and engaging in a dialogue. In conclusion, the present study enables organisations to develop and utilise evidence-based communication strategies to increase employee well-being during future crises.

Additionally, the present study points towards the need of organisations to design their crisis management plan, particularly their ICC, in a way that increases their employees' Work-SoC and thereby increasing employees' well-being during crises. This is in line with Antonovsky (1987a) who suggested that organisations should consciously design the workplace in a way that it enhances the SoC of employees. For example, in a paper by Feldt, Kinnunen, et al. (2000) the researchers found good organisational climate to be an important factor for high SoC, thereby also influencing employees' health and well-being. Thus, the authors concluded that employee well-being can be enhanced once organisations have a good understanding of the antecedents that influence employees' SoC.

Strengths and Limitations

Conducting this research in the course of a real-life crisis represents a great strength for two major reasons. First, participants did not have to imagine what it would be like to live and work during a crisis as opposed to participants in past research (e.g., Kim, 2018). Thus, the reported feelings and given statements are likely to be stronger and to have arisen more naturally as compared to situations in which participants had to imagine themselves to be in a crisis. Second, in comparison to previous studies in which participants were asked to remember their experiences and feelings (e.g., Johansen et al., 2012; Mazzei et al., 2012), the present research was able to assess the participants' perceptions during the crisis. Asking participants about their perceptions of a crisis after the crisis has passed might increase hindsight bias or the possibility of forgetting important information.

However, carrying out this research amidst the COVID-19 pandemic also offers a couple of limitations. Since the outbreak in December 2019, this crisis has been going on for

more than a year at the time of writing and it is likely that employees as well as the management, to a certain extent, have gotten used to the uncertainty and changes that the crisis brought. Thus, the situation may have reached some level of normalisation. Accordingly, employees may have adapted their expectations and feelings, which in turn could have an impact on their answers to the survey and the interviews.

Furthermore, the COVID-19 pandemic represents a unique crisis. It started as a health crisis, which then developed into a global societal, economic, and organisational crisis in the months after its outbreak (e.g., Borio, 2020; Dirani et al., 2020; Liu et al., 2020). The world has not faced any crises of this scope in a very long time, if ever. Accordingly, the COVID-19 pandemic is different from organisational crises described and studied in the previous literature (e.g., Mazzei et al., 2012), since it is not a crisis that is specific to organisations but affects life as a whole. Therefore, the emergence of the subtheme "The Importance of Social Contact" in Study 2 in which participants described the lack of social contact and informal communication at work might be related to a very specific characteristic of the current global crisis. To control the pandemic, individuals in many countries have had to keep distance and avoid all unnecessary contact with each other, which has not only included the work environment but all areas of life. Thus, our participants in Study 2 as well as many other individuals were starved of social interactions. Since this is a more general, work-unspecific issue, it may be inappropriate to hold the organisations responsible for this particular part of their employees' well-being. One participant in Study 2 expressed their feelings toward the situation with the words: "Well, I don't think the employer has much leeway to compensate for that [the lack of social contact at work] in any way. So, I really don't think they are responsible for that." Hence, the characteristics of the current crisis are somewhat different to other organisational crises and, therefore, the generalisability of the implications of our studies is limited.

Another limitation concerns the sample of the present research. Most participants (66.3%) indicated to be working in Germany. Since those who took the survey in German differed in SYC and TRC compared to participants taking it in English, we controlled for user language in our analyses and did not find any significant changes in our conclusions. However, since countries have varied considerably in the way they reacted and dealt with the COVID-19 pandemic in terms of regulations and guidelines for the society at large and organisations in particular, it is unknown whether these differences had an impact on participants' individual experience of the crisis. It may be worthwhile to address this question in future research.

Employing a study design that included a mediator seemed to be the most effective way of testing the hypotheses of the present paper. It is important to note, however, that inferences of mediation analyses in cross-sectional non-experimental designs such as the one found in the present research are subject to a potential lack of validity (Stone-Romero & Rosopa, 2008). Thus, conclusions and inferences drawn from the results of Study 1 need to be viewed with caution. Future research should replicate Study 1 by employing a randomized experimental research design, thereby avoiding potential problems related to the validity of mediation analyses in non-experimental studies.

Additionally, in the analysis of the data collected in Study 2, we noticed that further data collection might have been useful for gaining a more holistic picture of the interviewees' experiences during the COVID-19 pandemic. Specifically, we noticed that only one participant described themselves as being in a boundary-spanning function. Thus, a larger sample might have led to deeper insights into the topic under investigation. Furthermore, in hindsight we realised that Study 2 would have benefitted from a more in-depth analysis as quite a large number of themes and subthemes were presented with some of them showing a significant degree of overlap. This might be problematic since it has been emphasised in the literature on thematic analyses that themes should refer to each other in a meaningful way whilst still being distinct from each other and clearly identifiable as separate themes (Braun & Clarke, 2006). Consequently, this may influence the trustworthiness of the analysis of Study 2. Therefore, results should have been analysed and reviewed further, thereby gaining more concise and complete results from the interviews. In conclusion, Study 2 would have benefitted from a larger sample size and a more concise thematic analysis. On the backdrop of this, conclusions from this study have to be made carefully and the generalisability of the results might be limited.

Finally, the usage of mixed-methods research comes with various advantages as well as disadvantages. While an explanatory sequential design creates a much more complex as well as holistic depiction and analysis of the studied phenomenon, and expands the quantitative results from Study 1 with qualitative findings from Study 2, it also faces issues regarding biased interpretation of the data in Study 2 and the philosophical underpinnings of qualitative and quantitative research (Hafsa, 2019; Tashakkori & Newman, 2010). While the data in Study 1 could be interpreted in a relatively unbiased way as its quantitative nature does not give much leeway for subjectiveness, the analysis and interpretation of the interviews may have been unconsciously moderated by the assumptions made from Study 1. Thus, qualitative data that was collected to deepen the insights created by quantitative data is

best analysed by an independent researcher. However, this was not possible due to the nature of the present research project but could be rectified in future studies. Further, quantitative research generally builds on the assumption that reality is objective and measurable, whereas qualitative research presumes that reality is constructed subjectively and may not be the same for everyone (Darlaston-Jones, 2007; Hafsa, 2019). Therefore, it may be difficult to combine these two approaches in a way that is coherent, comprehensible, and reasonable. However, positioning ourselves on a continuum between those two philosophical approaches enabled us to conduct integrative research, based on a primarily pragmatic worldview, thereby combining qualitative and quantitative methods to achieve the best possible analysis of our data.

Future Research

The research on ICC, its impact on work-related well-being, and the possible mediation of this relationship is still in its infancy and much remains to be investigated. There are several aspects that need to be addressed in future research. The two studies in the present paper indicate that during a crisis SYC as well as TRC have a decreasing effect on work-related stress, which is partly mediated by Work-SoC. The present research should be replicated and expanded with variations to design and method to support the findings' certainty and to increase their generalisability.

First, as a reaction to the previously mentioned limitations of studying ICC and employee well-being during a crisis that is unspecific to organisations, it seems worthwhile to explore ICC's impact on well-being during crises, which pose a more specific threat to organisations. This could be, for example, crises that are related to product recall, whistleblowing, or damage to the organisation's reputation. This way, it could be tested whether the results of the present study can be replicated in different crisis situations, thereby being able to generalise the findings from the present research.

Additionally, a promising future direction of research could be to study ICC over the course of an entire crisis. By employing a longitudinal design, the trajectory of communication styles and behaviours as well as its impact on various aspects of employee well-being could be explored in more depth, thereby potentially creating an understanding of employees' needs throughout a crisis. Further, assessing work-related well-being at multiple time points allows for a more accurate evaluation of which specific acts or changes influenced employee well-being in what direction. A longitudinal design in this context is useful since the temporal order of actions and outcomes can be assessed, thereby creating results that allow stronger conclusions about a potential causal inference compared to cross-sectional

study designs as deployed in Study 1 (Taris & Kompier, 2003). This is especially valuable for creating a strong foundation for recommendations and guidelines, which organisations could employ in their ICC strategy to ensure high levels of employee well-being.

Another important aspect to address in future research is the impact of informal communication among colleagues on work-related well-being. Especially in Study 2, the present paper found informal communication to be a crucial feature of employees' work life, as reported by our participants in Study 2. Therefore, it appears necessary to investigate informal communication as a potential important antecedent of work-related well-being during crises. Exploring this aspect in more detail, future research might gain important insights about whether the need of social contact through informal communication is specific to the COVID-19 pandemic or is a general characteristic of crises. Further, emotional support represents an interesting variable to consider as a mediator in future research as the concept has been shown to be closely linked to communication (Weber & Patterson, 1996) as well as health outcomes (Mathieu et al., 2019). Addressing these aspects of work-life may close a gap in research regarding mediators of the relationship between ICC and employee well-being since the present research found that Work-SoC does not entirely account for this relationship.

Since this concept of Work-SoC is a product of a rather recent development in the research area of occupational health, there are several aspects that need to be studied further in future research. To explore this concept in more depth, it is necessary to investigate additional salutogenic job characteristics other than communication, thereby finding further support for the JD-R Health-SoC model. Another feature of the model that could be valuable to study are potential job demands that influence Work-SoC and employee health. Expanding research in this direction would offer a rich extension to the existing literature.

Finally, the exploratory analysis of the present paper indicated that organisational crises might be perceptual phenomena, supporting prior assumptions from various researchers (Coombs, 2015; Heide & Simonsson, 2015). It would be interesting to investigate whether this finding holds true in crises that are more specific to organisations and to what extent perceiving a situation as a crisis impacts employee well-being, or more specifically, work-related stress. A longitudinal study in this context would be highly interesting to establish if there is a causal direction between these two variables, thereby assessing whether perceiving a situation as a crisis creates more stress or whether heightened stress increases the probability of crisis perception. Further, since the notion of crises as perceptual phenomena is rather new, it seems worthwhile to develop a detailed measurement to gain in-depth information about this aspect of the crisis literature. Lastly, as mentioned above, the exploratory analysis allows

for discussion whether the model tested in this paper could also hold true outside of crisis contexts.

Concluding Remarks

We concluded that ICC, in this study consisting of SYC and TRC, has a negative relation to work-related stress, while this relationship is partially mediated by Work-SoC. These findings can be used by researchers and practitioners to develop and expand theories, strategies, and practices that promote employee well-being during crises by making use of the salutogenic model and implementing salutogenic job characteristics, such as TRC and SYC. Establishing such measures are primarily beneficial for employees but also for organisations as they profit from employing individuals who are healthy and able to work to their best ability. Additionally, including employees as senders of information in the crisis communication process may fulfil their need for recognition and inclusion on the one hand, and provide the organisation with valuable additional information for managing the crisis on the other hand. Especially in crises that affect an organisation as well as their environment such as the COVID-19 pandemic, it seems crucial that employees are encouraged to perform as boundary-spanning actors to increase knowledge and the ability to react quickly and effectively to any crises' challenges. Accordingly, the present paper is a case for crisis communication that includes employees as important contributors to successful crisis management.

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Appendix A

Supplementary Material for Study 1

Table A1

Sample Demographics in Study 1

Sample Size	N = 205
In which country do you currently work?	
Germany	136 (66 %)
UK	20 (10%)
Sweden	15 (7%)
The Netherlands	8 (4%)
Austria	6 (3%)
US	4 (2%)
Denmark	3 (1.5%)
Other	13 (6.5%)
Age	
18 - 30 years old	124 (60%)
31 - 40 years old	22 (11%)
41 - 50 years old	32 (16%)
51 - 60 years old	22 (11%)
61 - 70 years old	5 (2%)
Tenure	
Less than a year	51 (25%)
1 - 5 years	92 (45%)
6 - 15 years	36 (18%)
16 - 25 years	17 (8%)
25 + years	9 (4%)
Sectors	
Administration	5 (2.5%)
Agrarian sector	1 (0.5%)
Construction industry	9 (4.5%)
Financial industry	12 (6%)
Trade	13 (6%)
Hospitality, tourism & culture	4 (2%)
Industry and production	42 (20.5%)
ICT, consulting, legal consulting	9 (4%)

Communication and marketing	3 (1.5%)
Health and social welfare	42 (20.5%)
Transport and storage	4 (2%)
Education and instruction	34 (17%)
Other	26 (13%)
Type of Organisation	
Private	113 (55%)
Public	79 (39%)
Other	13 (6%)

Table A2

Results From Welch's Two Sample t-*Test Comparing User Language*

User Language	German (n = 134)		English (n = 71)		t(df)	p
	M	SD	M	SD		
Crisis perception	2.09	0.81	2.08	0.75	0.05(152.14)	.965
SYC	4.52	1.19	5.14	0.91	-4.18(177.72)	< .001***
TRC	4.31	1.12	4.90	1.07	-3.65(148.71)	< .001***
Work-SoC	4.60	0.90	4.79	0.93	-1.39(139.09)	.167
Work-related stress	1.97	0.51	1.84	0.42	1.94(165.94)	.054

Note. Crisis perception was assessed with one question, namely "Do you perceive the COVID-19 pandemic as a crisis for your organisation?". Answers were scored with 1 = Yes, 2 = Partly, 3 = No. * indicates $p < .05$; ** indicates $p < .01$; *** indicates $p < .001$.

Full Questionnaire

1 - Landing Page
Introduction & Description

Welcome to our study! Thank you very much for taking the time to help us with our research. This study addresses communication within companies during the COVID-19 pandemic. As an employee, the study takes about 10 minutes to complete. As a manager, the survey only takes 3-4 minutes. Furthermore, by filling out this survey you get the chance to participate in a lottery for one of three **Amazon vouchers**. If you are interested, you will get the chance to leave us your email address at the end of the survey. To support us in another important step for our project, we would highly appreciate it if you would sign up at the end of this survey for a voluntary interview with us.	Herzlich Willkommen zu unserer Studie! Wir möchten uns schon einmal herzlich bei Ihnen bedanken, dass Sie sich die Zeit nehmen, uns bei unserer Forschung zu helfen. In der Studie geht es um die Kommunikation innerhalb Unternehmen während der COVID-19 Pandemie. Für Angestellte dauert das Ausfüllen des Fragebogens etwa 10 Minuten. Als Führungskraft dauert dies lediglich 3-4 Minuten. Außerdem haben Sie die Chance, an einer Verlosung für einen von drei **Amazon Gutscheinen** teilzunehmen. Sollten Sie daran Interesse haben, gibt es am Ende der Studie die Möglichkeit, Ihre E-Mail-Adresse anzugeben. Um uns in einem weiteren wichtigen Schritt in diesem Projekt zu unterstützen, würden wir es sehr schätzen, wenn Sie sich am Ende dieses Fragebogens für ein freiwilliges Interview mit uns anmelden.

Informed Consent

All data collected in this study is completely anonymous and cannot be linked to you. Your data will only be used for this study and will not be given to any third parties. Participation in the study is voluntary and you can close the survey at any time and thus end your participation. In this case, your data will not be used. The study is conducted by Lena Duske and Anne Bruchhaus as part of their Master's thesis at Lund University, Department of Psychology, under the supervision of Ulf Ericsson. At the end of the study you are able to get in contact with the researchers. By participating, you confirm that you are 18 years of age or older, that you consent to the use of your anonymous data, that you have read and understood the preceding communformation and that you would like to participate in the study.	Alle in der Studie erhobenen Daten sind vollständig anonym und können nicht mit Ihnen in Verbindung gebracht werden. Ihre Daten werden lediglich für diese Studie verwendet und nicht an Dritte weitergegeben. Die Teilnahme an der Studie ist freiwillig und Sie können die Umfrage jederzeit schließen und damit die Teilnahme beenden. In diesem Fall werden Ihre Daten nicht verwendet. Die Studie wird von Lena Duske und Anne Bruchhaus im Rahmen ihrer Masterarbeit an der Universität Lund, Department Psychologie, unter Supervision von Ulf Ericsson durchgeführt. Am Ende der Studie kann mit den Durchführenden Kontakt aufgenommen werden. Durch Ihre Teilnahme bestätigen Sie, dass Sie 18 Jahre oder älter sind, dass Sie mit der Nutzung Ihrer anonymen Daten einverstanden sind, dass Sie die vorhergehenden Informationen

	gelesen und verstanden haben und dass Sie an der Studie teilnehmen möchten.
2 – Study Requirements	
Please indicate whether you are self-employed or employed. *1 = Self-employed* *2 = Employed* *if 1: Continue to end of study*	Bitte geben Sie an, ob Sie selbständig oder angestellt sind. *1 = Selbstständig* *2 = Angestellt* *falls 1: Weiterleitung zum Ende der Study*

Please indicate what kind of employment you have.
 1 = Full-time
 2 = Part-time
 if 2: How many hours a week do you work on average?
     if below 20hrs → end of survey
	Bitte geben Sie an, welche Art von Stelle Sie innehaben.
	 1 = Vollzeit
	 2 = Teilzeit
	 falls 2: Wie viele Stunden in der Woche arbeiten Sie durchschnittlich?
	     falls unter 20 Std → Ende der Studie

Survey	
Please select your age group. *1 = 18 - 30 years* *2 = 31 - 40 years* *3 = 41 - 50 years* *4 = 51 - 60 years* *5 = 61 - 70 years* *6 = 70+ years*	Bitte wählen Sie Ihre Altersgruppe aus. *1 = 18 - 30 Jahre* *2 = 31 - 40 Jahre* *3 = 41 - 50 Jahre* *4 = 51 - 60 Jahre* *5 = 61 - 70 Jahre* *6 = 70+ Jahre*
Please indicate your gender. *1 = Male* *2 = Female* *3 = Non-binary / third gender* *4 = Prefer not to say*	Bitte geben Sie Ihr Geschlecht an. *1 = Männlich* *2 = Weiblich* *3 = Diverse* *4 = Keine Angabe*
In which country do you currently work? *1 = Germany* *2 = Sweden* *3 = UK* *4 = Netherlands* *5 = US* *6 = Other, namely:*	In welchem Land arbeiten Sie zurzeit? *1 = Germany* *2 = Sweden* *3 = Großbritannien* *4 = Niederlande* *5 = USA* *6 = Andere, nämlich:*
Please indicate how long you have been working for your current employer. *1 = less than a year* *2 = 1 - 5 years* *3 = 6 - 15 years* *4 = 16 - 25 years* *5 = 25+ years*	Bitte geben Sie an, wie lange Sie schon bei Ihrem derzeitigen Arbeitgeber angestellt sind. *1 = Weniger als ein Jahr.* *2 = 1 - 5 Jahre* *3 = 6 - 15 Jahre* *4 = 16 - 25 Jahre* *5 = 25+ Jahre*

To which sector does the company or organisation you work for belong? *1 = Administration* *2 = Agrarian sector* *3 = Construction industry* *4 = Financial industry* *5 = Trade* *6 = Hospitality, tourism, culture* *7 = Industry and production* *8 = ICT, consulting, legal consulting* *9 = Communication and marketing* *10 = Health and social welfare* *11 = Transport and storage* *12 = Education and instruction* *13 = Other, namely*	Zu welchem Wirtschaftszweig gehört der Betrieb oder die Organisation, in dem / in der Sie arbeiten? *1 = Administration* *2 = Agrarwirtschaft* *3 = Baugewerbe* *4 = Finanzgewerbe* *5 = Handel* *6 = Gastgewerbe, Tourismus, Kultur* *7 = Industrie und Produktion* *8 = ICT, Beratung, Rechtsberatung* *9 = Kommunikation und Marketing* *10 = Gesundheits- und Sozialwesen* *11 = Verkehr und Lagerhaltung* *12 = Bildung und Erziehung* *13 = Andere, nämlich*
Please indicate what kind of organisation you work for. *1 = Private* *2 = Public* *3 = Other, namely*	Bitte geben Sie an, in welcher Art von Unternehmen Sie arbeiten. *1 = Privat* *2 = Öffentlich* *3 = Andere, nämlich*
Did you work from home due to the COVID-19 pandemic? *1 = Yes.* *2 = No.*	Haben Sie aufgrund der COVID-19 Pandemie von zu Hause aus gearbeitet? *1 = Ja.* *2 = Nein.*
Has the COVID-19 pandemic had an impact on the communication between management and employees in your company? *1 = Yes, positively.* *2 = Yes, negatively.* *3 = No.* *4 = I don't know.*	Hat sich die COVID-19 Pandemie auf die Kommunikation zwischen Management und Mitarbeitenden in Ihrem Unternehmen ausgewirkt? *1 = Ja, positiv.* *2 = Ja, negativ.* *3 = Nein.* *4 = Ich weiß nicht.*
Please indicate the communication tools that have been used in your company during the COVID-19 pandemic. *1 = Email* *2 = Phone* *3 = Social Media* *4 = Videoconferencing* *5 = Intranet* *6 = Meetings in person* *7 = Other, namely*	Bitte geben Sie die Kommunikationsmittel an, die in Ihrem Unternehmen während der COVID-19 Pandemie verwendet wurden. *1 = E-Mail* *2 = Telefon* *3 = Soziale Medien* *4 = Videokonferenzen* *5 = Intranet* *6 = Präsenzmeetings* *7 = Andere, nämlich:*
Please indicate to what extent you agree or disagree with the following statement:	Bitte geben Sie an, inwieweit Sie der folgenden Aussage zustimmen oder nicht zustimmen: Mein arbeitsbedingter Stress ist jetzt höher als

My work-related stress levels are higher now than before the COVID-19 pandemic. *strongly disagree (1) - strongly agree (7)*	vor der COVID-19 Pandemie. *stimme gar nicht zu (1) - stimme voll zu (7)*
A crisis is an unexpected event that brings high uncertainty to an organisation and might negatively impact the organisation's goals and performance. Do you perceive the COVID-19 pandemic as a crisis for your organisation? *1 = Yes.* *2 = Partly.* *3 = No.*	Eine Krise ist unerwartetes Ereignis, das eine hohe Unsicherheit für ein Unternehmen mit sich bringt und sich negativ auf die Ziele und die Leistung des Unternehmen auswirken kann. Nehmen Sie die COVID-19 Pandemie als Krise für Ihr Unternehmen wahr? *1 = Ja.* *2 = Teilweise.* *3 = Nein.*

3 - SYC

Please indicate to what extent you agree or disagree with the following statements. **These statements only refer to the situation in your organisation during the COVID-19 pandemic.** 1. I am comfortable talking to my manager about my performance. 2. Most communication between management and other employees in this organization can be said to be two-way communication. 3. Our company encourages differences of opinion. 4. The purpose of communication in our company is to help managers to be responsive to the problems of other employees. 5. Supervisors encourage employees to express differences of opinion. 6. I am usually informed about major changes in policy that affect my job before they take place. 7. I am comfortable talking to my manager when things are going wrong. *Answer scale*: *strongly disagree (1) - strongly agree (7)*	Bitte geben Sie an, inwieweit Sie den folgenden Aussagen zustimmen oder nicht zustimmen. **Diese Aussagen beziehen sich lediglich auf die Situation in Ihrem Unternehmen während der COVID-19 Pandemie.** 1. Ich fühle mich dabei wohl, mit meiner Führungskraft über meine Leistung zu sprechen. 2. Die meiste Kommunikation zwischen Führungskräften und anderen Mitarbeitenden in unserem Unternehmen kann als beidseitiger Austausch bezeichnet werden. 3. Unser Unternehmen ermutigt Meinungsdiversität. 4. Die Absicht unserer Unternehmenskommunikation besteht darin, die Führungskräfte dabei zu unterstützen, auf die Probleme anderer Mitarbeitenden zu reagieren. 5. Abteilungsleitende ermutigen Mitarbeitende, Meinungsunterschiede zu äußern. 6. Über wichtige Änderungen in den Richtlinien, die meinen Job betreffen, werde ich informiert, bevor sie eintreten. 7. Ich fühle mich dabei wohl, mit meiner Führungskraft zu sprechen, wenn etwas schief geht. *Antwortskalierung: stimme gar nicht zu (1) -*

	stimme voll zu (7)
6 - Work-related Stress	

Please indicate your answer to each of the following statements. **These statements only refer to the situation in your organisation during the COVID-19 pandemic.** Furthermore, "workplace" does not only mean a specific location but your work in general.
 	
 1. Do you have time to finish your assignments?
 2. Do you have the possibility to influence decisions at work?
 3. Does your supervisor consider your views?
 4. Can you decide on your work pace?
 5. Has your workload increased?
    a. If yes: Do you perceive this as stressful?
 6. Are the goals for your workplace clear?
    a. If partly or no: Do you perceive this as stressful?
 7. Do you know which assignments your work tasks include?
    a. If partly or no: Do you perceive this as stressful?
 8. Do you know who is making decisions concerning your workplace?
    a. If partly or no: Do you perceive this as stressful?
 9. Are there any conflicts at work? *If no: move to question 12*
    a. If yes: Do you perceive that as stressful?
 10. Are you involved in any conflicts at your workplace?
    a. If yes: Do you perceive that as stressful?
 11. Has your supervisor done anything to solve the conflicts?
    a. If partly or no: Do you perceive that as stressful?
 12. Do you put high demands on yourself at work?
    a. If yes: Do you perceive that as stressful?
 13. Do you often get engaged in your work?
    a. If yes: Do you perceive that as stressful?
 14. Do you think about work after your
	As discussed with Holmgren et al. (2009), it was decided to not publish the German translations of the Work-stress questionnaire.

working day?
- a. If yes or partly: Do you perceive that as stressful?

15. Do you find it hard to set a limit to a work assignment although you have a lot to do?
    - a. If yes or partly: Do you perceive that as stressful?
16. Do you take more responsibility at work than you ought to?
    - a. If yes: Do you perceive that as stressful?
17. Do you work after ordinary working hours to finish your assignments?
    - a. If yes or partly: Do you perceive that as stressful?
18. Do you find it hard to sleep because your mind is occupied with work?
    - a. If yes or partly: Do you perceive that as stressful?
19. Due to work, do you find it hard to find time to be with your nearest? (R)
20. Due to work, do you find it hard to find time to be with your friends? (R)
21. Due to work, do you find it hard to find time for your recreational activities? (R)

Attention Check_2: Please select the answer option 'Partly'.

Answer scales depending on question:
Q1, Q2, Q3, Q4, Q19(R), Q20(R), Q21(R)
1 = Always
2 = Rather often
3 = Seldom
4 = Never

Q5, Q6. Q7, Q8, Q9, Q10, Q11, Q12, Q13, Q14, Q15, Q16, Q17, Q18
1 = Yes
2 = Partly
3 = No

Q5a, Q6a, Q7a, Q8a, Q9a, Q10a, Q11a, Q12a, Q13a, Q14a, Q15a, Q16a, Q17a, Q18a
1 = Not stressful
2 = Little stressful
3 = Stressful
4 = Very stressful

4 - TRC

Please indicate to what extent you agree or disagree with the following statements. **These statements only refer to the situation in your organisation during the COVID-19 pandemic.**

My company...
Participation:
1. Asks for feedback from people like me about the quality of its information.
2. Involves people like me to help identify the information I need.
3. Provides detailed information to people like me.
4. Makes it easy to find the information people like me need.
5. Asks the opinions of people like me before making decisions.
6. Takes the time with people like me to understand who we are and what we need.

Substantial information:
1. Provides information in a timely fashion to people like me.
2. Provides information that is relevant for people like me.
3. Provides information that can be compared to previous performance.
4. Provides information that is complete.
5. Provides information that is easy for people like me to understand.
6. Provides accurate information to people like me.
7. Provides information that is reliable.

Accountability:
1. Presents more than one side of controversial issues.
2. Is forthcoming with information that might be damaging to the organization.
3. Is open to criticism by people like me.
4. Freely admits when it has made mistakes.
5. Provides information that can be compared to industry standards.

Bitte geben Sie an, inwieweit Sie den folgenden Aussagen zustimmen oder nicht zustimmen. **Diese Aussagen beziehen sich lediglich auf die Situation in Ihrem Unternehmen während der COVID-19 Pandemie.**

Mein Unternehmen…
Participation:
1. ...bittet Leute wie mich um Feedback zur Qualität verbreiteter Informationen.
2. … bezieht Leute wie mich ein, um dabei zu helfen, die Informationen zu identifizieren, die ich benötige.
3. … stellt detaillierte Information für Leute wie mich zur Verfügung.
4. … macht es einfach, die Informationen zu finden, die Leute wie ich benötigen.
5. … bittet um die Meinung von Leuten wie mir, bevor Entscheidungen getroffen werden.
6. … nimmt sich Zeit mit Leuten wie mir, um zu verstehen, wer wir sind und was wir brauchen.

Substantial information:
1. … stellt Informationen für Leute wie mich zeitnah zur Verfügung.
2. … stellt Informationen zur Verfügung, die für Leute wie mich relevant sind.
3. … stellt Informationen zur Verfügung, die mit früherer Leistung verglichen werden können.
4. … stellt Informationen zur Verfügung, die vollständig sind.
5. … stellt Informationen zur Verfügung, die für Leute wie mich einfach zu verstehen sind.
6. … stellt akkurate Informationen für Leute wie mich zur Verfügung.
7. … stellt Informationen zur Verfügung, die zuverlässig sind.

Accountability:
1. … präsentiert bei kontroversen Themen mehr als eine Sichtweise.
2. … stellt Informationen zur Verfügung, die dem Unternehmen schaden könnten.
3. … ist offen für Kritik von Leuten wie mir.
4. … gibt offen zu, wenn es Fehler gemacht hat.
5. … stellt Informationen zur Verfügung, die mit Branchenstandards verglichen

Attention check_1: Please select the answer option 'Agree'. Question order: P3, P2, SI1, P6, SI12, P4, SI13, A3, SI4, P5, Attention check, SI5, P1, SI6, A1, SI7, A4, A2, A5 *Answer scale: strongly disagree (1) - strongly agree (7)*	werden können. Aufmerksamkeitscheck_1: Bitte wählen Sie die Antwortmöglichkeit "Stimme zu" aus. Reihenfolge der Fragen: P3, P2, SI1, P6, SI12, P4, SI13, A3, SI4, P5, Aufmerksamkeitscheck, SI5, P1, SI6, A1, SI7, A4, A2, A5 *Antwortskalierung: stimme gar nicht zu (1) - stimme voll zu (7)*

5 - Work-SoC

How do you personally find your current job and work situation during the COVID-19 pandemic? On each line, tick what is closest to your feelings. *manageable - unmanageable (REVERSE)* *meaningless - meaningful* *structured - unstructured (REVERSE)* *easy to influence - impossible to influence (REVERSE)* *insignificant - significant* *clear - unclear (REVERSE)* *controllable - uncontrollable (REVERSE)* *unrewarding - rewarding* *predictable - unpredictable (REVERSE)* *Answer scale: 1 - 7 (bipolar)*	Wie empfinden Sie persönlich Ihre momentane Arbeit bzw. Arbeitssituation während der COVID-19 Pandemie? Kreuzen Sie in jeder Zeile an, was Ihren Empfindungen am ehesten entspricht. *bewältigbar - nicht bewältigbar (REVERSE)* *sinnlos - sinnvoll* *strukturiert - chaotisch (REVERSE)* *beeinflussbar - unbeeinflussbar (REVERSE)* *unbedeutend - bedeutend* *übersichtlich - unübersichtlich (REVERSE)* *steuerbar - nicht steuerbar (REVERSE)* *nicht lohnend - lohnenswert* *vorhersehbar - unvorhersehbar (REVERSE)* *Antwortskalierung: 1 - 7 (bipolar)*

6 - Invitation to interviews + Comment Section

Are you interested in helping us with another <u>important</u> step in our research? In that case, we would like to ask you to give us your email address so that we can invite you to a max. 45-minute-long interview at the end of March/beginning of April. In this interview, we would like to gain more insights about the crisis communication in your organisation. To ensure your anonymity, we would like to ask you to give us your email address in a separate window. This way, we can secure that your data will not be saved in the same file as your contact details. **Please click <u>HERE</u> in order to participate in the lottery for winning one of the amazon vouchers and/or to sign up for the interview.**	**Haben Sie Interesse, uns noch in einem weiteren <u>wichtigen</u> Schritt zu unterstützen?** Dann laden wir Sie herzlich ein, Ihre E-Mail-Adresse zu hinterlassen, damit wir Sie zu einem max. 45-minütigen Interview Ende März/Anfang April einladen können. In diesem Interview würden wir gerne nähere Informationen zu der Krisenkommunikation in Ihrem Unternehmen erfahren. Um Ihre Anonymität zu wahren, bitten wir Sie, uns Ihre E-Mail-Adresse in einem separaten Fenster mitzuteilen (siehe Link unten). So können wir sicherstellen, dass Ihre vorherigen Angaben nicht zusammen mit Ihren Kontaktdaten gespeichert werden. **Bitte klicken Sie <u>HIER,</u> um an der Verlosung der Amazon Gutscheine teilzunehmen**

→ *if "HERE": Employee Extra Survey for Email Address opens* If you do not wish to participate in the lottery or the interview, we would like to thank you a lot for your participation, you helped us a lot! As mentioned in the beginning, this study addresses communication within companies during the COVID-19 pandemic. In particular, we are interested in determining the influence of communication on work-related stress. This way we aim at emphasising the need to put employees' well-being more into the management's focus during crises. Thank you so much for supporting research! If you have any questions about this study, please contact Lena Duske or Anne Bruchhaus. The study is supervised by Ulf Ericsson. Feel free to leave any comments regarding our study here: *comment box*	**und/oder sich für ein Interview einzutragen.** → *Falls "HIER": Employee Extra Survey for Email Address öffnet sich* Falls Sie nicht bei der Lotterie oder einem Interview teilnehmen möchten, bedanken wir uns herzlich für Ihre Teilnahme - Sie haben uns sehr geholfen! Wie bereits am Anfang der Studie erwähnt, wollen wir uns die Kommunikation innerhalb Unternehmen während der COVID-19 Pandemie anschauen. Insbesondere sind wir daran interessiert, den Einfluss der Kommunikation auf arbeitsbedingten Stress festzustellen. Dadurch wollen wir auf die Notwendigkeit verweisen, dass Unternehmen das Wohlbefinden von Mitarbeitenden während einer Krise in den Fokus stellen. Vielen Dank, dass Sie Forschung unterstützen! Sollten Sie Fragen zu der Studie haben, wenden Sie sich bitte an Lena Duske oder Anne Bruchhaus. Diese Studie wird beaufsichtigt von Ulf Ericsson. Sollten Sie noch Kommentare bezüglich unserer Studie haben, können Sie uns diese hier gerne mitteilen: *Feld für Kommentare*

7 - Not fulfilling the requirements	
Unfortunately, you do not fulfill the requirements of this study of working at least 20 hours a week and/or not being self-employed. Thank you so much for your participation! As mentioned in the beginning, this study addresses communication within companies during the COVID-19 pandemic. In particular, we are interested in determining the influence of communication on work-related stress. This way we aim at emphasising the need to put employees' well-being more into the focus during crises. If you have any questions about this study, please contact Lena Duske or Anne Bruchhaus. The study is supervised by Ulf Ericsson.	Leider erfüllen Sie nicht die Voraussetzungen für diese Studie (mindestens 20 Stunden die Woche arbeiten und/oder nicht selbstständig sein). Vielen Dank für Ihre Teilnahme! Wie bereits am Anfang der Studie erwähnt, wollen wir uns die Kommunikation innerhalb Unternehmen während der COVID-19 Pandemie anschauen. Insbesondere sind wir daran interessiert, den Einfluss der Kommunikation auf arbeitsbedingten Stress festzustellen. Dadurch wollen wir auf die Notwendigkeit verweisen, dass Unternehmen das Wohlbefinden von Angestellt*innen während einer Krise in den Fokus stellen. Sollten Sie Fragen zu der Studie haben, wenden

	Sie sich bitte an Lena Duske oder Anne Bruchhaus. Diese Studie wird beaufsichtigt von Ulf Ericsson.

Employee Extra Survey for Email Address	
Please leave your email address here: *email:*	Bitte hinterlassen Sie hier Ihre E-Mail Adresse: *email:*
Please indicate what you would like to participate in: *1 = lottery.* *2 = interview.* We will contact the winners of the lottery at the end of our thesis project (around May).	Bitte geben Sie an, woran Sie gerne teilnehmen möchten: *1 = Verlosung* *2 = Interview* Wir werden die Gewinner der Verlosung am Ende unseres Projektes kontaktieren (ca. Mai).
We will contact you in the upcoming weeks in a separate email regarding further information about the interview. The interview will most likely be at the end of March/beginning of April.	Wir werden Sie in den kommenden Wochen in einer separaten E-Mail mit weiteren Information zu dem Interview kontaktieren. Das Interview wird voraussichtlich Ende März bzw. Anfang April stattfinden.
Thank you very much for your support!	Vielen Dank für Ihre Unterstützung!
Please do not forget to submit your response.	Bitte denken Sie daran, Ihre Antwort abzusenden.

Table A3

Model Parameters for the Regression Analysis

Predictor	β	$b\ (SE_b)$	t	p
Model 1				
Intercept		2.75 (0.13)	20.78	$< .001$***
SYC	-.41	-0.17 (0.03)	-6.37	$< .001$***
$F(1, 203) = 40.55, p < .001$***, $R^2_{adj} = .16$, $AIC = 249.85$				
Model 2				
Intercept		2.74 (0.13)	21.77	$< .001$***
TRC	-.42	-0.18 (0.03)	-6.63	$< .001$***
$F(1, 203) = 44.01, p < .001$***, $R^2_{adj} = .17$, $AIC = 246.96$				
Model 3				
Step 2				
Intercept		3.19 (0.25)	12.58	$< .001$***
SYC	.39	0.31 (0.05)	6.00	$< .001$***
$F(1, 203) = 35.99, p < .001$***, $R^2_{adj} = .15$, $AIC = 516.47$				
Step 3				
Intercept		3.49 (0.16)	22.12	$< .001$***
SYC	-.24	-0.10 (0.03)	-3.78	$< .001$***
Work-SoC	-.44	-0.23 (0.03)	-7.14	$< .001$***
$F(1, 202) = 50.78, p < .001$***, $R^2_{adj} = .33$, $AIC = 205.68$				
Model 4				
Step 2				
Intercept		3.52 (0.25)	14.10	$< .001$***
TRC	.31	0.25 (0.05)	4.71	$< .001$***
$F(1, 203) = 22.21, p < .001$***, $R^2_{adj} = .09$, $AIC = 528.65$				
Step 3				
Intercept		3.56 (0.16)	22.79	$< .001$***
TRC	-.28	-0.12 (0.03)	-4.74	$< .001$***
Work-SoC	-.45	-0.24 (0.03)	-7.55	$< .001$***
$F(1, 202) = 56.55, p < .001$***, $R^2_{adj} = .35$, $AIC = 198.04$				

Note. $N = 205$. Step 1 for Model 3 and Model 4 for the mediation analysis equals the direct effects calculated in Model 1 and Model 2, respectively. In Step 2 the dependent variable was regressed on the independent variable.

In Step 3 the dependent variable was regressed on the independent variable, controlling for the independent variable. * indicates $p < .05$; ** indicates $p < .01$; *** indicates $p < .001$.

Appendix B

Supplementary Material for the Exploratory Analysis (Study 1)

Table B1

Exploratory Analysis: Results From Welch's t*-Test Comparing Participants With Different Crisis Perceptions*

Crisis Perception	Yes (*n* = 55)		No (*n* = 73)			
	M	*SD*	*M*	*SD*	*t*(df)	*p*
SYC	4.28	1.22	4.92	1.09	-3.05(108.96)	.009**
TRC	4.08	1.18	4.60	1.14	-2.51(114.22)	.042*
Work-SoC	4.31	0.89	4.83	0.89	-3.22(115.83)	.006**
Work-related stress	2.16	0.54	1.80	0.42	4.06(98.84)	< .001***
	Yes (*n* = 55)		Partly (*n* =77)			
	M	*SD*	*M*	*SD*	*t*(df)	*p*
SYC			4.87	1.04	-2.90(104.66)	.015*
TRC			4.75	1.01	-3.39(105.05)	.003**
Work-SoC			4.76	0.90	-2.82(116.86)	.018*
Work-related stress			1.88	0.44	3.17(102.1)	.006**
	Partly (*n* = 77)		No (*n* = 73)			
	M	*SD*	*M*	*SD*	*t*(df)	*p*
SYC					-0.27(146.54)	1
TRC					0.82(143.79)	1
Work-SoC					-0.45(147.79)	1
Work-related stress					1.06(147.99)	.867

Note. N = 205. Crisis perception was assessed with one question, namely "Do you perceive the COVID-19 pandemic as a crisis for your organisation?". Answers were scored with 1 = Yes, 2 = Partly, 3 = No. The reported *p*-values were corrected using the Bonferroni correction method. * indicates *p* < .05; ** indicates *p* < .01; *** indicates *p* < .001.

Table B2

Exploratory Analysis: Model Parameters for the Regression Analysis When Controlling for the Variable "Crisis"

Predictor	β	b (SE$_b$)	t	p
Model 1				
Intercept		2.81 (0.13)	21.48	< .001***
SYC	-.36	-0.15 (0.03)	-5.56	< .001***
Crisis	-.21	-0.22 (0.07)	-3.12	.002**
$F(2, 202) = 26.30, p < .001^{***}, R^2_{adj} = .20, AIC = 241.74$				
Model 2				
Intercept		2.81 (0.12)	22.47	< .001***
TRC	-.37	-0.16 (0.03)	-5.85	< .001***
Crisis	-.20	-0.22 (0.07)	-3.19	.002**
$F(2, 202) = 28.10, p < .001^{***}, R^2_{adj} = .21, AIC = 238.86$				
Model 3				
Step 2				
Intercept		3.10 (0.25)	12.21	< .001***
SYC	.35	0.28 (0.05)	5.35	< .001***
Crisis	.15	0.30 (0.14)	2.25	.026*
$F(2, 202) = 20.88, p < .001^{***}, R^2_{adj} = .16, AIC = 513.41$				
Step 3				
Intercept		3.50 (0.16)	22.42	< .001***
SYC	-.21	-0.09 (0.03)	-3.37	.008**
Work-SoC	-.42	-0.22 (0.03)	-6.76	.006**
Crisis	-.14	-0.16 (0.06)	-2.43	.016*
$F(3, 201) = 36.65, p < .001^{***}, R^2_{adj} = .35, AIC = 201.73$				
Model 4				
Step 2				
Intercept		3.41 (0.25)	13.61	< .001***
TRC	.27	0.22 (0.05)	4.10	< .001***
Crisis	.17	0.35 (0.14)	2.48	.014*
$F(2, 202) = 14.47, p = .001^{***}, R^2_{adj} = .12, AIC = 524.48$				
Step 3				

Intercept		3.57 (0.15)	23.04	$< .001$***
TRC	-.26	-0.11 (0.03)	-4.32	$< .001$***
Work-SoC	-.42	-0.22 (0.03)	-7.12	$< .001$***
Crisis	-.13	-0.14 (0.06)	-2.29	.023*

$F(3, 201) = 40.23$, $p < .001$***, $R^2_{adj} = .37$, $AIC = 194.78$

Note. $N = 205$. Step 1 for Model 3 and Model 4 for the mediation analysis equals the direct effects calculated in Model 1 and Model 2, respectively. In Step 2 the dependent variable was regressed on the independent variable. In Step 3 the dependent variable was regressed on the independent variable, controlling for the independent variable. Crisis perception was assessed with one question, namely "Do you perceive the COVID-19 pandemic as a crisis for your organisation?". The newly computed variable "Crisis" was coded based on the crisis perception item with 0 = Yes ($n = 55$), 1 = Party and No ($n = 150$). * indicates $p < .05$; ** indicates $p < .01$; *** indicates $p < .001$.

Figure B1

Exploratory Analysis: Standardised Regression Coefficients for the Relationship Between SYC and Work-Related Stress as Mediated by Work-SoC When Controlling for the Variable "Crisis"
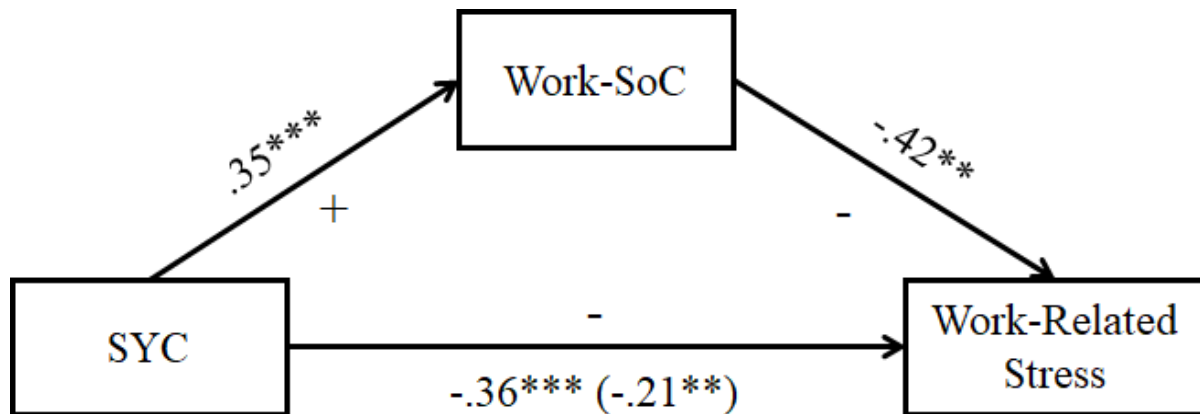
Note. The value in parentheses is the effect of SYC on work-related stress when controlling for Work-SoC. The standardised indirect effect was (.35) × (-.42) = -.15***, and the 95% confidence interval based on 1,000 bootstrap samples ranged from -009. to -0.04. (-.21***) indicates the effect of the independent variable onto the dependent variable after including the mediator. * indicates $p < .05$; ** indicates $p < .01$; *** indicates $p < .001$.

Figure B2

Exploratory Analysis: Standardised Regression Coefficients for the Relationship Between TRC and Work-Related Stress as Mediated by Work-SoC When Controlling for the Variable "Crisis"
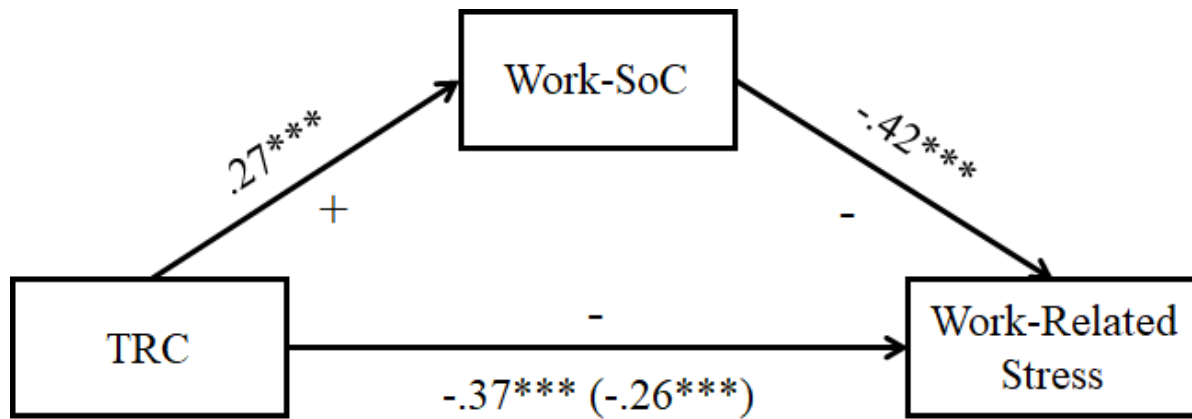
Note. The value in parentheses is the effect of TRC on work-related stress when controlling for Work-SoC. The standardised indirect effect was $(.27) \times (-.42) = -.11$***, and the 95% confidence interval based on 1,000 bootstrap samples ranged from -0.08 to -0.02. (-.26***) indicates the effect of the independent variable onto the dependent variable after including the mediator. * indicates $p < .05$. ** indicates $p < .01$. *** indicates $p < .001$.

Appendix C

Supplementary Material Study 2

Table C1

Example of the Coding Process (Thematic Analysis)

Quotes	Categories	Subthemes	Theme
"So, there are actually a lot of ideas from the employees, because they are the executors right there and it would actually be good, I have also said that to the deputy head of department several times, if there would be meetings more often where the management really comes. (…) So it would be kind of cool if there was something more often where everyone can bring their ideas or everyone could express where... where something could be improved." "But that someone has gone around and asked how are we doing with that? And then, do we have ideas that could be implemented or what could be improved? I have to say, unfortunately not so much. Rather seldomly."	Wish to be included in communication/decision process	Employee Involvement	Employees as Senders and Receivers of Information?
"I guess I was more like in the receiving end, like, I was more, like, getting all the information." "I received but I didn't really have much involvement in acting or acting on anything." "It was in [company name] together with my other teammates, we were just waiting for some instructions to come on what to do."	Being at the receiving end of the communication process		
"So, I have pretty good contact through actually all levels and that they simply get information from me and how I see the situation outside at the moment. Also feedback on Corona." "(…) I would have to give some updates on my projects that I was working on. So I'll give updates to senior members or cross divisional members about where the projects were and if there was delays because of Coronavirus." "Yes, that [communicating feedback to supervisor] was unrequested, I have never felt like someone would approach me."	Feeding back information to superior/management		

Quotes	Categories	Subthemes
"A lot of communication was always really good. I really appreciate that. (…) Well not just like, random shit, like sorry, random stuff. But like, actually important stuff." "And since the rules were always changing, like, the CEO, and all these people high up there, like they were always contacting the employees and saying, like, this is what we have to do now." "Because we would follow the latest instructions. If they change, yes, then it will be communicated and you will know straight away."	Relevant and timely communication	Communication Characteristics
"So that it [working from home] does not work due to technical reasons. That is the official explanation. Yes, there are rumours that there are other motives but that is at least the statement that we got." "(...) I just found out that it isn't allowed anyway, because it is a fundamental right that I can choose my career freely and I think they [the management] had tried, a little, that I quit my part-time job and stop doing more hours in the XXX [name of company]." "So, I think maybe being told the truth sometimes wasn't... Or being told what we thought was the truth wasn't always the truth. So, they could have maybe been a bit more honest, in how they communicated to us."	Honest information	
"Okay, so it's [Slack] like, we have the, we have personal messages, we have boards, channels, and threads (…). And all of this is kind of asynchronous, like I write something and I get a response, maybe in five minutes, maybe the other day. (…) Like, a lot of information gets lost in this way." "Just this ... at home, working from home and sorting things out via [Microsoft] Teams, meetings, meetings in particular, I think it's great, because sometimes there were no meetings online at all in the past, so you always had to meet. And today it is much faster and much easier. Things are being sorted out through those online solutions. So I think that's more positive now."	Digitalised form of communication	

Semi-Structured Interview Guide

Introduction
- Thank you for participating in this interview
- Introduce ourselves
- Ask for consent to record interview → Video on or off?
- Information about anonymity
- No right or wrong answers
- Goal of this interview
- Outline of interview
- Can ask questions or terminate the interview at any time
- If there are any questions that you do not wish to answer, just say so

Starting questions
- How long have you been working in your current company?
- What is the company's size?
- Briefly: To what extent is your company affected by the COVID-19 pandemic?

Occupational well-being during crises
- What does workplace well-being mean to you?
- To what extent does/did your organisation focus on your well-being during the COVID-19 pandemic? → Example?

ICC
- How did your company/supervisor communicate to you during the crisis?
- Can you give us an example of how you were/are involved in your organisation's internal crisis communication during the COVID-19 pandemic?
- Has your company's internal crisis communication strategy changed since the start of the COVID-19 pandemic?
    - If yes, how? → Examples?

Work-SoC
- In the previous year, what made you go to work in the morning/what made you start working in the morning?
- Hypothetical situation: When at work, what are the first steps you take/first thing you do when you are faced with a complex, ambiguous situation in order to gain clarity?
    - Can you give us an example of a situation when you did this?
    - Who/what helps you to make sense of a complex, ambiguous situation?

Different antecedents of employee well-being
- Besides communication, what did you experience as important for your well-being/stress levels during the COVID-19 pandemic?

- Is there anything else that you think is important for us to know?

End
- Any questions?
- Briefly summarize our study results
- Refer to our contact information (email)
- Info on result section
- Thank you for your participation