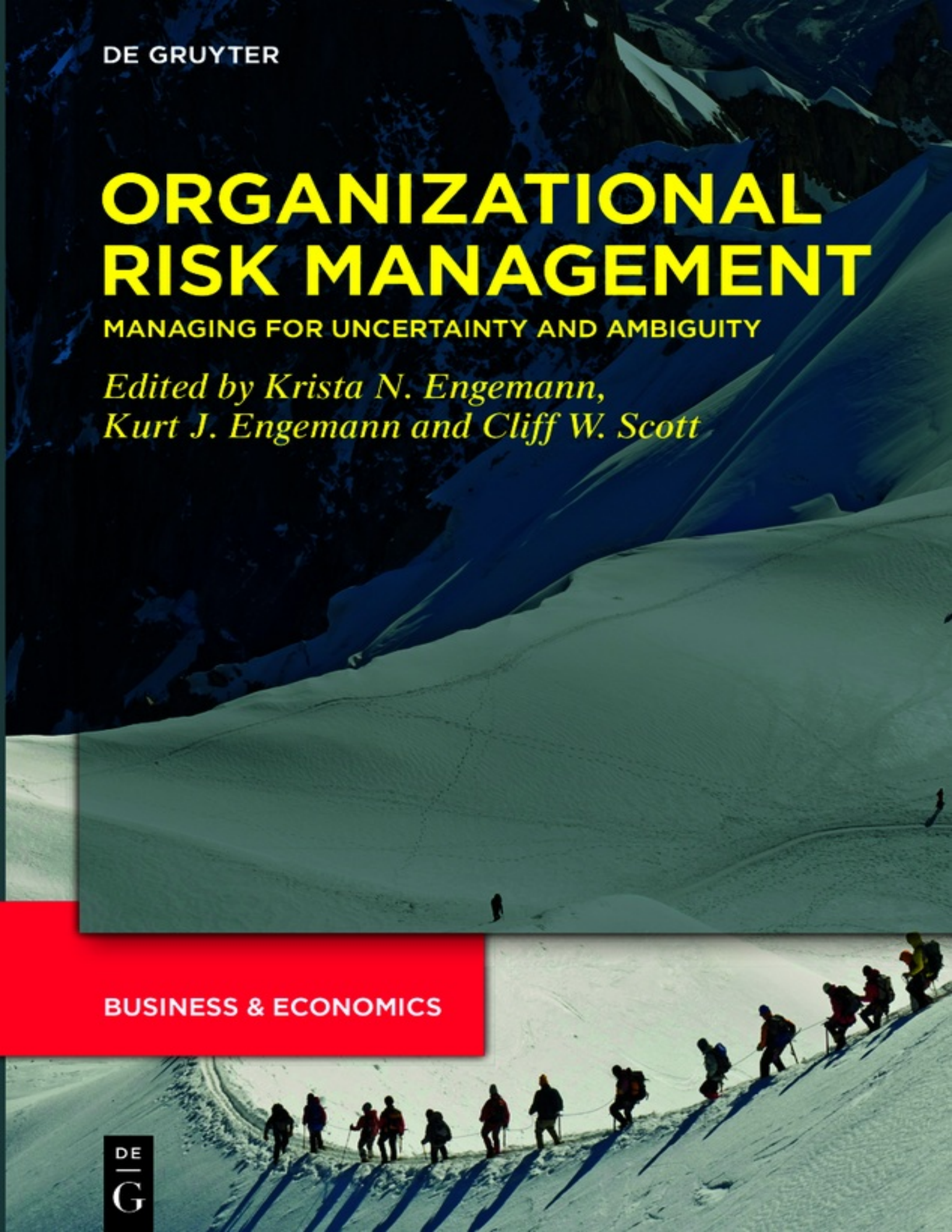
DE GRUYTER

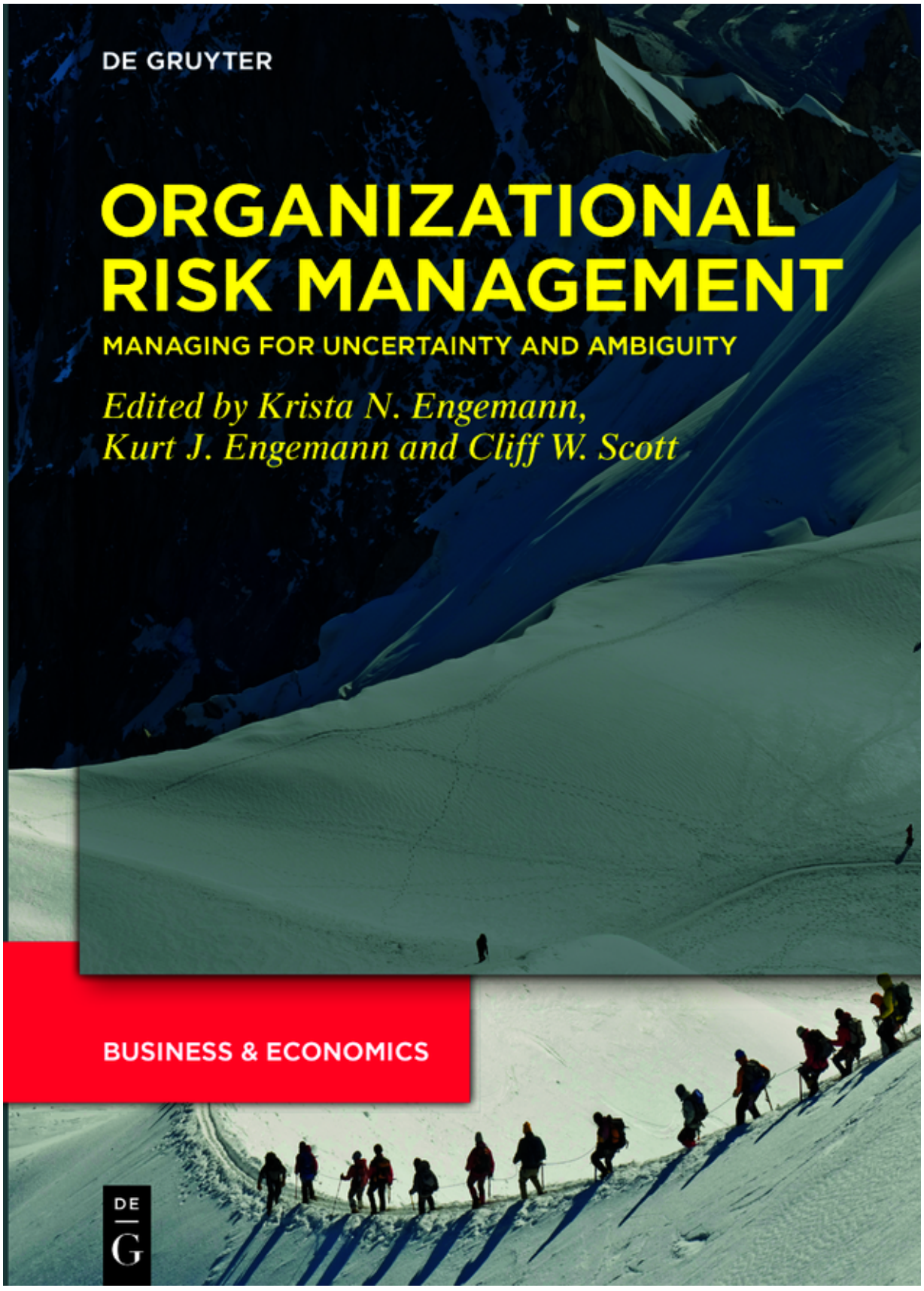
ORGANIZATIONAL RISK MANAGEMENT

MANAGING FOR UNCERTAINTY AND AMBIGUITY

Edited by Krista N. Engemann, Kurt J. Engemann and Cliff W. Scott

BUSINESS & ECONOMICS

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Organizational Risk Management

Developments in Managing and Exploiting Risk

Volume I: Safety Risk Management Volume II: Project Risk Management Volume III: Organizational Risk Management Volume IV: Socio-Political Risk Management

Edited by

Kurt J. Engemann

Volume 3

Organizational Risk Management

Managing for Uncertainty and Ambiguity

Edited by

Krista N. Engemann
Kurt J. Engemann
Cliff W. Scott

DE GRUYTER

ISBN 9783110670196
e-ISBN (PDF) 9783110670202
e-ISBN (EPUB) 9783110670240

Bibliographic information published by the Deutsche Nationalbibliothek
The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data are available on the Internet at http://dnb.dnb.de.

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Developments in Managing and Exploiting Risk

Advances in organizational risk management

Krista N. Engemann

Kurt J. Engemann

Cliff W. Scott

Introduction

Every organization that seeks to manage risk must contend with the potential – and presumably, detrimental – consequences of its manifestation. The positive contributions of risk are nonetheless critical for how an organization renews and pursues its vision for an uncertain, ambiguous future. *Organizational Risk*

Management: Managing for Uncertainty and Ambiguity covers a series of perspectives that represent both causal and interpretative frameworks. These perspectives shed light on how organizational structures and processes adapt amid a complex, dynamic organizational environment in an effort to manage and exploit the accompanying risks of that environment.

Organizational Risk Management: Managing for Uncertainty and Ambiguity extends the discussion of risk established by the rest of this book series toward the roles of uncertainty and ambiguity in organizations. The content of this volume oftentimes challenges the expectation for and utility of clarity in crisis situations, thereby favoring uncertainty and ambiguity as the necessary conditions to exploit organizational risk. As such, this volume seeks balance among traditional and contemporary perspectives on risk in organizations. This volume specifically explores opportunities in organizations to apply uncertainty and ambiguity for desired operational outcomes. These opportunities – such as, organizational structures, group processes, team meetings, and so on – rely on interpretation, learning, and knowledge among individuals.

With contributions from scholars and practitioners, this volume situates concepts and theories alongside their tangible applications. In this overview, we preview the book and its two main components: chapters covering fundamental concepts and approaches; and, chapters illustrating applications of these fundamental principles.

Fundamentals

In times of crisis, organizations experience a particular need to both support employees and provide resources that help them to be productive and safe. This is certainly the case during the COVID-19 Pandemic, but this applies to many other crises and to

more routine organizational communication efforts around risk, as well. These situations offer an opportunity for organizations to take a central role in helping their members manage health risks. However, employees do not always respond to these organizational communication efforts. Employees can be unaware of their risks, overloaded with information, and some organizational efforts can be viewed as invading privacy and pressuring employees to meet pre-defined ideals. While these are major concerns that can be difficult to overcome, several theories provide guidance for how to improve participation and produce positive behavioral outcomes (→Cheney et al., 2013). In their chapter, Stephens and Doucet explain the complexities of organizations communicating around risk. By integrating theories from health and organizational communication, the chapter develops a Conceptual Model of Organizational Influences on Employee Risk and demonstrates how individual-level behavior change works in concert with organizational variables like identification. They discuss opportunities for future research as the focus on prevention, health, and mental health in the United States grows.

The key to cultivating and sustaining an injury-free workplace is comprehensive employee engagement for occupational health and safety (OHS)—all employees applying their on-the-job experience to identify ways to make behavior and its context safer and to communicate effectively their safety-improvement proposals at group meetings and in one-on-one feedback conversations with supervisors and coworkers. The chapter by Geller provides evidence-based principles and practical procedures to make that happen, starting with an overview of seven human dynamics that need to be considered for effective intervention. Interpersonal behavior-based observation and feedback is essential for behavioral improvement, and this chapter reveals practical coaching

techniques, including special advantages of maintaining an empathic mindset during interpersonal behavioral analysis and intervention. The topic of empathy connects directly to humanism, and to a most effective approach for addressing the human side of OHS: humanistic behaviorism or actively caring for people (AC4P). The research-based techniques elucidated here are critical for cultivating and sustaining a total safety culture (TSC)—a workplace in which employees routinely: a) submit safety-improvement suggestions, b) set safe examples daily through their own work behavior, c) provide interpersonal supportive and corrective behavioral feedback for their coworkers, and d) regularly recognize others with sincere gratitude for their AC4P behavior.

After action reviews (AARs) are a type of meeting that prompts retrospective discussion among team members in order to reduce ambiguity and learn from past events (→Allen et al., 2018). Whereas outcomes of AARs have been studied using quasi-experimental and correlational methods, the chapter by Allen, Reiter-Palmon and Kello seeks to provide rich descriptive information about the actual use of AARs, as perceived by leaders and participants. Specifically, firefighters were interviewed about whether, when, and how AARs should ideally be conducted. Twenty interviews with captains and 20 focus groups with crews were used to inductively determine emergent themes. The chapter concludes that firefighters felt that AARs should be held as frequently as possible, should be held at a convenient place and time as soon after the event as possible, and should be conducted using positive, participative discussion techniques in a psychologically safe environment. Crew leaders (i.e. captains) tended to view some AAR best practices differently than crew members. The results are discussed in terms of sensemaking theory, meetings research, and team reflexivity.

High reliability organization (HRO) theorizing is a response to managing the emergent hazards that arise during crises (natural disasters) and ongoing risks (hazardous, complex operations). To remain responsive and resilient in complex or changing environments, HROs depend on learning in the moment. In HROs, learning occurs in the moment through member's efforts to remain vigilant of what is unfolding around them, i.e., mindfulness (→Weick & Sutcliffe, 2015). Research and theory has suggested ways learning occurs (HRO principles, AARs). HROs also learn when they codify lessons from operations into their technical documentation. While there is quite a bit of research that helps us to understand how HROs learn, and where they store their lessons, we know less about how lessons get re-articulated and remembered in practice. The chapter by Jahn proposes that the notion of reflexivity can help organization and crisis managers understand how risks are re-articulated and remembered in practice. Toward that end, the chapter proposes several ways that reflexivity processes might punctuate an organization's technical documentation cycle (e.g., in documents, training, accident inquiry processes and reports) so that dynamic, ephemeral lessons about risks and crises might endure.

Contemporary risk management is characterized by models of complex sociotechnical systems. A pivotal figure in the development of the field, →Rasmussen (1997) cited a critical gap in this approach to understanding risk in organizations. The chapter by Engemann and Engemann unpacks this gap and further explores two fields – one steeped in sociocognitive theories and the other grounded in risk-centered practical application – that grew in its place towards a model that emphasizes resilience via ambiguity preservation. They posit that resilience incorporates: robustness to manage the negative aspects of known risk; mindfulness to manage the negative

aspects of unknown risk; and, flexibility to exploit the positive opportunities of risk.

Traditionally human agency understands risk management as part of the decision making process with the objective of reducing uncertainty. Complexity in times of digitalization requires focusing on human dimensions. In their chapter, Carbonell-Valin and Domingo present the relevance of the construct involving trust. This is a free and reasonable dimension, that contains uncertainty. Trust brings balance to the discussion regarding todayś complex and technology driven reality. As uncertainty rules, they propose that we need to rethink trust, proposing alternatives to adapt to this reality. Traditional leadership theories are under scrutiny; there is an opportunity for a generative leadership helping to bring a conscious balance between risk and reliability.

Applications

Organizational change is ubiquitous and intensifying (→Jones et al., 2019). In their chapter, Peiris, Dunn, Shanock and Woznyj integrate the literatures on perceived organizational support (POS) and organizational change to provide theoretical and practical insights into how POS can play a positive role in the change process. They begin by introducing readers to the concept of perceived organizational support and two types of change including planned and unplanned change. Grounded in organizational support theory and using real-world examples from recent external environmental changes and internal company decisions, they offer information on how organizational representatives (e.g., human resources, upper-level leadership, and supervisors) can increase POS during change. In general, they argue that when employees have high POS and feel like their organization values their contributions

and cares about their well-being, they will likely be less resistant to change and more willing to focus on how to positively adapt to the change. More specifically, they focus on how organizations can increase POS during change through supportive Human Resources (HR) practices, fair employee treatment, exhibiting supervisor support, and practicing favorable discretionary treatment. They close with insights into how practitioners can use this information to foster POS and outline avenues for future research.

Despite the increasing focus on risk in society and organizations, there is limited research on how built environments amplify or mitigate risk in high reliability organizations, particularly healthcare (→Harolds, 2020). Built environments are often invisible in organizational communication research, yet the social logics of space influence communication within healthcare organizations. An important organizational risk factor in healthcare organizations is staff wellbeing. Research shows that overworked, highly-stressed healthcare professionals are at-risk for emotional, physical, and mental exhaustion, psychological detachment, depression, burnout, suicide, and job dissatisfaction. In their chapter, Real and Howe review research on healthcare built environments, high reliability organizations, risk perceptions, efficacy beliefs, and healthcare staff wellbeing. They argue that understanding systemic organizational risk can be enhanced by highlighting the significance of built environments for communication and staff wellbeing. Their approach underscores the importance of physical design for understanding risk in high reliability organizations.

Organizations experience risk daily, and although many risks occur within the walls of the company, others can extend outside the physical locations of the business. One risk that manifests outside the organization is online coworker sexual harassment

(→Herovic et al., 2019). Online coworker sexual harassment is when an employee is sexually harassed online, such as on social media sites, by a coworker that they work with in a face-to-face context. The chapter by Scarduzio and Adams is conceptual in nature and explores the relationship between uncertainty and online coworker sexual harassment. They provide propositions about the characteristics of survivors, the public/private divide and spillover, and reporting decisions. They study the relationship between ambiguity and online coworker sexual harassment and offer propositions regarding the characteristics of the harasser, coping, and social support. They present suggestions for future research based on these propositions.

Organizations often want to promote kindness and generosity at the workplace. While it is important to create an environment where people are enabled to engage in prosocial behaviors the risk is making people feel forced to engage in those behaviors with costs to their health and productivity (→Johnstone & Johnson, 2005). Prosocial behaviors at work have been conceptualized as organizational citizenship behaviors (OCBs). OCBs are extra-role behaviors in which employees engage to help a colleague or the company as a whole. It is found that there is a thoughtful, calculative component to engaging in these behaviors that goes beyond wanting to help out of the goodness of people's hearts. Thus, the push from companies on their employees to engage in these behaviors and the pull from people to do so out of a potentially impure motive may have the risk of creating an environment opposite of prosocial and generous. Generosity at work is important and valuable, but not at the cost of burnout and politics. Finding the right balance is key, and it is possible to enable employees to be kind and generous while still maintaining their productivity and health. The chapter by Gur provides examples from research on the benefits and conflicts associated with engaging in generous

behaviors at work. The chapter provides solutions for how to best create an environment where people can both be their productive selves while supporting and helping their colleagues a healthy amount.

Historically, the management of risk and safety was assumed to occur mainly at the organization level through formal, top down communication. However, with the expansion of a more dislocated workforce and an increasingly digitized, gig based economy, many contemporary employees are left without a shared location that they can call their workplace. Consequently, workers are more frequently communicating about risk and safety with organizational and occupational peers in virtual communities. The chapter by Scott, Duran and Stock establishes the significance of the communication that constitutes this precarious work and proposes an agenda for future research on virtual community discourse, particularly its capacity to influence how the risks associated with occupational hazards are understood, appraised, and managed by gig work platforms and their members.

Academics and consultants introduced behavior-based safety (BBS) to organizations worldwide in the early 1980s as an application of behavioral science to prevent workplace injuries. Although principles and procedures of behavioral science can be applied to many domains of occupational health and safety (OHS)—from ergonomics to hazard identification and corrective action—most BBS interventions have involved the systematic observation and recording of safe and at-risk behavior at job sites, followed by some form of behavioral feedback delivered in individual or group sessions. The trends of critical safe and at-risk behavior identified through the observation-and-feedback process are then analyzed, and interventions are developed to support safe behavior and decrease occurrences of at-risk behavior. The chapter by Geller and Roberts describes the most

effective ways to implement a critical component of a behavioral observation-and-feedback process for the prevention of workplace injuries: BBS coaching. They present ten practical guidelines for implementing an effective BBS coaching process, as garnered from the implementation and evaluation of successful BBS coaching processes at hundreds of companies. However, this list of guidelines is neither exhaustive nor immutable. Continuous learning and improvement in BBS coaching will result when readers review these guidelines and provide feedback from their diverse experiences with this research-based BBS approach to reduce workplace injuries.

Conclusion

The ultimate objective of *Organizational Risk Management: Managing for Uncertainty and Ambiguity* is to promote discussion among practitioners and organizational scholars who venture to understand organizational risk. Setting such a goal is to essentially practice what this volume shall inevitably preach: engage one another in order to proactively monitor and respond to risk. Strengthening ties along the bridge between practice and science will be a welcomed consequence of this volume.

References

Allen, J. A., Reiter-Palmon, R., Crowe, J., & Scott, C. (2018). Debriefs: Teams learning from doing in context. *American Psychologist*, *73*, 504-516. →

Cheney, G., Christensen, L. T., & Dailey, S. L. (2013). Communicating identity and identification in and around organizations. In L. Putnam & D. K. Mumby (Eds.), *The Sage*

handbook of organizational communication: Advances in theory, research, and methods (3rd ed., pp. 695–716). Sage. →

Harolds, J. A. (2020). Quality and safety in health care, part LXXXII: Introduction to high reliability organizations. *Clinical Nuclear Medicine*. advanced online publication. →

Herovic, E., Scarduzio, J. A., & Lueken, S. (2019). “It literally happens every day”: The multiple settings, multi-level considerations, and uncertainty management of modern-day sexual harassment. *Western Journal of Communication*, *83*(1), 39-57. →

Johnstone, A., & Johnston, L. (2005). The Relationship between organizational climate, occupational type, and workaholism. New Zealand Journal of Psychology, 34(3),181-188. →

Jones, J., Firth, J., Hannibal, C., & Ogunseyin, M. (2019). Factors contributing to organizational change success or failure: A qualitative meta-analysis of 200 reflective case studies. In *Evidence-Based Initiatives for Organizational Change and Development* (pp. 155-178). IGI Global. DOI: 10.4018/978-1-5225-6155-2.ch008 →

Rasmussen, J. (1997). Risk Management in a Dynamic Society: A Modeling Problem. Safety Science, 27(2/3), 183-213. →

Weick, K. E., & Sutcliffe, K. M. (2015). *Managing the unexpected: Sustained performance in a complex world* (3rd ed.). Hoboken, NJ: John Wiley & Sons, Inc. →

Part I: Fundamentals

1 Organizations helping their members manage risk

Keri K. Stephens

Cassidy S. Doucet

1.1 Introduction

To ground this chapter, we develop the following scenario derived from an informal interview with a manager in June of 2020 as the COVID-19 lockdown was being lifted in the United States. Elaine, a manager at a retail store sits down at her computer to read yet another email from her company. The email from the store's CEO reads, "You are required to wear a mask that covers your nose and mouth completely at all times in and around our buildings. Note: this is a new policy, and a change from what was required last week." Elaine sighs and tells her partner, "I'm so tired of having a different policy every week. I suspected we needed to wear masks even when the U.S. Center for Disease Control said they weren't required."

The COVID-19 Pandemic will likely go down in history as a crisis where the understanding of the science involved was changing almost constantly. This makes it difficult for employees to cope because instructions for how to manage their risks and stay safe are constantly changing and people receive many conflicting messages. This is the epitome of →Weick's (1995) concept of equivocality, which he defined as people receiving multiple conflicting messages. While the COVID-19 Pandemic is not the first major crisis where organizations have had to help their members make sense of complex information, what makes it unique is the extended nature of this crisis.

In this chapter, we review the theories and concepts that explain an organization's role in helping employees manage risks, and the challenges these organizations face when trying to communicate with employees who are living in our ever-connected world. We begin by defining what we mean by risks, and how →Weick's (1979, →1995) information theory is useful to lay the foundation for understanding sensemaking processes as well as information overload. Organizational communication theories, such as organizational identification, provide theoretical explanations for why some members care about the messages organizations send them. By combining behavioral theories from the fields of risk communication, health communication, and disasters, we build a comprehensive conceptual model that will help scholars conceptualize how organizations can help their members manage risk. The constructs within the proposed model are relevant when exploring how employees become aware, understand, and make decisions about their risk.

1.2 Core constructs in understanding risk in organizations

Risk can be defined in many ways, so here we use →Stern and Fineberg's (1996) broad definition of risk as the "things, forces, or circumstances that pose danger to people or

what they value" (p. 215). It is also helpful to realize that risk can be subjective, objective, real, observed, and perceived (→Althaus, 2005) and thus, people and organizations can differ in their understanding of what constitutes a risk. In addition to understanding risk, several related constructs are also important. *Risk perception* can be considered as an individual's subjective judgement of the severity of the risk, the probability of the event happening to them, and the emotions they feel in response to the risk (→Wilson et al., 2018).

Typically risk perception is studied from an individual-level perspective with research questions asking how individuals seek information to understand and potentially take actions related to risks (e.g., Planned Risk Information Seeking Model, PRISM; Protection Action Decision Model, PADM), or how people take actions based on health-related risks (e.g., Health Belief Model, HBM; Theory of Planned Behavior, TPB). More recently, scholars interested in disaster-related risks have borrowed from behavioral risk theories and added in considerations of community by arguing that more lasting behavioral changes need to focus on communication efforts designed to build community resilience (→Houston, 2015).

Here, we contribute to notions that collective actions can be important ways to address risk. Specifically, organizations help their members understand and cope with a variety of risks especially related to workplace safety. In the U.S., two different organizations ensure that workers are protected: The Occupational Safety and Health Administration (OSHA), and the National Institute for Occupational Safety and Health (NIOSH). Most employers offer training to help employees understand their safety risks and reduce negative outcomes. Another example of a formal organizational program designed around preventative health risks is a Workplace Health Program (WHP). These programs often focus on helping employees stay physically and mentally strong, and they are often justified as a means to reduce the healthcare costs of employees (→Stephens & Harrison, 2017). Yet beyond these formal organizational programs, there are many opportunities for organizations to communicate health and safety risk information more broadly through communication channels, such as email, a prevalent practice during the COVID-19 Pandemic (→Stephens et al., 2020).

To better understand the role organizations can play in helping their members manage risk, we developed a conceptual model (see →Figure 1.1). While we elaborate on this model in the following sections of this chapter, we preview it here to provide a big picture understanding of the relationships between the concepts. Specifically, the left side of the model provides examples of the organizational communication structures and theoretical considerations important in better understanding employee risk decisions. The remainder of the chapter begins by explaining how people process information related to risks. Then, we explain each part of the model. As a whole, The Conceptual Model of Organizational Influences on Employee Risk provides a framework for understanding organizational actions, as well as providing a roadmap for future research.

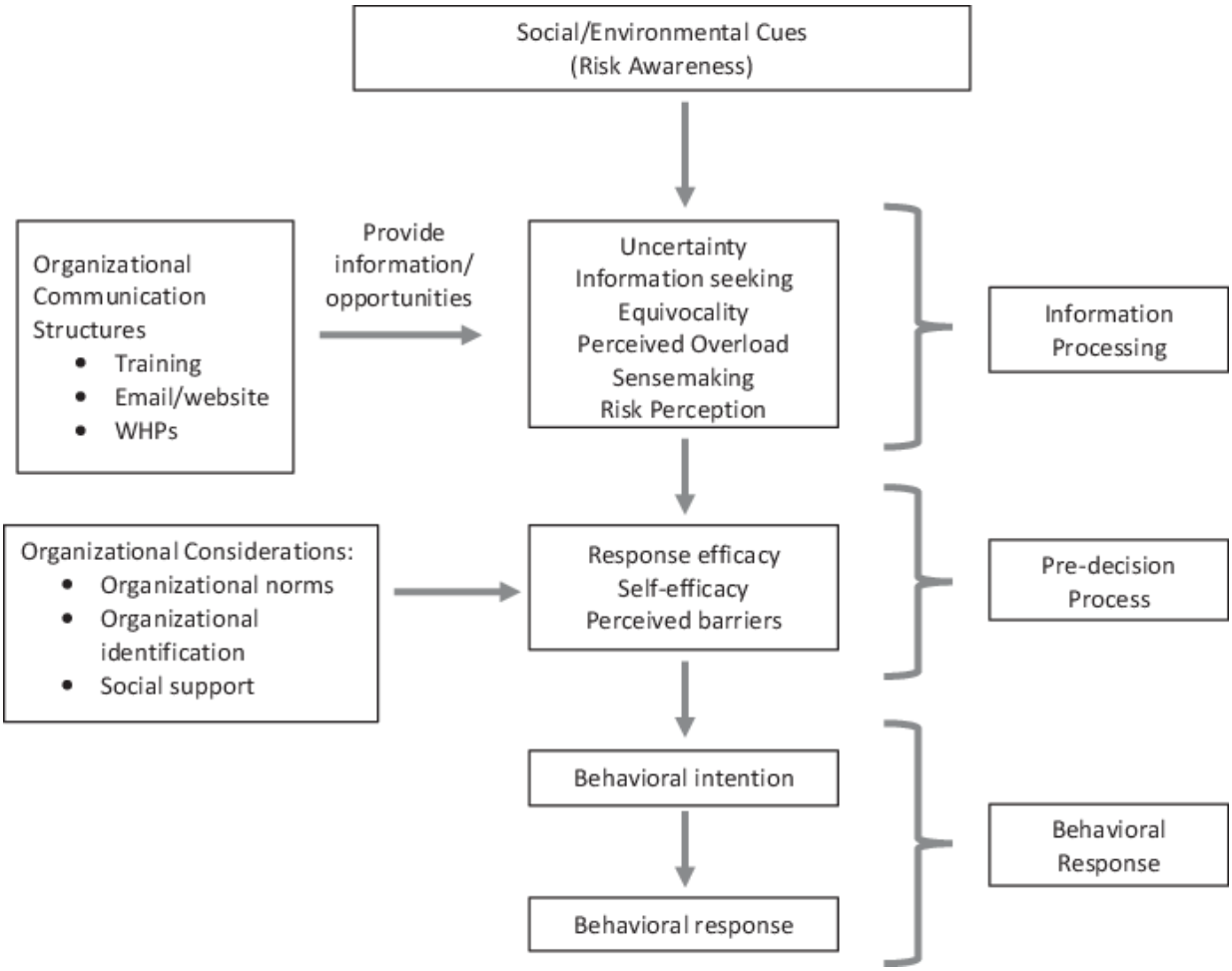

Figure 1.1: Conceptual Model of Organizational Influences on Employee Risk.

1.3 Risk information processing

Before people seek information about a risk, there needs to be some form of social or environmental cue that makes them aware they are at risk. In the case of Elaine, the retail manager, the cue was an email from her manager. But it is important to realize that just providing information from an organization or other source is not enough to motivate people to take some protective actions concerning these risks. →Weick's (1979) work on information theory offers some key terms to help us understand what happens as organizational members process risk information. Once people are aware of a risk, they are often in need of information; a situation →Weick (1979) calls uncertainty. As people begin receiving and seeking information, they tend to receive conflicting information, and thus they find themselves experiencing equivocality or ambiguity (→Weick, 1979) around their understanding of risk. This is an important state because as people try to understand this conflicting information, they tend to talk with others and engage in sensemaking (→Weick & Sutcliffe, 2007). During COVID-19, there were high levels of both uncertainty and conflicting information, and these were key

precursors that nudged people to engage in sensemaking. Sensemaking is a process that allows organizational members to develop meaning and understanding, retrospectively, following an experience (→Weick, 1993, →1995). Organizations are in an ideal place to facilitate sensemaking since organizational members are often connected to one another through varied communication channels (→Jahn, 2016; →Weick, 1979).

The flip side of uncertainty and employees not having enough information is information and communication overload. On the surface, overload seems like an issue of quantity of information – having too much; however, research has found it is much more complex. The perceived quality of that information is also important (→Eppler & Mengis, 2004; →Stephens et al., 2017; →Weick, 1970), as well as several highly communicative factors. →Stephens et al. (2017) found that communication overload also involves understanding how pressured people feel to make decisions, and if they perceive needing to use too many information and communication technologies, have too many distractions, feel responsible to respond to messages, and are watching messages pile up.

Both information and communication overload are important concepts when discussing risk because when people are overloaded it affects their decision-making ability, and their frustration can lead to burnout and feeling a lack of control over their own environment (→Eppler & Mengis, 2004; →Sutcliffe & Weick, 2008). Unfortunately, people in this overloaded state are not necessarily well equipped to make decisions around risk. They often indiscriminately try to restore balance by retaining what they view as the most instrumental information, and they filter out what they find less relevant (→Weick, 1970). Overload was a major problem during COVID-19 and it led to a host of emotions including stress and overworking (→Stephens et al., 2020).

Let us revisit Elaine, the retail manager, and the emails she received from her company's CEO telling her she must wear a mask at all times. She was obviously reading other sources providing similar advice since she was aware of the CDC's recommendations. She may have enough information to decide to comply with the CEO's rule, but she may also call her friends and family to get their advice. What if one of her influential friends says, "Elaine, good masks cost a lot of money, and the evidence suggests they don't really help the person who wears them?" Now Elaine is sitting in an equivocal state trying to make sense of conflicting information. Reviewing some theories in the next section might help us understand how Elaine contemplates the actions she may take around this risk.

1.4 Theories helpful in understanding how employees make decisions around risk

Organizations need to remember that just because they provide safety information to their employees, does not mean people will read it and follow the instructions. While it is necessary for employees to be able to comprehend and assess risks (→Haas & Mattson, 2016), this is not often sufficient to motivate them to take action. →Real (2008) describes employees' willingness to seek information within organizational contexts as "influenced by the availability of that information, their perceived need for information,

and the context in which this process takes place" (p. 341). One model of risk information seeking is particularly relevant as we consider how organizations can help their employees manage risk: The Organizational Planned Risk Information Seeking Model (OPRISM, →Ford & Stephens, 2018). This model builds on →Kahlor's (2010) Planned Risk Information Seeking Model (PRISM) where she combined six theories situated in the fields of information management, behavior change, and health communication, to identify the core variables needed to understand what motivates individuals to seek information about risks. The OPRISM situated the PRISM model in an organizational context, combined several constructs, and measured actual behavior as the outcome.

1.4.1 OPRISM

The PRISM model includes individual-level perception variables such as perceived knowledge about risk, attitudes toward seeking information, subjective norms encouraging information seeking, and perceived control over information seeking. In their work on the OPRISM and worker resilience, →Ford and Stephens (2018) found that organizations have a significant amount of influence over how employees seek risk information. They argue that risk responsiveness, defined as behaviors such as having conversations about safety at work, is constituted by three components. First, risk-information-seeking behavior is "the act of finding safety information that helps individuals make sense of uncertainty" (→Brashers, 2001, p. 512), and these behaviors often occur in an organizational context. The second component reflecting if an individual will respond to risk is self-efficacy, defined as a person's belief they can execute a given behavior. Note that this concept of self-efficacy is present in many health communication and protective action theories (e.g., HBM, TPB, PMT, PRISM, OPRISM). The third component is the knowledge that people have concerning the risk. Employees acquire this knowledge many different ways such as formal organizational training, reading information provided by the organization, as well as learning about their risks from outside of their employer.

→Ford and Stephens' (2018) OPRISM model, that included both individual and organizational variables, explained considerable variance (up to 68%) in how employees sought risk information in their organization, their self-efficacy, and their risk knowledge. Their study suggests that organizational variables – specifically organizational norms and information availability – can positively impact employees' responsiveness to risk. Note that their study was in the context of a high-reliability organization that regularly communicated the value of safety, however, it is quite possible that in health crises, like COVID-19, many organizations are functioning as risk-information providers, and thus building a conceptual model to focus on these types of variables is increasingly relevant.

1.4.2 Multiple sources and channels

Whereas →Ford and Stephens' (2018) work focused more narrowly on risk knowledge acquired from organizational sources, research in crisis communication suggests that when people find an issue salient, they will seek information from many different sources (→Jin et al., 2014). In the case of COVID-19, there was much information, misinformation, and disinformation available publicly through many different sources. Details around the roles employers have played in sharing COVID-19 risk information are unknown but would be a meaningful empirical question to investigate (→Stephens et al., 2020). People crave information when they are in a state of uncertainty and equivocality, and thus they seek, confirm, and share information through channels like social media (→Stephens et al., 2020), websites, and conversations with a host of sources. Access to multiple communication channels, especially through mobile devices, makes it possible for people to constantly access a wide variety of information (→Stephens, et al., 2015; →Stephens et al., 2020).

1.4.3 Organizational considerations

Even when employees have the information they need, this does not mean they will adapt their behaviors according to the risk-related information. There are several ways an organization might affect its members' decision-making processes. The first way is through organizational norms, the typical and socially acceptable behaviors of members within an organization. Several studies of organizations have found that informal organizational norms can sometimes be more powerful than formal policies. When organizational norms promote safety and risk reduction, members can be more motivated to perform safety behaviors (→Neal & Griffin, 2004; →Neal et al., 2000), but employees can also be swayed to adhere to norms that prioritize productivity over personal safety (→Ford & Stephens, 2018). →Kirby and Krone (2002) studied the policies in one organization and found that despite having a policy that promoted work-life balance, many employees were hesitant to take advantage of the policy because it went against the norms of productivity within the company. Norms can also be created that are clearly a detriment to the safety of employees. For example, in their study of senior firefighters, →Scott and Trethewey (2008) found that they created an organizational norm for not wearing breathing masks when cleaning burn sites. This direct violation of safety policies became such standard practice that newcomers felt they must also leave their breathing mask off when working on the burn site cleaning crew.

As seen in →Ford and Stephens' (2018) study of safety in oilfield workers, another way organizations can help their employees manage risks is by making risk information available and accessible. While organizations are required by law to provide certain types of safety information to employees, that does not necessarily mean that employees will find the risk-related information, and if they find it, they may not be able to comprehend the information (→Ford & Stephens, 2018). Organizations also can provide their members opportunities to share, discuss, and engage in sensemaking – all vital processes when trying to understand health and risk (→Apker, 2012).

A third way organizations can help employees manage risk is through the relationships they have with their employees. Organizational identification refers to a

member's feelings of connectedness or belonging to an organization (→Ashforth & Mael, 1989), and it stems from social identity theory (SIT; →Tajfel & Turner, 1979, →1986). SIT describes how individuals' identities are derived, in part, from their group memberships and the norms established by those groups. Organizational identification can be beneficial for both the organization and the members. When members feel a strong sense of identification with an organization, employee commitment, effort, participation, and cooperation increase (→Ashforth & Mael, 1989; →Bartel, 2001; →Carmeli et al., 2007; →Cheney et al., 2013; →Dutton et al., 1994).

Research has shown that organizational identification is correlated with persuasion goals and health information sharing at work (→Crook et al., 2015; →Stephens & Zhu, 2016). Over the past few decades scholars from diverse fields have argued the value of having trusted community organizations, such as beauty shops (→Johnson et al., 2010) and nonprofit organizations (→Boyle et al., 2007), disseminate health information. While many of the early arguments for the value of using organizations to share preventative health information stemmed from their direct access to members (e.g., →Harrison et al., 2011) organizational communication research has empirically shown that organizational identification has a significant impact on how people engage with health information (→Stephens et al., 2015). Additionally, as organizations share health information with their members, the members who feel more connected with the organization will share that health information with others (→Crook et al., 2015; →Stephens et al., 2015)

Let us revisit the mask situation with Elaine, the retail manager. As she weighs what her friend said, she remembers all the training her company has provided to help make her environment safe and respectful of others. Even though she has only worked there for two years, Elaine feels like she belongs, and believes the CEO is only asking the employees to wear masks because it is for the good of everyone. Her next step is figuring out how to make mask wearing work for her employees and herself.

1.5 Pre-decision process & core variables

Self-efficacy, or people's beliefs that they are capable of performing a recommended action, is a variable included in many behavioral models (e.g., HBM, TPB, PRISM, OPRISM) that consistently predicts a desired behavioral response (e.g., →Paek et al., 2010). Response efficacy, a variable integral to behavioral motivation theories like Protective Motivation Theory (PMT) and Protective Action Decision Model (PADM) (→Lindell & Perry, 2004, →2012; →Rogers, 1975, →1983), is defined as a person's belief that if they do the recommended actions, they will actually reduce their risk. This variable is not always included in risk-related models, but it is important because if people do not see value in taking a special action, they most likely will baulk, whether they are capable of taking action or not. In Elaine's case, she has to weigh the information she received from all her sources and decide if she believes that taking those actions actually will help her stay safe from COVID-19.

Perceived barriers to taking the desired action is the next consideration. This variable is related to self-efficacy, but it identifies why people cannot take a

recommended action. While there could be strong barriers, like the cost of purchasing high-quality masks, organizations have an opportunity to provide different types of functional social support that could help overcome these barriers. There are several types of functional support: informational, emotional, esteem, social network, and tangible (→Cutrona & Suhr, 1992), and all of these are relevant for an organization. Information support involves offering advice, recommendations, or information. Emotional support is providing comfort, care, empathy, and trust. Esteem support includes messages that praise a person's value and compliment their abilities. Social network support is related to organizational identification since it includes ways to help people feel they belong. Finally, tangible support is providing material aid such as money or goods.

As Elaine is contemplating her stance and ability to wear a mask at work, she gets another email from the CEO announcing that the company will be sending every employee 10 masks at no charge since the latest recommendations from the CDC are to wear double masks to increase protection. Two days later, the masks arrive, and Elaine proudly doubles up her masks before heading into work. In the end, her company provided informational support to improve her response and self-efficacy, as well as the tangible support that overcame her financial barriers. This company understood that helping employees manage risk and make behavioral changes was more than just sending an email and demanding compliance.

1.6 Limits of the conceptual model of organizational influences on employee risk behaviors

The model developed in →Figure 1.1 represents an integration of interdisciplinary theories addressing risk. It is not meant to contain every possible variable, but instead it focuses on core constructs and processes that illustrate the important role *organizations play* in helping their employees manage risk. Despite the fairly comprehensive nature of this model, the use of one particular organizational structure, the Workplace Health Program (WHP), reveals some of the complexity around the opportunities and challenges organizations faced during COVID-19 as well as general situations when they try to help employees manage risk.

Workplace Health Programs. Organizations across the globe utilize WHPs; a type of organizational program that promotes employee health and wellbeing. In addition to health, risk, and safety, these programs can also address mental health and workplace stress (→Fluker, 2020; →Stephens & Harrison, 2017). In the U.S., over three-quarters of employers now offer wellness programs or resources (→Society for Human Resource Management [SHRM], 2018), and most of these programs are implemented by organizations, on a voluntary basis, to encourage healthier employee behavior. Having healthy employees ultimately saves money for the organization since they are absent less often and typically incur lower medical insurance costs (→SHRM, 2018). These programs vary in what they provide, but they have shown some positive impacts on employee health. Some programs offer healthier food options in workplace cafeterias that are less expensive than foods with lower nutritional value, and some companies

provide healthy options free of charge (→Bronner, 2020). Other companies have launched extensive mental health initiatives, and during the COVID-19 Pandemic organizations have increased those efforts substantially (→Fluker, 2020).

There have been decades of research on WHPs, and while they have had positive impacts on employee health and wellbeing, scholars have critiqued them for being overly controlling and surveilling employees (e.g., →Ford & Scheinfeld, 2015; →Kirby, 2006; →Zoller, 2004). Some employees worry they will have to conform to meet an organization's idealized level of health, thereby losing autonomy over their own health and lifestyle. In the U.S. there are particular concerns around the need for employers to provide health insurance; some employees worry they could be fired if they share their personal health information with a WHP (→Ford & Scheinfeld, 2015). Even managing a WHP has important considerations that vary depending between organizations. For example, these programs need to adapt their messaging to a diverse range of cultures, ethnicities, and genders. They also need to distribute health information to groups who may not have the same health needs, all while managing power dynamics that can silence some voices (→Zoller, 2004). Lastly, these programs may suffer from a lack of participation; something prior research suggests could be influenced by feelings of trust and how employees identify with their employer (→Stephens et al., 2015).

Two theoretical frameworks, both previously mentioned, could help explain some of the challenges found with WHPs that also relate to COVID-19 situations: organizational identity and organizational norms. Not only can a stronger organizational identity lead to increased engagement with health programs (→Stephens et al., 2015) but studies have also found that how WHPs are communicated can influence a person's level of organizational identification (→Farrell & Geist-Martin, 2005). As discussed, giving employees information is not enough to guarantee they will accept it; something seen in many organizations during COVID-19. If organizations want members to participate in health and safety programs – including crisis situations like pandemics – an organizational culture needs to be established where participation in such programs is an organizational norm (→Ford & Stephens, 2018).

1.7 Opportunities for future research

This chapter demonstrates there are many opportunities to communicate about risk, use organizational structures as a lever of influence, and help organizational members make healthy behavioral choices. There are also meaningful directions of research that emerge. First, the Conceptual Model of Organizational Influences on Employee Risk provides one of the first models integrating theories from organizational, health, risk, and disaster communication. It will be meaningful to determine which constructs in this model are most helpful as we try to apply new efforts at helping employees be aware, understand, and make decisions about their risk.

Prior to COVID-19, initiatives such as WHPs were one way that organizations helped to keep their members healthy, and during COVID-19, many organizations have expanded these programs to include more focus on mental health (→Fluker, 2020). This provides another opportunity for researchers to better understand how organizations

can address some of the more stigmatized conversations around risk. Providing mental health resources is prioritized in many countries other than the U.S. (see →Stephens & Harrison, 2017 for examples), and governments create structures that require organizations to support their employees' mental health. Perhaps the COVID-19 pandemic will provide the spark needed for U.S. organizations to expand these efforts, and it will be important to study and characterize the approaches that are successful.

Another question that arises from the developed conceptual model concerns the type of language organizations might use to communicate risk information to employees. While some of this information is shared during training, another common way to share risk information is for organizations to send email. Email is tricky because research has found that people blame email as a source of their work overload regardless of how much they actually receive (→Barley et al., 2011). Therefore, a major challenge using email is how to craft messages that cut through employees' perceptions of this channel, and actually are read. One potential avenue to explore is using narratives – like the story of Elaine in this chapter – to help employees relate to the risk-related content. Stories explain relationships and provide a basis for action (→Wolfe, 2016). Furthermore, narratives communicated by organizations have been shown to increase protective health actions such as people's willingness to get a mammogram (→Krueter et al., 2008). Recent research on pandemic narratives has taken this connection further and determined which type of narrative (e.g., hero is one category) is more likely to motivate protective actions (→Liu et al., 2020). This is a promising area of research that could provide additional sensemaking opportunities for organizational members trying to better understand their risk.

1.8 Conclusion

If organizations want to help their employees understand and manage risk, they must find ways to reduce uncertainty, overload, and equivocality, and provide their members opportunities for sensemaking. Yet while they are providing their employees this information, organizations need to be aware that they are only one source of information. Quite often the quality of the relationships organizations have with their members along with the established norms will play an integral role in how employees respond to risk.

References

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckmann (Eds). *Action control* (pp. 11–39). Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-69746-3_2

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes. 50*(2), 179–211. doi:10.1016/0749-5978(91)90020-T.

Althaus, C. E. (2005). A disciplinary perspective on the epistemological status of risk. *Risk Analysis*, *25*(3), 567–588. https://doi.org/10.1111/j.1539-6924.2005.00625.x →

Apker, J. (2012). *Communication in health organizations*. Polity Press. →

Ashforth, B. E. & Mael, F. (1989). Social identify theory and the organization. *Academy of Management Review*, *14*(1), 20–39. http://doi.org/10.2307/258189 a, b

Barley, S. R., Meyerson, D. E., & Grodal, S. (2011). E-mail as a source and symbol of stress. *Organization Science*, *22*(4), 887–906. https://doi.org/10.1287/orsc.1100.0573 →

Bartel, C. A. (2001). Social comparisons in boundary-spanning work: Effects of community outreach on members' organizational identity and identification. *Administrative Science Quarterly*, *46*(3), 379–413. →https://doi.org.10.2307/3094869 →

Boyle, F. M., Donald, M., Dean, J. H., Conrad, S., & Mutch, A. J. (2007). Mental health promotion and non-profit health organizations. *Health & Social Care in the Community*, *15*(6), 553–560. https://doi.org/10.1111/j.1365-2524.2007.00712.x →

Brashers, D. E. (2001). Communication and uncertainty management. *Journal of Communication*, *51*(3), 477–497. https://doi.org/10.1111/j.1460-2466.2001.tb02892.x →

Bronner, S. J. (2020, May, 20). *How Google hacked food for happier employees*. Inverse. Retrieved from: →https://www.inverse.com/innovation/how-google-hacked-its-health-options-to-encourage-healthy-eating →

Carmeli, A., Gilat, G., & Waldman, D. A. (2007). The role of perceived organizational performance in organizational identification, adjustment and job performance. *Journal of Management Studies*, *44*(6), 972–992. https://doi.org/10.1111/j.1467–6486.2007.00691.x →

Cheney, G., Christensen, L. T., & Dailey, S. L. (2013). Communicating identity and identification in and around organizations. In L. Putnam & D. K. Mumby (Eds.), *The Sage handbook of organizational communication: Advances in theory, research, and methods* (3rd ed., pp. 695–716). Sage. →

Crook, B., Stephens, K. K., Pastorek, A. E., Mackert, M., & Donovan, E. E. (2015). The role of health literacy in the diffusion of healthy heart information: Information overload, information sharing, and behavioral intentions. *Health Communication*, *31*(1), *60–71*. →https://doi.org/10.1080/10410236.2014.936336 a, b

Cutrona, C. E., & Suhr, J. A. (1992). Controllability of stressful events and satisfaction with spouse support behaviors. *Communication Research*, *19*(2), 154–174. →https://doi.org/10.1177/009365092019002002 →

Dillon, R. L., & Tinsley, C. H. (2008). How near-misses influence decision making under risk: A missed opportunity for learning. *Management Science*, *54*(8), 1425–1440. →https://doi.org/10.1287/mnsc.1080.0869

Dutton, J. E., Dukerich, J. M., & Harquail, C. V. (1994). Organizational images and member identification. *Administrative Science Quarterly*, *39*(2), 239–263. →https://doi.org/10.2307/2393235 →

Eppler, M. J., & Mengis, J. (2004). The concept of information overload: A review of literature from organization science, accounting, marketing, MIS, and related

disciplines. *The Information Society*, *20*(5), 325–344. https://doi.org/10.1080/01972240490507974 a, b

Farrell, A., & Geist-Martin, P. (2005). Communicating social health: Perceptions of wellness at work. *Management Communication Quarterly*, *18*(4), 543–592. →https://doi.org/10.1177/0893318904273691 →

Fluker, D. (2020, Nov. 16). 7 *Companies who care about employee wellness during COVID-19*. Glassdoor. Retrieved from: →https://www.glassdoor.com/blog/companies-who-care-about-employee-wellness/ a, b, c

Ford, J., L., & Scheinfeld, E. N. (2015). Exploring the effects of workplace health promotions: A critical examination of a familiar organizational practice. *Annals of the International Communication Association*, *40*(1), 277–305. →https://doi:10.1080/23808985.2015.11735263 a, b

Ford, J. L. & Stephens, K. K. (2018). Pairing organizational and individual factors to improve employees' risk responsiveness. *Management Communication Quarterly*, *32*(4), 504–533. https://doi.org/10.1177/0893318918774418 a, b, c, d, e, f, g, h

Haas, E. J., & Mattson, M. (2016). A qualitative comparison of susceptibility and behavior in recreational and occupational risk environments: Implications for promoting health and safety. *Journal of Health Communication*, *21*(6), 705–713. →https://doi.org/10.1080/10810730.2016.1153765 →

Harrison, T. R., Morgan, S., Chewning, L., Williams, E., Barbour, J., Di Corcia, M., & Davis, L. (2011). Revisiting the worksite in worksite health campaigns: Evidence from a multisite organ donation campaign. *Journal of Communication*, *61*(3), 535–555. →https://doi.org/10.1111/j.1460-2466.2011.01553.x →

Houston, J. B. (2015). Bouncing forward: Assessing advances in community resilience assessment, intervention, and theory to guide future work. *American Behavioral Scientist*, *59*(2), 175–180. https://doi.org/10.1177/0002764214550294 →

Jahn, J. L. (2016). Adapting safety rules in a high reliability context: How wildland firefighting workgroups ventriloquize safety rules to understand hazards. *Management Communication Quarterly*, *30*(3), 362–389. →https://doi.org/10.1177/0893318915623638 →

Krueter, M. W., Alcaraz, K. I., Pfeiffer, D., & Christopher, K. (2008). Using dissemination research to identify optimal community setting for tailored breast cancer information kiosks. *Journal of Public Health Management and Practice*, *14*(2), 160–169. →https://doi.org/10.1097/01.PHH.0000311895.57831.02 →

Jin, Y., Liu, B. F., Austin, L. L. (2014). Examining the role of social media in effective crisis management: The effects of crisis origin, information form, and source on publics' crisis responses. *Communication Research*, *41*(1), 74–94. →https://doi.org/10.1177/0093650211423918 →

Johnson, L. T., Ralston, P. A., & Jones, E. (2010). Beauty salon health intervention increases fruit and vegetable consumption in African-American women. *Journal of the*

American Dietetic Association, *110*(6), 941–945. https://doi.org/10.1016/j.jada.2010.03.012 →

Kahlor, L. A. (2010). PRISM: A planned risk information seeking model. *Health Communication*, *25*(4), 345–356. https://doi.org/10.1080/10410231003775172 →

Kirby, E. L. (2006). Helping you make room in your life for your needs: When organizations appropriate family roles. *Communication Monographs*, *73*(4), 474–480. →https://doi.org/10.1080/03637750601061208. →

Kirby, E., & Krone, K. (2002). "The policy exists but you can't really use it": Communication and the structuration of work-family policies. *Journal of Applied Communication Research*, *30*(1), 50–77. https://doi.org/10.1080/00909880216577 →

Lindell, M. K., & Perry R. W. (2004). *Communicating environmental risk in multiethnic communities*. Sage. →

Lindell, M. K. & Perry, R. W. (2012). The protective action decision model: Theoretical modifications and additional evidence. *Risk Analysis*, *32*(4), 616–632. https://doi.org/10.1111/j.1539-6924.2011.01647.x. →

Liu, B. F., Austin, L., Lee, Y., Jin, Y., & Kim, S. (2020). Telling the tale: The role of narratives in helping people respond to crises. *Journal of Applied Communication Research*, *48*(3), 328–349. https://doi.org/10.1080/00909882.2020.1756377 →

Neal, A., & Griffin, M. A. (2004). Safety climate and safety at work. In J. Barling & M. R. Frone (Eds.), *The psychology of workplace safety* (pp. 15–34). American Psychological Association. https://doi.org/10.1037/10662-002 →

Neal, A., Griffin, M., & Hart, P. (2000). The impact of organizational climate on safety climate and individual behavior. *Safety Science*, *34*(1), 99–109. →https://doi.org/10.1016/S0925-7535(00)00008-4. →

Paek, H. J., Hilyard, K., Freimuth, V., Barge, J. K., & Mindlin, M. (2010). Theory-based approaches to understanding public emergency preparedness: Implications for effective health and risk communication. *Journal of Health Communication*, *15*(4), 428–444. →https://doi.org/10.1080/10810731003753083 →

Real, K. (2008). Information seeking and workplace safety: A field application of the risk perception attitude framework. *Journal of Applied Communication Research*, *36*(3), 339–359. →https://doi.org.10.1080/00909880802101763 →

Rogers, R. W. (1975). A protection motivation theory of fear appeals and attitude change. *Journal of Psychology*, *91*(1): 93–114. https://doi.org/10.1080/00223980.1975.9915803 →

Rogers, R.W. (1983). Cognitive and physiological processes in fear appeals and attitude change: A revised theory of protection motivation. In J. Cacioppo & R. Petty (Eds.), *Social psychophysiology*. Guilford Press. →

Scott, C. W., & Trethewey, A. (2008). Organizational discourse and the appraisal of occupational hazards: Interpretive repertoires, heedful interrelating, and identity at

work. *Journal of Applied Communication Research*, *36*(3), 298–317. https://doi.org/10.1080/00909880802172137 →

Society for Human Resource Management (2018). *2018 Employee benefits survey: The evolution of benefits*. Retrieved from: →https://www.shrm.org/hr-today/trends-and-forecasting/research-and-surveys/Documents/2018%20Employee%20Benefits%20Report.pdf a, b

Stephens, K. K., Barrett, A., & Mahometa, M. L. (2013). Organizational communication in emergencies: Using multiple channels and sources to combat noise and capture attention. *Human Communication Research*, *39*(2), 230–251. https://doi.org/10.1111/hcre.12002

Stephens, K. K., & Harrison, M. A. (2017). Work as opportunity and problem when trying to impact health and risk. In R. Parrott (Ed.). *Encyclopedia of health and risk message design and processing*. New York: Oxford University Press. https://doi.org/10.1093/acrefore/9780190228613.013.240 a, b, c

Stephens, K. K., Jahn, J., Fox, S., Charoensap-Kelly, P., Mitra, R., Sutton, J., Waters, E. D., Xie, B., & Meisenbach, R. J. (2020). Collective sensemaking around COVID-19: Experiences, concerns, and agendas for our rapidly changing organizational lives. *Management Communication Quarterly*, *34*(3), 426–457. https://doi.org/10.1177/0893318920934890 a, b, c, d, e

Stephens, K. K., Mandhana, D., Kim, J., Li, X., Glowacki, E., & Cruz, I. (2017). Reconceptualizing communication overload and building a theoretical foundation. *Communication Theory*, *27*(3), 269–289. https://doi.org/10.1111/comt.12116 a, b

Stephens, K. K., Pastorek, A., Crook, B., Mackert, M., Donovan-Kicken, E., & Shalev, H. (2015). Boosting employer-sponsored health dissemination efforts: Identification and information sharing intentions. *Health Communication*, *30*(3), 209–220. https://doi.org/10.1080/10410236.2013.836732 a, b, c, d, e

Stephens, K. K., & Zhu, Y. (2016). Do I feel like I'm a part of this organization? Organizational identification and using technology to communicate about health. In T. R. Harrison & E.A. Williams (Eds.), *Organizations, health, and communication* (pp. 204–222). Routledge. →

Stern, P. C., & Fineberg, H. V. (Eds.) (1996). *Understanding risk: Informing decisions in a democratic society*. National Academies Press. →

Sutcliffe, K. M., & Weick, K. W. (2008). Information overload revisited. In G. P. Hodgkinson & W. H. Starbuck (Eds.) *The Oxford handbook of organizational decision making* (pp. 56–75). Oxford University Press. →

Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33–47). Brooks/Cole. →

Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behaviour. In S. Worchel & W. G. Austin (Eds.), *Psychology of intergroup relations* (pp. 7–24). Nelson-Hall.

→

Weick, K. E. (1970). The twigging of overload. In H. B. Pepinsky (Ed.), *People and information* (pp. 67–129). Pergamon Press. a, b

Weick, K. E. (1979). *The social psychology of organizing*. Addison–Wesley. a, b, c, d, e

Weick, K. E. (1995). *Sensemaking in organizations*. Sage. a, b, c

Weick, K. E. (1993). The collapse of sensemaking in organizations: The Mann Gulch disaster. *Administrative Science Quarterly*, *38*(4), 628–652. https://doi.org/10.2307/2393339 →

Weick, K. E., & Sutcliffe, K. M. (2007). *Managing the unexpected: Resilient performance in an age of uncertainty (Vol. 2)*. San Francisco, CA: John Wiley. →

Wolfe, A. W. (2016). Organizing collective action amid the ripple effects of change: Narratives of crisis, disaster, and opportunity. *Journal of Applied Communication Research*, *44*(1), 1–21. https://doi.org/10.1080/00909882.2015.1116704 →

Wilson, R. S., Zwickle, A., & Walpole, H. (2018). Developing a broadly applicable measure of risk perception. *Risk Analysis*, *39*(4), 777–791. https://doi.org/10.1111/risa.13207 →

Zoller, H. M. (2004). Manufacturing health: Employee perspectives on problematic outcomes in a workplace health promotion initiative. *Western Journal of Communication*, *68*(3), 278–301. https://doi.org/10.1080/10570310409374802 a, b

2 Optimizing interpersonal engagement for occupational safety: Practical practices from psychological science

E. Scott Geller

2.1 Introduction

An injury-free workplace requires effective, ongoing engagement of all employees actively caring for the safety of themselves and their coworkers. This research-based chapter explains and illustrates how to make that happen. The research-based principles explicated here reflect a variety of domains from psychological science, including the behavioral-science principles of positive vs. negative reinforcement, observational learning, and behavior-based feedback. Other lessons reflect humanism, including empathy, interdependency, self-determinism, and self-transcendence. We begin with an overview of the complexity of human nature. This first section is a synopsis of the fundamental challenge addressed in this chapter: optimizing individual and interpersonal human dynamics for occupational health and safety (OHS) and cultivating an injury-free, actively-caring-for-people (AC4P) culture.

2.2 The complexity of human nature

No one can deny the critical role of human dynamics when analyzing the contributing factors to a workplace injury, and when developing a safety intervention to prevent injuries, improve OHS, and cultivate an AC4P culture. Consider, for example, the various labels given to the objectives of programs marketed and applied to address the human side of OHS – “complacency reduction,” “mindset modification,” “attitude adjustment,” “compliance commitment,” “self-accountability,” “behavior-based observation and feedback,” and “good-to-great safety leadership.” While each of these safety-intervention themes is certainly relevant for improving the human dynamics of safety, when taken alone each is limited and insufficient. One might ask, “Which of these should be included in a mission to improve the safety culture of a workplace?” A narrow perspective regarding the psychology of injury analysis and prevention is certainly understandable, given the extensive marketing of select tools or intervention approaches delivered by safety consultants and trainers with limited education and/or experience in psychological science.

This is not intended to criticize nor demean those diverse approaches to address the human dynamics of safety. Indeed, many of those approaches are quite essential to cultivating a safety-engaged workforce. However, many safety-intervention methods implicate a rather narrow view of the human side of OHS. The following seven dimensions of people reflect the complexity of developing and implementing effective interventions to address the psychology of injury prevention.

2.2.1 The BASIC ID acronym

After I teach my introductory psychology students the various approaches to psychotherapy, from Sigmund Freud's psychoanalysis to B.F. Skinner's behavior analysis and Aaron Beck's cognitive therapy, I introduce BASIC ID—an acronym that reflects the complexity of human nature. I point out that few clinical-science approaches to counseling or psychotherapy address each of these human dynamics. Of course, the same is true for handling the human side of OHS. Although safety professionals do not delve deeply into the analysis and treatment of psychological issues, considering the following seven dimensions of human nature could influence a more comprehensive and successful approach to cultivating an injury-free AC4P work culture.

"B" for Behavior. Obviously, workers' on-the-job behavior influences the probability of an injury, and workers' AC4P behavior enhances the success of any injury-prevention process. Thus, behavior-based-safety (BBS)—especially peer-to-peer observation and feedback—has become a worldwide phenomenon that successfully reduces workplace injuries by engaging employees in interpersonal, behavior-focused coaching (→Geller, 2001; →Sulzer-Azaroff & Austin, 2000).

Many BBS programs have not been nearly as successful as they could have been. Why, because the dynamics of human nature beyond overt or observable behavior are not considered. In a BBS process, for example, workers observe each other's safety-related behavior and record their observations on a customized checklist. Later, someone enters this information on a computer file for an analysis that includes comparisons of safe and at-risk behaviors between work teams and across facilities. However, the most critical component of a BBS observation-and-feedback process is often omitted—interpersonal behavioral coaching from observer to worker.

Moreover, when peer-to-peer coaching does occur, delivery of the behavioral feedback is often inadequate, especially when providing corrective feedback for at-risk behavior observed. This chapter explains how to give supportive and corrective feedback effectively, so the feedback is accepted, appreciated, and beneficial.

"A" for Attitude. Considering the prior example of BBS coaching, the delivery and acceptance of behavioral feedback requires the right attitude from everyone involved. A BBS program should not be viewed as a top-down directive, but rather as an employee-owned process in which the participants feel empowered and self-motivated. Indeed, the success of any intervention process implemented to improve OHS depends on an interdependent, hopeful, and constructive attitude.

Note that an attitude is much more than an opinion. It is a deep-seated personal perspective quite resistant to change. Consider that an attitude influences Affect, Behavior, and Cognition – the ABCs of attitude. First, an attitude connects to affect or emotion. People feel closer to those who share their attitude about something, and might feel a touch of anger, frustration, or sadness toward those who hold an opposite attitude. Naturally, our attitude about something influences related behavior and cognition (i.e., thinking or self-talk).

"S" for Sensation. Obviously, to achieve and sustain an injury-free workplace, workers often need to strategically apply their five senses – seeing, hearing, feeling, and sometimes even smelling and tasting. For example, distracted driving—all too common

a cause of vehicle crashes—occurs when drivers neglect the appropriate application of their visual sensations. “Their eyes were not consistently on task,” says the safety professional.

Competent and safe completion of almost any job requires visual acuity, hand-eye coordination, and often a keen sense of timing (e.g., when adjusting machinery). Sometimes, it is necessary to react quickly and accurately to a dangerous situation in order to prevent an injury. Alert sensation has prevented many mishaps.

People do not see and hear all of the stimuli in their immediate surroundings. They ignore irrelevant sights and sounds, and focus attention on the stimuli relevant to the task at hand. When individuals get distracted from task-relevant sensations (e.g., while driving), they put themselves at risk for incompetent behavior and an injury. Thus, safety professionals urge workers to tune in all relevant sensations and tune out task-irrelevant sensations. Safe and competent work requires selective *sensation*. Obviously, a comprehensive analysis of an injury should consider the potential role of sensory distractions or inattention to task-relevant stimuli.

Most readers have probably heard the term selective *perception*, and perhaps have used this concept to explain a misunderstanding or misperception. However, the term selective perception is actually redundant because all perception is selective—biased by personal experience, as well as both dispositional (nature) and situational (nurture) factors. Simply put, perception is an individual’s interpretation of a sensation experienced through any or all of the five senses. Hence, the sensation/perception course offered by the psychology department of many colleges and universities covers both the physiology of our sensory system (i.e., sensation) and the factors that influence our interpretation of sensation (i.e., perception).

“I” for Imagery. Imagery is using our “mind’s eye” to picture situations without actually being there. People use mental imagery every day. When looking forward to a particular event, we use imagery. Sometimes we visualize the expected outcome of an upcoming event, and this imagery affects our motivation. Picturing a pleasant consequence can lead to excitement, even an emotional high; however, imagining negative outcomes can elicit fear and motivate avoidance behavior.

Before performing, athletes practice their sport mentally; actors run through their lines and stage positions in their mind’s eye; surgeons mentally rehearse the steps of a complex operation; and musicians imagine playing or singing the right notes on key and on time. Many public speakers visualize themselves delivering their lines proficiently just prior to their actual presentation.

Research has demonstrated significant benefits of mental rehearsal (e.g., →Cumming & Williams, 2012; →Wakefield & Smith, 2012), whether while practicing an athletic skill, an occupational task, or a script of verbal dialogue. It is not clear whether the mental rehearsal actually strengthens the correct behavior or merely increases one’s motivation to perform at a higher level. In other words, psychologists don’t know why mental rehearsal improves performance, only that it does. The more vividly individuals imagine themselves performing desired behaviors, the greater the beneficial impact of this technique on actual performance. What are the ramifications for OHS?

Imagery and Safety. Empirical research on the effects of imagery on safety-related behavior has yet to be published. However, given the variety of behaviors shown to benefit from imagery, it seems obvious employees can use imagery to prevent an injury to oneself or others. People can use imagery to direct behavior (as an activator) or to motivate behavior (as a consequence). More specifically, for safety self-management, mental imagery can be used to: a) clarify safety objectives; b) enhance self-motivation to choose the safest behavior; c) build self-efficacy, personal control, and/or optimism; d) rehearse safe acts and AC4P behavior; and e) reward oneself for effective self-management.

Imagery can activate a chain of safe behaviors, as well as motivate action. The motivation comes from imagining potential consequences following safe versus at-risk behavior. When reaching for that skill saw, for example, imagine getting a finger caught in the blade. Imagine the ringing in your ears getting worse after not using hearing protection. Similarly, imagining a vehicle crash can inspire drivers to remind all passengers in their vehicle to "Buckle Up."

Sharing an Image. It can be useful to share personal experiences in ways that conjure up a motivating image. In fact, personal testimonies of injuries or close calls are powerful motivators, because the listeners can get a mental image of the incident. They can readily visualize the speaker in the precarious situation described, especially if the presenter gives a passionate and realistic delivery. Then, listeners can put themselves or a family member in the situation that caused negative consequences for the speaker. Of course, it is essential to focus on the specific safety-related behaviors that would have prevented the injury described if the presenter had performed them. An image is more directing and motivating when words are associated with the image. This is covert behavior or cognition – the next human dynamic of BASIC ID.

"C" for Cognition. Cognition implies thinking or self-talk. Cognition associated with the image of a devastating injury can direct safety-related action. "To eliminate my image of a worker falling from that roof, I must promote and support the use of appropriate fall protection." Cognitive therapists attack the irrational or negative thinking of their clients in order to "think people into relevant behavior change" (→Beck, 1976; →1993). From the same framework, safety leaders attempt to: a) prevent cognitions that can provoke at-risk behavior; b) enhance safety-related thinking that can activate injury-preventive behavior; and c) incite self-talk that can inspire occurrences of AC4P behavior on behalf of another person's safety.

In addition to personal safety, cognitions influence and reflect self-esteem. People can focus their self-talk on the good things people say about them or on other people's critical statements about them. Self-talk reflects personal perceptions and can increase or decrease how people feel about themselves (→Tod, Hardy, & Oliver, 2011). Indeed, our self-esteem goes up or down according to how we talk to ourselves about the way others talk about us.

"I" for Interpersonal. An AC4P safety culture requires ongoing interpersonal pro-social support for safety—from identifying and removing injury-related hazards to delivering interpersonal AC4P mentoring, coaching, and inspiration for injury prevention. Researchers have demonstrated convincingly that interpersonal support

enhances personal health, happiness, and life satisfaction (→Cohen & Willis, 1985; →Isen, 1987; →Young & Glasgow, 1998). Happy workers are more productive and safe.

A win/lose mindset is often more popular than a perception of win/win. However, an AC4P culture requires a win/win interdependent mindset. Workers need to depend on each other to maintain an injury-free workplace, including peer-to-peer BBS coaching. However, some workers are reluctant to offer another person safety reminders, and to receive advice for their own safety. Why, because they consider safety a matter of individual or personal responsibility. This perception is reflected in such self-talk as, "If Mary and Bill want to put themselves at risk, that's their problem, not mine."

Thus, some individuals need a change in perception – a paradigm shift – to facilitate and support the occurrence of interdependent safety coaching. Everyone needs to consider OHS a shared responsibility – an AC4P opportunity to prevent injuries throughout their work culture and beyond. This calls for a perceptual shift from win/lose individualism to win/win collectivism.

"D" for Drugs. When I ask my students to guess the human dimension reflected by the letter "D," someone inevitably yells out "drugs," presumably as a joke. My reply: "Absolutely right, but I'm not talking about those illegal drugs you sniff or inject. How about those over-the-counter drugs—alcohol, nicotine, caffeine, or prescription drugs for pain—that influence each of the prior human dynamics we've reviewed?" I urge my students to pay attention to the physical and psychological impact of these common drugs. Of course, this is not enlightening information for most safety professionals, given that many have dealt with drug issues among employees, with occasional referrals to an Employee Assistance Program.

2.2.2 Summary of human dynamics

The complexity of human nature and the difficulty in changing people and their culture was not presented to challenge any particular intervention approach. Rather, the purpose was to prompt consideration that improving the human dynamics of OHS is more difficult than often marketed. In fact, most safety professionals, consultants, and trainers have not been educated nor trained sufficiently to intervene on behalf of the seven human dimensions reviewed here.

After more than 50 years researching and teaching psychological science, I recommend the following. Start with behavior by implementing a BBS observation-and-feedback coaching process, but recognize the need to solicit and sustain employee engagement through their supportive attitudes, perceptions, cognitions, and interpersonal AC4P behavior. The mission: "Act people into beneficial safety-related attitudes, perceptions, cognitions, images, and interpersonal support." The remainder of this chapter explicates practical ways to address the human dynamics of BASIC ID in order to cultivate an AC4P injury-free culture.

2.3 Interpersonal coaching for OHS

Interpersonal behavior-based coaching is essential for any mission to keep people safe. In fact, the success of BBS is contingent on the implementation of an effective peer-to-peer coaching process. One peer (the observer) uses an employee-derived critical behavior checklist (CBC) to observe and record the work process of another peer. The observer records potential environmental determinants of at-risk behavior and inhibitors of safe behavior in a "comments" column of the CBC.

The letters of COACH say at all. Interpersonal coaching for safety begins with **C**aring. This is not a "gotcha" process focused on finding faults or mistakes from others. It is an AC4P process, whereby employees acknowledge and support the safe behavior of their coworkers and strategically point out opportunities for improvement. This is the critical corrective-feedback component of coaching for safety, and the performance of this vital communication process is explained below.

"When you know I care, you will care what I know. In fact, I care so much I'm willing to observe your behavior – with your permission, of course – and offer behavior-based feedback." This quotation reflects the **O**bserve phase of AC4P coaching. As mentioned above, observers use a CBC to record observations of safe and at-risk behavior, as well as the possible environmental determinants of those behaviors. Observing and recording the ongoing interaction of specific behaviors and the environmental/cultural conditions that facilitate at-risk behavior or inhibit safe behavior is the **A**nalyze component of the COACH acronym.

Next is another "C" for "**C**ommunicate" – showing sincere appreciation and gratitude for the safe behavior observed and delivering corrective feedback for occurrences of at-risk behavior. When the person observed perceives this communication phase to be constructive, especially by accepting and owning corrective feedback, the last letter of COACH reflects the outcome: **H**elp. Helping is best achieved by ensuring the safety coach begins the process with the mindset of "How can I help us all be more safe?" vs. "What can I catch you doing wrong?" The following strategies can make the communication phase of AC4P coaching most helpful.

Make Feedback Behavioral. Obviously coaching feedback should be behavioral, but feedback is too often non-behavioral. While "Nice job," "Thank you for supporting our team," and "Excellent presentation" are supportive and pleasing to hear, these statements are not associated with desirable behavior and are therefore not as beneficial as they could be. When people know what they did to earn sincere appreciation or praise, they are more likely to perform that behavior again.

It is important to be directive when giving supportive feedback, but it is crucial to be nondirective when offering correction (→Geller, 2015, →2020a, →2020b). While supportive feedback includes a specification of the desirable behavior observed, when giving corrective feedback it is best to ask questions first. With corrective feedback for OHS, the objective is to get the feedback recipient to accept the observation of an at-risk behavior, and then state a sincere intention to improve. This is more likely to happen if the observer shows genuine intent to learn the perspective of the person who was observed working at risk. It is essential to listen actively to explanations or excuses for not following a safety protocol. This could uncover situational factors that motivated or facilitated performance of the at-risk behavior and/or inhibited an occurrence of the

safe alternative. Of course, ownership of undesirable performance and a commitment to improve are more likely if employees follow the next common-sense coaching strategy throughout their workplace.

Deliver More Supportive than Corrective Feedback. Question: If your boss or work supervisor asks you to come to his/her office for some "feedback," how do you feel? Do you feel good, anticipating some positive recognition for certain notable behavior, or do you expect a reprimand for undesirable behavior? Answers to these questions likely attest to an unfortunate negative connotation of the term "feedback." Managers typically give more corrective than supportive feedback.

"We learn more from our mistakes." How many times have you heard this? That statement might allow people to feel better about the errors of their ways and provide an excuse for paying more attention to failures than successes, but nothing could be further from the truth. Behavioral scientists have shown convincingly that success – not failure – produces the most effective learning (→Chance, 2008; →Reed et al., 2016; →Thorndike, 1931).

Supportive behavioral feedback not only maintains or increases occurrences of the desirable (e.g., safe) behavior that is recognized; it also promotes a positive mindset or disposition that can fuel optimism and self-motivation. Optimists respond to setbacks in a positive and adaptive manner and are willing to accept challenges, as opposed to evading demanding tasks in order to avoid failure (→Seligman, 1991). →Geller (2015, →2020a) refers to these individuals as "success seekers," as opposed to "failure avoiders" who have a low expectancy for success and a high fear of failure.

Failure avoiders often set low expectations and then use defensive pessimism (→Covington, 1992) to shield themselves from experiencing failure. These individuals are motivated, but they are not happy campers. They are the students who say, "I've *got* to go to class, it's a requirement," rather than, "I *get* to go to class, it's an opportunity."

Please note that success seeking and failure avoiding are dispositional *states* and not *traits*. Numerous situations in the workplace – from interpersonal conversations and accountability systems to management styles – can affect an unpleasant failure-avoiding disposition. For example, how do most organizations keep score with regard to safety excellence? Is it all about the total recordable injury rate (TRIR) and the number of OSHA violations, or do supervisor-led work teams discuss safety-related achievements like: a) the number of hazards removed and close calls analyzed; b) the percentage of employees who have delivered and received BBS coaching; and c) the frequency of interpersonal supportive and corrective feedback conversations per week?

Indeed, many factors determine whether a work culture promotes a success-seeking or a failure-avoiding mindset with regard to OHS. Consider the value of identifying the factors in a work culture that influence safety-related perceptions of success seeking versus failure avoiding. Frank and open interpersonal conversation can make such an assessment possible, but only when the next coaching lesson is followed consistently.

2.3.1 Communicate with empathy

“Seek first to understand before being understood.” This profound quotation from Stephen R. →Covey (1989) reflects a most important concept to understand and practice in order to achieve a level of interpersonal discourse most likely to benefit human well-being. Whether the topic is empathic coaching, empathic listening, empathic discipline, or empathic leadership, the focus is on the other person’s feelings, needs, and/or perceptions (→Rogers, 1961). When conversations begin with this mindset, coaching can be customized to fit the other person’s perspective and be most successful at improving behavior.

When observing another individual’s behavior, it is critical to consider the context and circumstances from that person’s perspective. Maintaining the mindset that there is more than one side to every story often results in people finding another person’s perspective to be very different from their own. In addition, when individuals listen with empathy to the rationale (or excuses) for a contrary opinion or behavior, they might gain appreciation for the diversity displayed, which in turn enhances mutual respect and an AC4P perspective.

Make it One-on-One. “Praise publicly and reprimand privately.” Does that popular slogan sound like good common sense? Do most people want to be praised publicly most of the time? Not necessarily, because some people feel embarrassed when singled out in front of a group. Part of this embarrassment could be fear of subsequent harassment by peers. Certainly, people who deliver public recognition believe the experience will be special and positive for the recipient of the praise. In this case, the deliverer of public praise would probably prefer to receive such recognition in a public setting. This is an example of the Golden Rule – “Treat others the way you want to be treated.” However, some individuals might dislike receiving public recognition from teachers, coaches, work supervisors, or public officials. That situation discredits the Golden Rule, at least to some extent.

The Platinum Rule. Better than the Golden Rule is the Platinum Rule: “Treat others the way they want to be treated” (→Alessandra & O’Connor, 1998). Before administering a particular “treatment” or intervention (e.g., a recognition ceremony, intervention technique, or disciplinary policy), an intervention agent should solicit suggestions and opinions from those who will be affected by the intervention.

Considering another person’s perspective with empathy enhances the perception of personal choice. In order to treat others the way *they* want to be treated, effective intervention agents solicit their opinions, or perhaps give them a choice between alternative interventions, policies, or behavior-management techniques. Implementing the Platinum Rule facilitates the perception of choice among those “treated” and fuels self-motivation. As W. Edwards →Deming (1991) taught us years ago, “People support that which they helped to create.” Solicit intervention suggestions from the target individual(s) and you will enhance both the relevance and the impact of the intervention.

However, the Platinum Rule does have its limits, especially when considering OHS. Safe operating procedures (SOPs) need to be followed on the job, on the road, and at home. Without required SOPs, many workers would take at-risk shortcuts, and some would drive their vehicles at speeds way over the posted speed limit. Empathic listeners

must strategically disallow those behavioral options that are illegal, antisocial, or put people at risk of harming themselves or others.

2.3.2 Summary of OHS coaching

This section reviewed some critical research-based principles from psychological science regarding the implementation of interpersonal coaching for safety success. First, behavior-based coaching was defined with the letters of COACH – Care, Observe, Analyze, Communicate, and Help. Then a most important but often overlooked component of BBS was explained – interpersonal behavioral feedback. While supportive feedback should be direct, corrective feedback needs to be nondirective and offered with an empathic mindset. The delivery of more supportive than corrective feedback for safety-related behavior can contribute to a success-seeking safety culture, and thereby increase employees' optimism, empowerment, and self-motivation to keep each other injury-free. Although it is neither easy nor efficient to achieve an empathic level of awareness and appreciation, empathic listening is key to coaching others on behalf of their well-being.

2.4 Humanistic behaviorism

Readers who have experienced an introductory psychology course undoubtedly have heard of both behaviorism, made popular by B.F. Skinner (→Skinner, 1953, →1974) and humanism, developed by Carl →Rogers (1961, →1980). It is likely readers have heard the introductions to these philosophies and approaches to psychotherapy as opposing, even competing, perspectives. This author claims that these intervention approaches can be mutually complementary and supportive.

The humanist's clinical approach is nondirective. The humanistic therapist does more listening than directing. In contrast, behavioral therapists are directive. They define behavioral consequences to change in order to increase the frequency of desirable behavior and/or decrease occurrences of undesirable behavior. Although several eminent researchers and scholars have promoted a combination of concepts from humanism and behaviorism in the early 1970's (e.g., Day, 1971; Dinwiddie, 1975; →Hosford & Zimmer, 1972; →Kanfer & Phillips, 1970; →Lazarus, 1971; →MacCorquodale, 1971; →Thorensen, 1972), this strategic and synergistic integration for more effective intervention has received limited attention and consideration, especially for improving human behavior beyond the clinic. Indeed, few – if any – students in introductory psychology classes read or hear the term "humanistic behaviorism."

I propose that the application of select principles from humanism can optimize the injury-prevention impact of the essential intervention process of BBS – peer-to-peer observation and feedback. In fact, many safety leaders who have applied an effective BBS-coaching process have likely used some of these principles, perhaps without realizing they were practicing humanism. In particular, the following five critical principles of humanistic therapy can provide positive support for BBS.

2.4.1 Treat people as individuals

Humanistic psychologists adhere to a philosophy of phenomenology, meaning everyone experiences his or her surroundings differently. People view their life space from their own personal vantage point; it is impossible and inappropriate to interpret another person's experience. The only way to understand an ongoing interaction with another person and his/her current circumstances is to ask questions and listen actively and openly without personal judgment or interpretation. Although it is natural to relate one's own experiences to another person's story and draw parallels for mutual understanding and advice, humanists actively avoid such personal interpretation. They realize their own idiosyncratic perceptions could bias an analysis and/or appreciation of the storyteller's perspective.

Note how this idiographic or phenomenological approach contradicts many everyday attempts to explain the behavior of others, as when analyzing the contributing factors to a workplace injury. The common therapy or counseling technique of interpreting an individual's emotional conflict or person-state with reference to a particular theory or construct is opposite to this humanistic approach. Similarly, generalizing and not treating people as individuals results in stereotyping – evaluations are influenced by a person's status in a particular identifiable group, such as "supervisor," "safety professional," "student," "patient," "line worker," "union representative," "athlete," or "homeless person." Each label activates a particular image and various characteristics. The general label we give people influences how we view them, judge them, and react to conversations with them (→Judd, Ryan, & Park, 1991). When we pre-judge people on such generalizations, we are practicing prejudice or bigotry.

Efforts to combat prejudice focus on teaching people that they should consider everyone equal and stop categorizing them – stop "discriminating." Ellen →Langer (1989) advocates another approach to discrimination. Categorizing people and things according to discernible characteristics is a natural learning process; it is how we come to know and understand people and their surroundings. The key to reducing stereotyping and prejudice is to make more, not fewer, distinctions between people, as humanists advocate. When people become more attentive to the numerous differences between individuals and understand how those differences vary according to the environmental or interpersonal context, it becomes increasingly difficult to generalize across individuals and put them in generic categories. Thus, the appropriate directive is, "Stop generalizing."

2.4.2 Listen with empathy

It is neither easy nor commonplace to adhere to the idiographic approach of humanism, especially in our fast-paced society of "getting things done as efficiently as possible." Who has the time to listen intently to every individual's personal story before making a decision? Combine this time-urgency mindset with contemporary digital communication, and this humanistic approach to improving human well-being becomes even more challenging. Humanists set a high bar for understanding and helping others,

especially among individuals in a work setting with limited time and opportunity for the level of interpersonal conversation alluded to here. Naturally, a high level of humanistic relationship-building is essential and common among family members, and perhaps with select individuals in a work setting. Indeed, any attempt to approximate this humanistic approach with colleagues on a work team would certainly benefit everyone's safety and health.

Managers, supervisors, or safety professionals do not hand down the CBC used in BBS to observe and record safe and at-risk behavior. No, a team of workers on a particular job develops the CBC. When the job and/or the environmental setting changes, these employees modify the CBC following open and candid interpersonal communication with their work team. This is empathy in action. Similarly, when humanistic coworkers, safety professionals, and supervisors give an employee corrective feedback for observed at-risk behavior, they practice empathy. They do not begin with behavior-change directives; instead, they ask questions to understand the rationale for the at-risk behavior and to learn if features of the situation could be altered to facilitate occurrences of the safe alternative.

2.4.3 Cultivate self-accountability

Rather than telling employees what safe behavior should replace an observed at-risk behavior, humanistic observers ask the workers what they could do to reduce the probability of an injury and set the safe example for others. Similarly, after identifying a work problem, humanistic supervisors do not specify a resolution. Instead, they challenge the relevant employees to discuss possible solutions and propose an action plan. As every reader has experienced, ownership and self-accountability happen when individuals perceive some personal autonomy and receive respect and appreciation for their competence to collaborate with peers to address an issue.

This common-sense strategy for facilitating self-accountability or self-directed behavior is founded on the humanistic theory of self-determinism (Deci, 1975; →Deci & Ryan, 1995). In particular, perceptions of autonomy (or choice), competence, and relatedness (or community) enhance self-accountability. Self-accountability or self-motivation is critical for lone workers who have no one but themselves and their self-talk to activate and support safe behavior. Without self-accountability for safety, individuals working alone are apt to take risky short cuts and avoid using PPE – the more comfortable and convenient behavioral choices.

2.4.4 Pay attention to intention

Humanists focus more on people's intentions than their behaviors. Suppose you observe two male college students pushing and shoving each other in a university parking lot after a football game. What label would you associate with that behavior? A behaviorist would likely call the altercation "aggression" because the interpersonal behavior typifies physical conflict. The humanist, however, might interpret that

observation differently, claiming one should not label such behavior “aggression” without considering the *intentions* of both participants.

What if the behaviors observed reflect a friendly physical exchange, as in “horseplay?” Suppose the congenial pushing and shoving changes to unfriendly physical conflict, perhaps because a “friendly” push causes some pain or discomfort to the recipient. The interpersonal behavior is similar, but intentions have changed. While the behaviorist would maintain the label of “aggression,” the humanist would account for intention and change the behavioral label from “horseplay” to “aggression.” How does this apply to safety?

As reviewed earlier, the observation-and-feedback process of BBS includes the recording of a coworker’s safe and at-risk behavior on a CBC. After completing a CBC, the observer should conduct a brief behavioral feedback session with the worker observed and review the CBC results – the frequency of safe and at-risk behavior. As indicated earlier, BBS observers often overlook this critical interpersonal-feedback component of interpersonal coaching, or they handle it ineffectively. Why are peer-to-peer discussions of the CBC results unpopular? As you know, these conversations take time and can feel awkward, especially if the observer had recorded one or more at-risk behaviors.

How do you tell coworkers they have been working unsafely and are increasing the probability of a serious injury? Beyond the nondirective approach to giving corrective feedback explained earlier, consider the utility of discussing “intentions” as a way to increase occurrences of informative interpersonal BBS feedback sessions. Observers typically interpret the behavior they perceive from their own experience. However, only the performers themselves can provide an accurate explanation for their behavior – their intentions. Could the interpersonal conversation about safe and at-risk behavior be more influential than only showing which columns the observer checked on the CBC of a BBS observation-and-feedback process?

Consider the value of discussing a person’s intentions for performing safe or at-risk behavior. Of course, the intention or rationale for working safely is obvious – to prevent an injury. Still, verbalizing this intention could actually increase the frequency of safe behavior, especially among lone workers. Such overt verbal behavior can influence relevant cognition or self-talk, perhaps shifting habitual behavior (“unconscious competence”) to mindful fluency (“conscious competence”).

The advantage of focusing on intention is greatest for conversations about at-risk behavior. An open discussion of such intentions could reveal injury-prevention factors (e.g., management and peer influence, environmental context, and reward/penalty contingencies), as well as dispositional person-states (e.g., attitude, cognition, or fatigue) that could have influenced the occurrence of at-risk behavior – “I intended to follow the SOP, but … .” Some of the factors revealed in a feedback conversation about intention could decrease the probability of an error or an injury, if these factors were modified accordingly.

It is likely the quantity and quality of interpersonal conversations about CBC results will increase if the focus is not on “observing and recording occurrences of safe and at-risk behavior,” but on “increasing safety-related mindfulness and discovering factors

that might influence some workers to perform at-risk behavior." The CBC would be used to observe and record behavioral data recorded as usual. However, by openly discussing intentions, participants are likely to reveal situational and dispositional determinants of their safe and at-risk behavior. Rhetorical question: Could this mindset or expectancy enhance the acceptance, applicability, and accuracy of CBC results, and increase the frequency of beneficial post-observation conversations?

2.4.5 Appreciate Maslow's hierarchy of needs

Every reader who has taken a course on human motivation has heard about this approach to understanding variations in human motives, created by humanist Abraham →Maslow (1970). Categories of needs are arranged hierarchically, and it is presumed that people do not attempt to satisfy needs at one level until their needs at the lower levels are satisfied to some degree.

First, we are motivated to fulfill our physiological needs – basic survival requirements for food, water, shelter, and sleep. After these needs are under control, people are motivated by the desire to feel secure and safe from potential dangers. Next are the social-acceptance needs – to have friends and feel a sense of belonging. When these needs are gratified, human motivation focuses on self-esteem – earning self-respect and feeling worthwhile.

After enjoying a boost in self-esteem, people presumably reach the top of this need hierarchy – self-actualization, or the realization of achieving one's full potential. While many have learned that self-actualization is atop this need hierarchy, Maslow revised this hierarchy near the end of his life by placing another ultimate achievement at the top: self-transcendence (→Maslow, 1971). As depicted in →Figure 2.1, we are the best we can be when we reach beyond our self-interests and contribute to the needs of others. That is exactly what safety leaders do on a daily basis. They intervene whenever possible to keep others safe from personal injury. How satisfying for employees to realize that they reach the top of Maslow's Hierarchy of Needs every time they act on behalf of another person's safety. Moreover, doing this helps to satisfy their lower-level needs that never get completely satiated – social acceptance, self-esteem, and self-actualization. Consider this: Achieving self-transcendence is the ultimate outcome and is self-reinforcing because it naturally satisfies other higher-level needs. The more people who teach and experience the reciprocal positive effects of self-transcendent behavior, the closer we come to an AC4P culture.

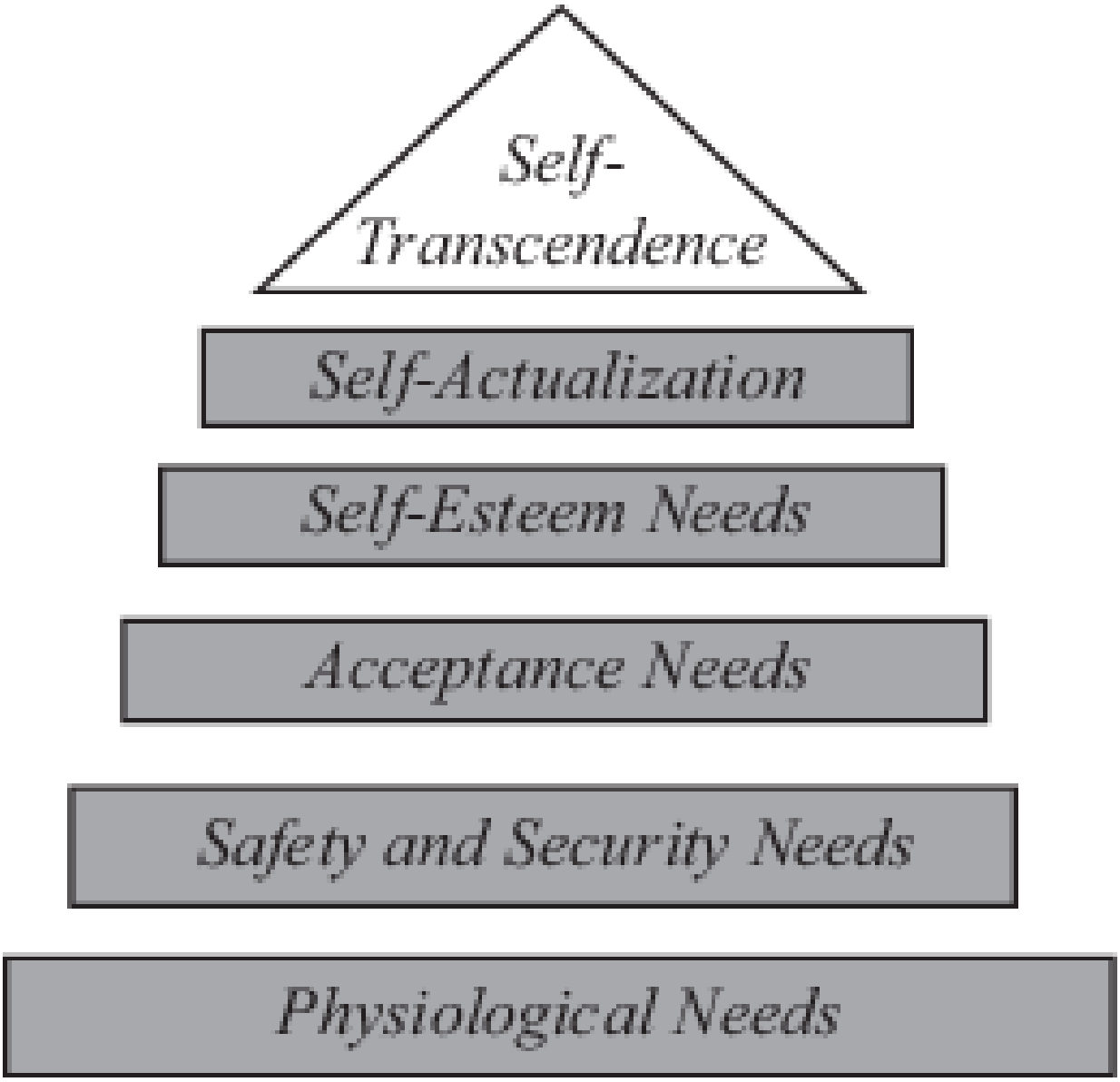

Figure 2.1: Maslow's revised Hierarchy of Needs.

2.4.6 Summary of humanistic behaviorism

Consulting firms have used a variety of labels to market programs designed to address the human dynamics of OHS, and these labels influence the nature of the intervention approach. For example, I used the term behavior-based safety (BBS) in 1979 when developing and evaluating intervention strategies to increase the use of vehicle safety belts among the employees of Ford Motor Company (→Geller, 1979). That safety intervention approach was among the first to put employees in control of implementing and evaluating techniques to increase occurrences of safe behavior and reduce the frequency of at-risk behavior. One of those techniques was peer-to-peer behavior-focused observation and feedback. After several consulting firms marketed this

approach for preventing workplace injuries on a large scale, BBS quickly became a worldwide intervention strategy for OHS.

After noting that most applications of BBS focused exclusively on employees' behavior, I made the case for another label: people-based safety, or PBS (→Geller, 2005, →2008). PBS implicates consideration of more than behavior when designing and implementing a procedure to address the human dynamics of OHS. Several organizations, as well as the worldwide consulting and training practices of Safety Performance Solutions, Inc., have called their observation-and-feedback process PBS rather than BBS to emphasize that their interventions influence more than employees' behavior.

Here I offered yet another label for a similar injury-prevention process – humanistic behaviorism, or actively (behavior) caring (humanism) for people (AC4P). To demonstrate a reasonable connection between humanism and behaviorism, I identified five basic assumptions of humanism to consider when addressing the human side of safety, particularly the delivery of behavior-based feedback. Incorporating these assumptions into a peer-to-peer observation-and-feedback process would not alter the development and application of a CBC to observe and record occurrences of safe and at-risk behavior. However, adopting certain assumptions of humanism – particularly empathic listening, attention to intention, and the determinants of self-accountability or self-motivation – would benefit the crucial interpersonal feedback process of BBS coaching. In fact, a humanistic mindset would increase both the quantity and the quality of post-observation discussions of safe versus at-risk behavior. Such interpersonal conversations would reveal invaluable information for understanding occurrences of at-risk behavior and modifying environmental and management-system factors relevant for preventing human error and workplace injuries.

2.5 Cultivating a total safety culture

How can an organization achieve and sustain an injury-free workplace? Answer: "Cultivate and sustain a safety culture." That is the most popular quick-fix response offered for this critical question. Indeed, "safety culture" is often given as the ultimate outcome or vision of a large-scale safety-improvement process. Practically every presentation that addresses the prevention and/or the reduction of workplace injuries on a large scale refers to "culture change," or the achievement of a "safety culture." I introduced the vision of a Total Safety Culture (TSC) 25 years ago in my first book on the psychological science of safety (→Geller, 1996), and this TSC label is used here. The challenge of achieving and maintaining a TSC is addressed in this final section.

2.5.1 A total safety culture

The American Heritage Dictionary (2016) defines culture as "the attitudes, feelings, values, and behavior that categorize and inform society as a whole or any social group within it" (p. 348). Individuals in a TSC activate and support injury prevention by their routine behavior – from interpersonal conversations to active participation in safety-

related interventions. With such safety-supportive behavior and related self-talk, they shift safety from a priority to a value – from a “safety-now” mindset influenced by current contextual demands to a “safety-always” mindset impervious to shifting priorities.

This paradigm shift to a TSC is easier said than done. In fact, each section of this chapter explained evidence-based safety directives for safety leaders to implement on a regular basis in order to achieve and sustain a TSC in which employees are continually engaged in practicing the behaviors needed to achieve and maintain an injury-free workplace. More specifically, safety leaders consider the complexity of human nature and then practice humanistic behaviorism in order to: a) motivate safety-related behavior with extrinsic and intrinsic consequences; b) promote and support self-accountability for injury prevention; and c) deliver behavior-based supportive and corrective feedback to coworkers. Let’s consider a few basic qualities of a TSC, achievable with a few practical strategies. The mission: to make safe behavior the norm – the behavior expected from everyone within a safety-supportive context.

2.5.2 Descriptive vs. injunctive norms

People gain information by observing the behavior of others, and they are particularly observant of the behavior of others when they are in an unfamiliar setting. We watch what others are doing and saying in order to fit in. That is the power of observational learning or social proof as labeled by Robert →Cialdini (2001). This is considered normative influence, and it defines a social norm. Social norms are injunctive or descriptive. An injunctive norm defines socially desirable behavior, or what people “ought to do.” Safe behavior is obviously injunctive, as is behavior that exemplifies AC4P. A descriptive norm is the commonly-observed behavior of people in an organization or within a particular context. Injunctive norms are not necessarily descriptive, and descriptive norms are not necessarily injunctive. In a TSC, safe behavior is both descriptive and injunctive.

It is noteworthy that a descriptive norm can activate an injunctive norm. For example, guests at a hotel were most likely to reuse their towels to conserve energy when the message that requested them to hang up their used towels for reuse included the descriptive message that the prior guests who had stayed in that same room reused their towels (→Goldstein, Cialdini, & Griskevicius, 2008). Thus, safety leaders can influence more occurrences of a particular safe behavior by informing employees that their coworkers consistently perform that behavior (e.g., “Your work team always locks out the power before adjusting that energized equipment.”). Of course, such social-influence statements are true in a TSC where descriptive safety norms are injunctive, and vice versa.

2.5.3 Set the safe example

Observational learning is the most basic norm-influencing process of psychological science. If you want to be better at what you do, watch someone who performs that

task better than you do. The power of observational learning is obvious; a large body of psychological research indicates that this type of learning is part of almost everything we do (→Bandura, 1969). People's actions are the result of observational learning whenever they do something in a particular way. They had seen somebody else do it that way, or someone had shown them how to do it that way, or characters on television or in a video game did it that way.

Employees learn numerous patterns of job behaviors by watching their coworkers. When they see a coworker receive positive recognition for a certain behavior, they are more likely to perform that behavior. This behavioral influence is termed vicarious reinforcement (→Bandura, 1969). At the same time, when employees observe others receive a negative consequence for performing certain work behavior, they learn to avoid or stop that behavior. →Bandura (1969) referred to this behavioral influence as vicarious punishment.

The occurrence of safe behavior (e.g., using PPE and fall protection) encourages similar behavior by observers, and the concomitant verbal behavior can be influential. If a worker observes a supervisor commending or reprimanding another worker for his or her safe or at-risk behavior respectively, the observer might be influenced to increase his or her performance of safe behavior through vicarious reinforcement or to decrease the frequency of an at-risk behavior through vicarious punishment.

Bottom line: To make safe behavior the norm – rather than the exception – employees in a TSC set the safe example both in their own practices and in their communication with others. You never know when someone is observing and learning from your behavior. Employees who truly believe in a TSC attempt to consistently walk the safety talk, and vice versa.

2.5.4 Provide behavioral support

What efficient and effective behavior could employees perform on a regular basis to activate and support a TSC? Answer: Offer sincere, one-to-one praise or gratitude for observed behavior that reflects a TSC. Both research and common sense demonstrate the benefits of pinpointing desirable behaviors and recognizing those behaviors appropriately with supportive feedback. The result: Occurrences of the recognized safe behavior might increase, but the person's perception of personal competence and self-motivation will surely be enhanced. Behavioral praise not only enhances self-esteem; it also fuels a perception of competence at performing certain desirable behaviors. Psychologists call this self-efficacy (→Bandura, 1997), and this person-state is key to being self-motivated and feeling empowered (→Geller, 2016).

2.5.5 Verbalize sincere gratitude

Substantial research indicates that gratitude – the person-state of feeling grateful – significantly increases subjective well-being (SWB) or life satisfaction (e.g., Emmons & Crumpler, 2000; →Wood, Froh, & Geraghty, 2010). More specifically, gratitude has been shown to enhance positive emotions and activate a sense of interpersonal belonging,

while decreasing distress and depression (→Emmons, 2007; →Emmons & McCullough, 2003). In fact, people are more likely to help others – perform AC4P behavior – when they feel grateful (→Emmons & Mishra, 2011).

How can we increase perceptions of gratitude and experience the beneficial side-effect of this person-state? Offer a sincere statement of personal recognition and appreciation for another individual's AC4P behavior. Indeed, when you thank someone for the performance of safety-related behavior, you are expressing gratitude for the support of a TSC – "Your PPE use on that job is perfect, and reflects a Total Safety Culture. Thank you so much for setting the safe and healthy example for others." Please note that expressing gratitude for another person's effort to keep others safe reflects the achievement of self-transcendence – the top of Maslow's Hierarchy of Needs.

2.5.6 A reciprocal benefit

When one person thanks another for AC4P behavior observed, who experiences a boost in subjective well-being (SWB)? Obviously, the individual receiving the recognition appreciates the positive interpersonal exchange and likely experiences an increase in SWB, competence, and self-motivation, and feels a positive connection with the benefactor – the person who expressed safety-related gratitude. How does the expression of gratitude affect the benefactor? Most readers know the answer because they have been there, and have experienced the reality of the expression, "It's better to give than to receive."

Giving recognition or showing appreciation enhances the person-state of gratitude and therefore SWB. For example, seminal research by Martin Seligman – the initiator of the positive psychology movement in 1998 – and his colleagues demonstrated a most powerful way to increase personal gratitude and SWB: Write someone a thank-you letter and later read it to that person (→Seligman, Steen, Park, & Peterson, 2005).

2.5.7 Solicit safety suggestions

Given the numerous factors that influence the human dynamics of an organizational culture, a mission to develop and nurture a TSC can feel overwhelming, and elicit detrimental distress rather than beneficial stress. What behavior would you choose to promote and support at your workplace to enable the achievement of a TSC, and contribute to making safety-related behavior a descriptive norm? A group discussion of various answers to this crucial question would likely be interesting, informative, and inspirational. My answer to this question: Solicit daily submissions of safety-improvement suggestions from line workers.

Who knows better how to make a workplace safer than those employees on the front line? Almost every day these workers perceive a safety hazard, experience close calls directly or indirectly, observe at-risk behavior, and periodically envision ways to make a job safer. How often do these line workers translate their safety-related experiences into a suggestion for improving safety management and cultivating a TSC? Does your workplace have a "safety-suggestion box" in which employees can place

safety suggestions anonymously? If so, how many safety suggestions are received daily, and what percentage of those suggestions result in a beneficial change in the environment, safety-related policy, or the safety-management system? To what extent would such descriptive statistics indicate whether the organization has achieved a TSC?

Given email and text messaging, employers might consider a safety-suggestion box unnecessary today. However, anonymity can be difficult with digital communication, and there could be an advantage to having a visible safety-suggestion box on the "shop floor," with an opportunity to offer immediate on-the-job comments. However, for a safety-suggestion system to work effectively, someone needs to provide soon and certain feedback for every suggestion – if only to express gratitude for a suggestion that cannot be implemented for a specified rationale.

2.6 Conclusion

This final section on applications of psychological science to achieve and sustain an injury-free workplace considered the most popular "buzz word" among both safety professionals and consultants: "culture." Each section of this chapter is relevant for addressing the critical human dynamics of cultivating a Total Safety Culture – from appreciating the complexity of humans to applying humanistic behaviorism I order to assess the role of human behavior in risk taking, injury occurrence, and injury prevention, and to improve human behavior with interpersonal coaching.

This last section supplemented these safety-improvement techniques by explaining and illustrating the need to: a) recognize the powerful influence of observational learning and consistently set safe examples for others; b) provide routine support for coworkers' safe behavior by delivering sincere appreciation and gratitude for their AC4P behavior; c) promote and support a safety-suggestion system whereby employees submit suggestions that could decrease the frequency of injuries by changing environmental, management-system, and/or behavioral factors; and d) implement a safety-suggestion system that provides soon and certain feedback per each suggestion received, and apply those that are feasible and injury-preventive.

In summary, the key to cultivating and sustaining a TSC is comprehensive employee engagement – all employees applying their on-the-job experience to identify ways to make behavior and its context safer. This includes setting safe examples daily through their own work behavior, as well as supporting the safe behavior of their coworkers with interpersonal humanistic behavioral coaching and expressions of sincere gratitude for their AC4P efforts. In a TSC, behavior that promotes and supports safety, health, and AC4P is a descriptive norm.

References

Alessandra, T., & O'Connor, M. S. (1998). *The Platinum Rule: Discover the four business personalities and how they can lead you to success*. New York: Warner Business Books. →

American Heritage Dictionary (1985). Second College Edition. Boston, MA: Houghton Mifflin Company.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman. →

Bandura, A. (1969). *Principles of behavior modification*. New York: Holt, Reinhold, & Winston. a, b, c

Beck, A.T. (1993). Cognitive therapy: Past, present, and future. *Journal of Consulting and Clinical Psychology*, *61* (2), 194–198. https://doi.org/10.1037/0022-006X.61.2.194 →

Beck, A. T. (1976). *Cognitive therapy and the emotional disorders*. New York: International Universities Press. →

Chance, P. (2008). *The teacher's craft: The 10 essential skills of effective teaching*. Long Grove, IL: Waveland Press, Inc. →

Cialdini, R. B. (2001). *Influence: Science and practice* (6th Edition). Boston: Pearson. →

Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin*, *98*, 310–357. https://doi.org/10.1037/0033-2909.98.2.310 →

Covey, S.R. (1989). *The seven habits of highly effective people: Restoring the character ethic*. New York: Simon and Schuster, Inc. →

Covington, M. V. (1992). *Making the grade: A self-worth perspective on motivation and school reform*. New York: Cambridge University. →

Cumming, J., & Williams, S. E. (2012). Imagery: The role of imagery in performance. In S. Murphy (Ed.), *Handbook of sport and performance psychology* (pp. 213–232). New York: Oxford University Press. →

Day, W. F. (1971). Humanistic psychology and contemporary behaviorism. *The Humanist*, *31*, 13–16. https://www.proquest.com/docview/1290464613

Deci, E. L. (1975). *Intrinsic motivation*. New York: Plenum.

Deci, E.L., & Flaste, R. (1995). *Why we do what we do: Understanding self-motivation*. New York: Penguin Book. →

Deming, W. E. (1991, May). Quality, productivity, and competitive position. Four-day workshop presented in Cincinnati, Ohio by Quality Enhancement Seminars, Inc. →

Dinwiddie, F. W. (1975). Humanistic behaviorism: A model for rapprochement in residential treatment milieus. *Child Psychiatry and Human Development*, *5*(4), 254–259. →https://doi.org/10.1007/bf01433419

Emmons, R. A. (2007). Gratitude, subjective well-being, and the brain. In R.J. Larsen and M. E. (Eds.), *The science of subjective well-being*. New York: The Guilford Press. https://doi.org/10.1037/0022-3514.84.2.377 →

Emmons, R. A., & Crumpler, C. A. (2000). Gratitude as a human strength: Appraising the evidence. *Journal of Social and Clinical Psychology*, *19*(1), 56–69. https://doi.org/10.1521/jscp.2000.19.1.56

Emmons, R. A., & McCullough, M. E. (2003). Counting blessings versus burdens: Experimental studies of gratitude and subjective well-being in daily life. *Journal of*

Personality and Social Psychology, *84*, 377–389. https://doi.org/10.1037/0022-3514.84.2.377 →

Emmons, R. A., & Mishra, A. (2011). Why gratitude enhances well-being: What we know, what we need to know. In K. M. Sheldon, T. B. Kashdan, and M. F. Steger (Eds.), *Series in positive psychology. Designing positive psychology: Taking stock and moving forward* (pp. 248–262). New York: Oxford University Press. →

Geller, E. S., (1979). *Behavior-based safety to increase the use of vehicle safety belts*. Detroit, MI: Ford Motor Company. →

Geller, E. S. (1996). *The psychology of safety: How to improve behaviors and attitudes on the job*. Boca Raton, FL: CRC press, LLC. →

Geller, E.S. (2001). *The psychology of safety handbook*. Boca Raton, FL: CRC Press. →

Geller, E. S. (2005). *People-based safety: The source*. Virginia Beach, VA: Coastal Training and Technologies Corporation. →

Geller, E.S. (2008). *Leading people-based safety: Enriching your culture*. Virginia Beach, VA: Coastal Training and Technologies Corporation. →

Geller, E.S. (2015). Seven life lessons from humanistic behaviorism: How to bring the best out of yourself and others. *Journal of Organizational Behavior Management*, *35*(1), 151–170. https://doi.org/10.1080/01608061.2015.1031427geler, a, b

Geller, E.S. (2016). The psychology of self-motivation. In E.S. Geller. (Ed.), *Applied psychology: Actively caring for people* (pp.83–118). New York: Cambridge University Press. →

Geller, E. S. (2020a). *Life lessons from psychological science: Understanding and improving interpersonal dynamics*. San Diego, CA: Cognella Academic Publishing. a, b

Geller, E. S. (2020b). Manage behavior and lead people with humanistic behaviorism. In A. Sharman (Ed.), *One percent safer: The secrets to achieving excellence from the world's finest thinkers* (pp. 82–83.) South Wales, Great Britain: Maverick Eagle Press. →

Geller, E.S., & Geller, K.S. (2017). *Actively caring for people's safety: Cultivating a brother's/sister's keeper culture*. Park Ridge, IL: The American Society of Safety Professionals.

Geller, E. S., & Geller, K. S. (2021). *The human dynamics of achieving an injury-free workplace: Safety directives from psychological science*. Newport, VA: GellerAC4P, Inc.

Goldstein, N.J., Cialdini, R.B., & Griskevicius, V. (2008). A room with a viewpoint: Using social norms to motivate environmental conservation in hotels. *Journal of Consumer Research*, *35* (3), 472–482. https://doi.org/10.1086/586910 →

Hosford, R.E., & Zimmer, J. (1972). Humanism through behaviorism. *Counseling and Values*, *16*, p. 1–7. https://doi.org/10.1002/j.2164-5183.1972.tb00137.x →

Isen, A. M. (1987). Positive affect, cognitive processes and social behavior. *Advances in Experimental Social Psychology*, *20*, 203–253. →https://doi.org/10.1016/S0065-2601(08)60415-3 →

Judd, C. M., Ryan, C. N., & Park, B. (1991). Accuracy in the judgment of in-group and out-group variability. *Journal of Personality and Social Psychology*, *61*, 745–755. DOI:10.1037/0022-3514.61.3.366 →

Kanfer, F.H., & Phillips, J.S. (1970). *Learning foundations of behavior therapy*. New York: Wiley. →

Langer, E. J. (1989). *Mindfulness*. Reading, MA: Addison-Wesley. →

Lazarus, A. A. (1971). *Behavior therapy and beyond*. New York: McGraw-Hill. →

Lazarus, A. A. (1976). *Multimodal behavior therapy*. New York: Springer.

Maslow, A. H. (1970). *Motivation and personality* (2nd Edition). New York: Harper & Row. →

Maslow, A. H. (1971). *The farther reaches of human nature*. New York: Viking Press. →

MacCorquodale, K. (1971). Behaviorism is a humanism. *The Humanist*, *31*, p. 12–13. →https://doi.org/10.1037/0003-066X.60.5.410 →

Reed, D. et al. (2016). Actively caring for higher education. In E.S. Geller (Ed.), *Applied psychology: Actively caring for people* (pp. 563–593). New York: Cambridge University Press. →

Rogers, C. R. (1961). *On becoming a person: A therapist's view of psychotherapy*. Boston, MA: Houghton Mifflin. a, b

Rogers, C. R. (1980). *A way of being*. Boston, MA: Houghton Mifflin. →

Seligman, M. E. P. (1991). *Learned optimism*. New York: Doubleday/Currency. →

Seligman, M.E.P., Steen, T.A., Park, N., & Peterson, C. (2005). Positive psychology progress: Empirical validation of interventions. *American Psychologist*, *60* (5), 410–421. →https://doi.org/10.1037/0003-066X.60.5.410 →

Skinner, B.F. (1974). *About behaviorism*. New York: Alfred A. Knopf. →

Skinner, B.F. (1978). *Reflection on behaviorism and society* (pp. 9–10). Englewood, NJ: Prentice Hall.

Skinner, B. F. (1953). *Science and human behavior*. New York: Macmillan. →

Sulzer-Azaroff, B., & Austin, J. (2000). Does BBS work? Behavior-based safety and injury reduction: A survey of the evidence. *Professional Safety*, *45*, 19–24. →https://www.researchgate.net/publication/284306561 →

Thoresen, C. E. (1972). *Behavioral humanism*. Research and Development Memorandum No. 88, April, Stanford, CA: School of Education, Stanford University. →https://eric.ed.gov/?id=ED064253 →

Thorndike, E.L. (1931). *Human learning*. Cambridge, MA: MIT Press. →

Tod, D., Hardy, J., & Oliver, E. (2011). Effects of self-talk: A systematic review. *Journal of Sport & Exercise Psychology*, *33*, 666–687. DOI: https://doi.org/10.1123/jsep.33.5.666 →

Wakefield, C., & Smith, D. (2012) Perfecting practice: Applying the PETTLEP model of motor imagery. *Journal of Sport Psychology in Action*, *3* (1), 1–11. DOI: 10.1080/21520704.2011.639853 →

Wood, A. M., Froh, J. J, & Geraghty, A.W.A. (2010). Gratitude and well-being: A review and theoretical integration. *Clinical Psychology Review*, *30* (7), 890–905. →https://doi.org/10.1016/j.cpr.2010.03.005 →

Young, F. W., & Glasgow, N. (1998). Voluntary social participation and health. *Research on Aging, 20*, 339–362. →https://doi.org/10.1177%2F0164027598203004 →

3 To call or not to call: An analysis of whether, when, and how to hold after action reviews

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3.1 Introduction

After Action Reviews (AARs) are post-event reviews designed specifically for the purpose of improving team performance through learning (→Allen, Reiter-Palmon, Crowe, & Scott, 2018; →Smith-Jentsch, Cannon-Bowers, Tannenbaum, & Salas, 2008; →Villado & Arthur, 2013). Recent studies have identified a positive association between both the quality and frequency of AARs and the safety climate of groups/organizations (→Allen, Baran, & Scott, 2010; →Dunn, Scott, Bonilla & Allen, 2014). A recent meta-analysis concluded that first-responder teams that regularly conduct AARs outperform teams that do not, estimating that well-conducted AARs can improve team performance by 20–25% (→Tannenbaum & Cerasoli, 2013).

While some research on best practices for implementing AARs in organizations among first responders do exist (e.g., →Goralnick et al., 2015), minimal descriptive or prescriptive research has been conducted on AARs from the perspective of insiders (i.e., the leaders of and participants in AARs). Further, researchers have not always distinguished between the formal AAR, which are generally required when an incident, injury, or death has occurred (often called the post-incident critique), and the informal AAR, which are widely held during regular operations but are not strictly required (→Allen et al., 2018). Therefore, the purpose of this study was to investigate the optimal decision points surrounding the holding of *informal* AARs by teams in organizations. Using a sample of captains and crew members in the fire service, we sought to discover how leaders (i.e., captains) decide *whether* to hold an AAR, *when* such an AAR should be held, and *how* the AAR should ideally be conducted under various firefighting circumstances. Because these specific questions have not yet been investigated, we chose an inductive qualitative approach. This approach allows the findings to speak for themselves rather than prescribing a particular theory upon which to base hypotheses. Through a discussion of the findings, we build upon the meetings literature (→Scott, Shanock, & Rogelberg, 2007), team reflexivity (→Reiter-Palmon, Kennel, Allen, & Jones, 2018), and sensemaking theory (→Weick, 1995). We discover that the choice to hold an AAR in the fire service is a function of a variety of factors both related to the event itself and the potential outcomes of the AAR. We begin by introducing the phenomenon and describing the key research questions, and then proceed with an extensive treatment of the methodology and theory-driven discussion of the results and key findings.

3.2 After action reviews and high reliability organizations

Originally developed and implemented in military settings, AARs (also called post-incident critiques, post mortems, hot washes, or debriefs) aim to better understand team processes through sensemaking, which enables team members to learn from past performances in order to improve future performances (→Allen et al., 2018). The attendees of AARs discuss and evaluate the characteristics of the event by piecing together each person's perspective of the collaboration. Although the concept of AARs has been present for decades, research on this particular kind of meeting has attracted surprisingly little scholarly interest until recently (→Tannenbaum & Cerasoli, 2013). While a range of organization types may benefit from AARs, recent scholarly work primarily investigates the phenomenon within high reliability organizations (HROs), such as military organizations, first responders, hospitals, aviation, etc., because this type of organization requires precise collaboration in high-risk environments with little room for error, and with potentially catastrophic consequences of error (Weick & Sutcliffe, 2001). HRO scholars and practitioners are interested in identifying potential interventions that enhance team effectiveness and efficiency, which in turn increase the likelihood that a group of collaborators will maintain relatively error-free operations (→Scott, Allen, Bonilla, Baran, Murphy, 2013).

3.2.1 AAR theory

From a theoretical perspective, AARs facilitate team effectiveness by allowing collaborators to participate in retrospective learning. The AAR includes a discussion of not only what went poorly or what was a near miss, but also what went well (→Allen et al., 2018). AARs prompt team members to refine their understanding of the event and to know what to change in the future in order to make their efforts more successful (→Tannenbaum & Cerasoli, 2013). Team members systematically discuss and assess past performance (again, both failure and success) in order to learn and develop future action plans for improving performance (→Ellis, Carette, Anseel, & Lievens, 2014; →Schippers, Edmondson, & West, 2014).

AARs allow groups to actively engage in reflexivity as a way of learning and evolving (→West, 1996). Reflexivity includes three different components: reflection, planning, and action. Reflection requires team members to think about and discuss issues that are important for performance and learning. Research suggests that effective AARs require active reflection, which includes a discussion of the different perspectives of team members (→Allen et al., 2018; Rudolph, Simon, Raemer, & Eppich, 2008). The second component of reflexivity, planning, puts the reflection into the context of potential change, while action includes the implementation of the change. Team reflexivity has been shown to be related to a number of positive organizational outcomes such as team and organizational learning, creativity and innovation, and overall improved performance (→Schippers, Den Hartog, Koopman, & Wienk, 2003; →Schippers, Den Hartog, & Koopman, 2007; →Schippers, West, & Dawson, 2015; →Tjosvold, Hui, & Yu, 2003).

Recent research on AARs has, for the most part, focused on the behaviors that occur within the meeting, and how those behaviors contribute to desired outcomes for individual participants. For example, the frequency and/or quality of AAR has been associated with learning (Reiter-Palmon, Kennel, Allen, Jones, & Skinner, 2015), meeting satisfaction (→Scott et al., 2013), and safety climate, or the extent to which individuals believe safe work behavior is expected, rewarded, and supported by the organization or group (→Allen, Baran, & Scott, 2010). What is lacking in the literature thus is a nuanced understanding of when and how organizations should be conducting informal AARs in the field in order to maximize the utility of these meetings.

3.2.2 AAR processes: Addressing gaps in the literature

Initial research on the connection between AARs and important group outcomes began by simply noting how frequently AARs occur in practice (e.g., →Allen, Baran, & Scott, 2010). Critically, however, not all AARs are created equal; certain "types" of AARs are more likely to lead to successful outcomes than others (→Tannenbaum & Cerasoli, 2013; →Villado & Arthur, 2013). Consequently, researchers have begun investigating the qualities of AARs rather than just the frequency of AARs (e.g., →Ron, Lipshitz, & Popper, 2002; →Villado & Arthur, 2013).

One example of a useful exploration of qualities of AARs was →Scott et al. (2013)'s exploration of ambiguity within a sample of firefighters. Ambiguity is a common issue when dealing with complex and dangerous situations like firefighting, and Scott et al. found that ambiguity concerning the recent emergency call (i.e., lack of clarity on events) was negatively related to AAR meeting satisfaction. →Scott et al. (2013) further discovered that freedom of dissent, (i.e., the feeling that within the AAR, participants could express contrary opinions openly without worry of retaliation), moderated the negative relationship between ambiguity and AAR meeting satisfaction. Specifically, when firefighters felt that they had freedom of dissent, the negative relationship was weakened. This study began to address at least one facet of *how* AARs should be conducted.

In-depth research is needed in order to provide a foundation of knowledge from which practical, concrete recommendations for having high-quality AARs can be made. To address this gap, we sought to use qualitative methods in order to better understand best practices in conducting and participating in AARs.

3.3 Research questions: Whether, when, and how to hold AARs

While theory and research support the use of AARs in general, and more specifically for the purpose of improving safety, many questions remain about how best to conduct them. Leaders must decide whether conducting an AAR is an effective use of their time and that of their subordinates. An important aspect of leadership decision making is the allocation of resources, including time (→Giessner & van Knippenberg, 2008; →Rus, van Knippenberg, & Wisse, 2010). Leaders must also decide the best moment and location in which to hold the meeting, as well as how to run the meeting. AAR research currently

does not provide answers to these important questions. In sum, while we know much about the outcomes of AARs, we seek to investigate the answers to the following three research questions concerning how AARs should ideally be held and conducted:

1. Given the situations observed on the job, should AARs be held? (WHETHER)
2. When is the best time and opportunity to hold AARs on the job? (WHEN)
3. How and where should AARs be conducted when on the job? (HOW)

Although previous research on effective workplace meetings (e.g. →Allen, Lehmann-Willenbrock, & Rogelberg, 2015) suggests some potential answers to these questions, we sought to investigate this phenomenon without a priori assumptions, following a more grounded theory approach (→Turner, 1983). We sought to understand the phenomenon from the perspective of the end user; in this case, both captains and crew members of the fire service. By systematically analyzing captain and crew responses from interviews and focus groups, we allowed answers to these questions and subsequent themes to emerge inductively. The balance of this paper discusses the rigorous methodology and subsequent interpretation of what was discovered through this process. We conclude with a general discussion that addresses extant theoretical explanations for the findings and provides ideas for future inquiry in a more deductive manner.

3.4 Method

We used a qualitative field study to answer the research questions regarding AARs in the fire service. Structured interview and focus group protocols were utilized within a fire department to explore whether, when, how, and where firefighting crews and their leaders feel they should have AARs. After transcribing the interview and focus group data, thematic analysis was used to discover common emerging patterns of perceived best-practice.

3.4.1 Sample

A fire department in the Midwestern United States was the source of all participants in interviews and focus groups. The department included 646 personnel, 24 stations, and 7 battalions supported by more than $100 million annual budget. The department chief asked the battalion chiefs to identify captains and career (i.e., full-time) crews willing to participate in the interviews and focus groups needed for the study. In total, 20 captains and corresponding crews were recommended and contacted for participation in the study, and all agreed to participate.

Individual interviews were conducted with firefighting captains, while focus groups were held with each captain’s respective crew. Two graduate research assistants conducted 20 individual interviews and 20 focus groups crew members at 20 separate fire stations (i.e., one interview and one focus group per station). To preserve the anonymity of the participants in the study, demographic information other than sex/gender was not collected, as firefighter captains and crews were asked to discuss

sensitive information about policies and procedures within their crew and the organization. All captains interviewed were male. Of all the focus group participants, only one participant was female (1.1% female, 98.9% male).

3.4.2 Materials and procedure

Interview and focus group data were collected using a structured interview/focus group protocol specifically designed for captains and for crew members (see →Appendix A). All questions included on the protocol were developed with the explicit purpose of understanding the decision-making by captains and crews concerning whether, when, and how to hold AAR meetings. Appropriate qualitative interview question and protocol development processes were followed that are consistent with current convention (→Tracy, 2013). The questions in the protocol were open-ended and assessed experiences with AARs while in the fire department. Because we were interested in the perspective of both leaders and crew members concerning the same issues, the interview and focus group protocols were essentially the identical (albeit with some minor wording changes to reflect one-person interviews versus multiple people in a focus group).

All interviews and focus group discussions took place at the participants' own fire stations while they were on-duty. IRB regulations dictated that verbal rather than written consent to audio-record be provided to protect participant anonymity. Upon receipt of verbal consent, the researcher proceeded with asking the questions in the order listed in the protocol. All interviews and focus groups were recorded and subsequently transcribed by the researchers.

Each graduate assistant interviewed 10 captains in a private interview that ranged in duration from approximately 10 minutes to 70 minutes. Between two and eight crew members participated in each focus group (N = 87 firefighters in total). Focus groups ranged in duration from 20 minutes to 90 minutes. The focus groups with crew members were intentionally scheduled separately from the captain interviews to reduce the influence of the captains' answers on the crew members. Nevertheless, due to the nature of the location, the firefighters' captains were sometimes present during parts or all of some focus groups. In addition, a battalion chief was present during two focus groups, which added a challenge as well as a valuable viewpoint to the discussions.

3.4.3 Data analysis

Data were analyzed using an inductive thematic analysis approach to identify emergent patterns and themes within the data (Allen, Beck, Scott, & Rogelberg, 2014). After transcribing all of the interview and focus group responses, two independent raters familiarized themselves with the data by reading through the transcripts. As the raters read through the transcripts, they each independently generated a list of themes based on a sample of the transcripts. After identifying the emergent themes, the raters met and consolidated the lists to ensure that the themes were comprehensive and mutually exclusive, i.e., first-level codes. Each code consisted of a phrase, sentence, or

consecutive combination of sentences conveying the same idea. This process resulted in 57 initial themes for first-level codes. At this point, the two raters independently coded a single interview to determine inter-rater agreement. Inter-rater agreement was established as 92%. Cohen's κ was also run to determine if there was agreement between the two raters' judgment on the initial themes. There was strong agreement between the two raters' judgments, κ=.888, p<.001. Because satisfactory inter-rater reliability and agreement were established, no further changes to the first-level coding system was necessary, and the raters independently rated the remainder of the transcribed data.

Next, raters further categorized these first-level codes into broader, more inclusive, patterns of responses, which we labelled second-level codes. The second-level codes were then integrated into three overarching categories: (a) Whether, (b) When, and (c) How. The category *Whether* includes themes that describe whether or not AARs should be held. The *When* category includes themes that describe how soon after a call AARs should be held. The *How* category describes the location and the manner in which AARs should be conducted.

3.5 Results and discussion

→Tables 3.1→–3.3 summarize the second-level codes that were most prevalent in the content of the interviews and focus groups. Each table contains codes that correspond to an overarching theme that emerged from the data: (1) *whether* to have AARs, (2) *when* to hold AARs, and (3) where and *how* to conduct and participate in AARs. Each table provides the frequency percentages for each code by category. Specifically, we divided the number of times each second-level code was mentioned by the total number of codes in that code's category (i.e., whether, when, how). For each second-level code, chi-square tests were also conducted to ensure that the observed frequencies of each code were different than the chance expected frequencies in that particular category. The chi-square tests were significant for all 20 of the emergent second-level codes, meaning that the distributions were significantly different from a normal distribution, indicating that the categories differ from chance and thus are distinct (→Zibran, 2007).

Then, we examined the frequency with which captains and crews separately mentioned any given code (see →Tables 3.1–→3.3). It should be noted that the examples provided in the tables are not differentiated between captain and crew members as the purpose of the example is to demonstrate the code, not demonstrate similarities or differences in official organizational roles.To test the extent of the differences between captains and crews, we conducted a Fisher's Exact Test (→Preacher & Briggs, 2001). We chose this calculation, rather than a chi-square statistic, because of the small sample size (→McDonald, 2014).

3.5.1 Whether to hold AARs

→Table 3.1 summarizes the results for the six second-level codes that emerged when participants discussed whether an AAR should be held.

Table 3.1: Second-Level Codes Addressing Whether to Hold AARs in the Fire Service.

2nd-Level Codes	Definition	Examples	% Codes/ Category	% Transcripts	% Captains	% Crews	Fisher's Exact Test
Always have AARs*	AARs should always be conducted – there is never a reason to avoid AARs.	• "it wouldn't be a bad thing if every call, to make sure you say a little bit about it, honestly" • "I can't think of anything to why you'd really avoid one."	12.71	70	60	85	p = .155
Nature of the Call*	The type of call determines whether to hold (e.g. for a serious or good calls) or not to hold (e.g. simple or false alarm calls).	• "And trauma calls, I think those calls are good to talk about" • "I guess I meant just not have one, for routine"	19.07	90	100	80	p = .106
Learn	AARs are an avenue for firefighters to gain knowledge whether the AAR is focused on teaching or learning points in the call or a discussion of strategy or just through talking about the call.	• "We had a fire, building fire last set, um. I just happened to be thinking later, you know, 'How could we do this better?' And then we went back and looked at it the next day.'" • "Use it as a learning, as a learning tool"	39.63	92.5	100	85	p = .23

2nd-Level Codes	Definition	Examples	% Codes/ Category	% Transcripts	% Captains	% Crews	Fisher's Exact Test
Solve*	Near misses, mistakes, and problems are addressed and fixed for the future to increase effectiveness.	• "I mean most guys will tell you, well this is what I did, you know, or I screwed this up, you know" • "if there were problems then you definitely need to talk about it"	12.34	77.5	65	90	p = .127
Morale	AARs allow firefighters to address emotional concerns, receive positive feedback, and build a more cohesive group.	• "Team building 'And the sooner, all four of us work together and know each other's both strengths and shortcomings, makes you a stronger crew.'" • "[captain should] tell us what a good job we did"	10.65	62.5	75	50	p = .191
Safe	Firefighters use AARs to discuss safety concerns and or any trouble encountered with equipment.	• "If it goes back to something unsafe, you need to have it." • "You know, I put my vest on because I was going to be out in traffic. You wanna put your vest on because you're more visible."	5.61	35	30	40	p = .741

Note. Transcripts: *N* = 40; Captain Transcripts *N* = 20; Crew Transcripts *N* = 20; Number of second-level codes: *N* = 535; Chi-square = 232.97***. Fischer's Exact Test was conducted to test differences between captain and crews. % Codes/category refers to the proportion of codes represented by the category. % Transcripts refers to the proportion of transcripts that mention that category across all transcripts. % captains is the proportion of captains who mention that code in their interview. % crews is the proportion of crews that mentioned that code during their interview. *** = $p < .001$; ** $p < .05$; * $p < .10$.

The first two codes address the central "whether" question, specifically whether AARs should be conducted after every call or only after only some calls. "Always have AARs" (reflecting 12.71% of all codes mentioned in the WHETHER category), and "Nature of the Call" (reflecting 19.07% of all codes mentioned in the WHETHER category) emerged as significant themes. When asked to reflect on past AARs, some firefighters repeatedly claimed that it would be best practice to have AARs after every call because lessons could be learned from any call. However, some participants provided a rebuttal by mentioning that AARs are not always useful or necessary. These participants asserted that the decision of whether or not to hold an AAR should depend on what type of call the firefighters experienced. For instance, under the "Nature of the Call" category, some firefighters advocated the idea that if the call was ordinary (e.g., EMS call rather than a fire call), was a false alarm or a simple call (e.g. lonely older person), then an AAR may not be necessary. However, they added that complex calls or out-of-the-ordinary calls should be followed with an AAR. Our data show no clear consensus on the "always vs. sometimes" question. Thus, firefighters and captains may need to balance the potential value of always having AARs with the possible inconvenience of always holding AARs.

Additionally, crews were more likely to endorse "Always have AARs," and captains were more likely to endorse "Nature of the Call," though these differences did not achieve statistical significance ($p > .05$). The finding could be driven by captains' role as a leader; leaders in organizations tend to see more nuance in decision-making and focus on more strategic issues (→Mumford, Campion, & Morgeson, 2007). Additionally, when captains make the difficult decision whether or not to hold an AAR, they reinforce their choice by increasing their liking of the decision after-the-fact, which reduces any uncertainty about making that decision as well as cognitive dissonance associated with that uncertainty (→Litt & Tormala, 2010).

Important Outcomes of AARs. While the initial interview questions focused on the decision whether or not to hold an AAR, interviewees also identified a variety of beneficial outcomes of AARs, which warrant further attention. Four second-level codes emerged that fell into the following pattern of discussion: Learn, Solve, Morale, and Safe. The most frequently mentioned code was "Learn" (36.63% of all codes in the WHETHER category). Captains and crews both frequently endorsed the idea that regardless of the nature of the call (i.e., complex or simple), whenever an opportunity to learn from a call arises, an AAR should be held. This is consistent with previous findings that debriefing after both failures and successes, rather than debriefing only after failures, will improve performance, (→Ellis & Davidi, 2005; →Ellis, Mendel, & Nir, 2006). Learning occurs through the process of collective retrospection (→Busby, 1999), or by piecing together a past event from multiple perspectives to make sense of the bigger picture. In this way, AARs allow firefighters to discern why events unfolded and what could have been done to prevent mistakes from happening, as well as apply these understandings to future situations. These results demonstrate that firefighters understand what many researchers have found through empirical research – that the learning process is one of the most basic and fundamental goals of AARs.

The second-level code, “Solve,” was mentioned as an important purpose of AARs (12.34% of all codes in the WHETHER category). This category differs from the code “Learn” because firefighters differentiated between learning in general as a goal and having an AAR specifically to figure out why a particular problem happened during the call (i.e., in order to avoid that problem in future calls). The code “Solve” was mentioned less frequently in captain interviews (65% of transcripts) than in crew focus groups (90% of transcripts), $p = .127$. While not statistically significant, this difference is interesting. Firefighter crew members are prone to feel that a primary purpose of AARs is to resolve tactical issues that occurred in the event, while captains as organizational leaders may be focused more on strategy than tactics. Given an environment where injuries and property loss are frequent (→Allen et al., 2010), solving problems and thereby not repeating mistakes would be essential for achieving the aims of AARs.

Firefighters mentioned the second-level code “Morale” (10.65% of all codes in the WHETHER category) as an important reason to decide to conduct AARs. This code was mentioned specifically in relation to more formal AARs. Firefighters in our sample divulged that *formal* AARs, or post-incident critiques, can take on a very negative tone in the fire service; however, *informal* AARs are relatively positive experiences at the crew level. Based upon the input from the interviews, formal AARs refer to those review meetings that are scheduled in advance, have an agenda, and key stakeholders are included who may or may not have been part of the action. Informal AARs, in contrast, typically occur on the truck or back at the firehouse and are usually initiated by firefighters simply reflecting on what just happened in a semi-structured manner. The “Morale” code encompasses the idea that conflicts or concerns can be addressed proactively through open discussion in informal AARs rather than in the formal environments. Also included in this code are the ideas of praise and team-building behaviors as important morale-building aspects of AARs. Although the literature is somewhat silent on the morale-building potential of AARs, leadership research confirms that consideration and support are important leadership behaviors that build morale among followers (→Judge, Piccolo, & Ilies, 2004).

Another noteworthy code in this category was the code “Safe” (5.61% of all codes mentioned in the WHETHER category). Although this particular code was not mentioned as frequently as the other codes in the category, safety and safety lessons are likely to be secondary outcomes that result from learning and collective retrospection. Safety may not need to be the main focus of AARs in order for safety to be improved through AARs.

In sum, the “Whether” themes identified here emphasize the importance of AARs promoting learning, helping solve problems that emerged during/from the event, improving morale among crew members, and encouraging safety. Most of these themes are entirely consistent with previous research in military contexts and other HROs using AARs (e.g., →Morrison & Meliza, 1999; Rogers & Milam, 2005). The main exception is the code focused on morale. However, given the highly interdependent nature of fire service work, the emergence of this theme is both unsurprising AND meaningful. Although there is much research on team cohesion and team performance in general (→Beal, Cohen, Burke, & McLendon, 2003; →Salas, Grossman, Hughes, &

Coultas, 2015), the degree to which the AAR could be a tool for promoting such is relatively novel and unexplored. Practically meaningful patterns between captain and crew responses emerged, such that captains were more likely to consider the choice to hold AARs a nuanced decision that depends on contextual information at the time of the event. Captains were also more likely to endorse second-level codes that supported crew members' support and learning. This is likely because captains are more future-thinking and concerned with the long-term rewards that accompany learning behaviors and high crew morale.

3.5.2 When to hold AARs

→Table 3.2 displays the second-level codes that describe when (at what time point) a needed AAR should be held. Firefighters responded to questions such as, "How soon after a call should AARs be held?" Most participants described the timing of AARs in terms of delaying or not delaying the meeting (i.e., having the AAR immediately after the call).

Table 3.2: Second-Level Codes Addressing When to Hold AARs in the Fire Service.

2nd-Level Codes	Definition	Examples	% Codes/ Category	% Transcripts	% Captains	% Crews	Fisher's Exact Test
Specific Timeframe	The ideal timeframe to have AARs ranges from immediately to the end of a work cycle.	• "So I would say it's gotta be that day." • "I'd say within that, I don't know. Probably 3 or 4 hour mark maybe"	8.47	50	50	50	p = 1
Unavoidable Reasons to Delay	Firefighters must prioritize incoming calls, sleep, and equipment needs before AARs.	• "Another run. Ha. Well, you know, that's about the only reason you wouldn't talk about it." • "We all have, and just somebody sayin' something like "hey, you alright?" "Before you go home in the morning"	21.96	70	60	80	p = .301

2nd-Level Codes	Definition	Examples	% Codes/ Category	% Transcripts	% Captains	% Crews	Fisher's Exact Test
Delay to Decompress and Rest	When runs are mentally, physically, emotionally exhausting, AARs are more effective when firefighters are given some time to recharge before having an AAR.	• "Unless it's something that maybe needs to, like earlier, someone needs to calm down a little bit before it gets brought up" • "You'll bring it up the next day. And we were, that kicked, that kicked our butts the whole night, you know"	20.63	65	50	75	p = .191
Delay for More Effective Analysis	Before conducting an AAR, firefighters may need time to think about what happened, or also time to gather information from other sources.	• "I think maybe the only benefit to slightly delaying it is kind of like we said earlier that it gives you time to think about everything" • "It's just, being able to gather more information	8.47	40	30	50	p = .333

2nd-Level Codes	Definition	Examples	% Codes/ Category	% Transcripts	% Captains	% Crews	Fisher's Exact Test
Delay for Everyone to be Present	AARs may be delayed for the entire responding crew to be present, or an AAR may happen multiple times if not everyone is present for the first AAR.	• "There is no benefit to postponing one, unless you're tryin' to get the same group of people that were there" • "you'll sit and think about it and then you'll have secondary, third, fourth discussions on it"	5.82	37.5	25	50	p = .191
Delay because of a Formal AAR	If the incident is serious and a formal post incident discussion is scheduled, it is better to wait so that the memories of the firefighters aren't altered.	• "maybe some fatalities some bad injuries um where you wanted to bring someone in um, or uh, that would be to probably make it more formal"	1.06	7.5	10	5	p = 1
Don't Delay: Memory*	Have AARs as soon as possible because firefighters can mix up the details of multiple runs and or forget important aspects of a specific run.	• "And then, drawbacks, things aren't as fresh" • "Guys are gonna forget about little things" "You're not going to recollect quite as much"	29.10	77.5	65	90	p = .127

2nd-Level Codes	Definition	Examples	% Codes/ Category	% Transcripts	% Captains	% Crews	Fisher's Exact Test
Don't Delay: Detrimental	Delaying the AAR gives firefighters too much time to run through a call in their heads, (e.g., changing the story to displace blame). Conducting AARs immediately may help avoid this.	• "might be a downfall too, is uh, just gives you more time to think about what went on" • "Y-you know, they build their walls, you gotta get there before they put their walls up"	4.50	27.5	25	30	p = 1

Note. Transcripts: *N* = 40; Captain Transcripts *N* = 20; Crew Transcripts *N* = 20; Number of second-level codes: *N* = 378; Chi-square = 212.69***. Fischer's Exact Test was conducted to test differences between captain and crews. % Codes/category refers to the proportion of codes represented by the category. % Transcripts refers to the proportion of transcripts that mention that category across all transcripts. % captains is the proportion of captains who mention that code in their interview. % crews is the proportion of crews that mentioned that code during their interview. *** = $p < .001$; ** $p < .05$; * $p < .10$.

One exception to the framework of delaying or not delaying AARs was a code that we labelled "Specific Timeframe," which made-up 8.47% of the codes in the WHEN category. Half of the interviews/focus groups offered a timeframe in which having an AAR is acceptable. The range of timeframes mentioned ranged from immediately after a call with no exceptions, to four days after a call.

Reasons to Delay. Of the eight themes we found in the When category, five of them described reasons to delay an AAR. The most frequently mentioned code that discussed a reason to delay was "Unavoidable Reasons to Delay," which made-up 21.95% of the second-level codes in the WHEN category. The unavoidable reasons to delay that make up this code include the occurrence of another call, equipment needs (e.g., replenishing supplies and fixing equipment), and having to leave at the end of a shift.

The second-most-frequently-mentioned delay code was "Delay to Decompress and Rest" (20.63% of the WHEN second-level codes). Firefighters discussed the reality of the emotional, physical, and cognitive exhaustion that is likely to occur after long or difficult calls. Firefighters advocated for delaying an AAR in order to decompress from the excitement and/or stress of the call and communicated that rest should be a high priority when deciding when to hold an AAR.

The code "Delay for More Effective Analysis" (8.47% of WHEN category codes), emerged because firefighters cited ways in which delaying an AAR would help them better analyze a call; e.g., giving them more time to process the events that occurred during the call. This was particularly important if a sequence of events happened

quickly, or if a delay was needed to give people time to "cool off" or collect themselves in order to prepare for a crew-level discussion of the call.

The second-level code "Delay for Everyone to be Present" (5.82% of WHEN category codes) emerged because firefighters recognize that it is important for everyone who participated in the call to be present and actively participating in the AAR. In general, active and substantial participation in workplace meetings is associated with higher job performance and job satisfaction (Yoerger, Allen, & Crowe, 2015), as well as a greater willingness to accept the outcomes of the meeting (→Sagie & Koslowsky, 1996).

The code "Delay Because of a Formal AAR" (1.06% of WHEN category codes) was mentioned in a total of three transcripts. Firefighters expressed that some captains and crew members might consider delaying an informal AAR if a formal AAR is likely to be scheduled. A formal AAR usually requires the presence of the entire battalion and occurs when significant injury, loss of life, or damage of property results from a call. In the case of a formal AAR, some crew members and captains may not see a crew-level/informal AAR as being incrementally more useful than a formal, battalion-wide AAR.

Of the many reasons given for why AARs might be delayed, some are beyond the firefighters' control (i.e., "Unavoidable Reasons to Delay"), while others would be made intentionally (i.e., "Delay to Decompress and Rest," "Delay for More Effective Analysis," "Delay for Everyone to be Present," "Delay for Formal AAR"). These reasons illuminate the many personal and resource-related constraints firefighters experience during a shift. Personal resources like energy (i.e., emotional, social, physical, cognitive) and memory affect firefighters' ability to hold high-quality AARs. External resources such as time, the frequency and duration of calls, and needs relating to their physical equipment (i.e., firetruck, hoses, safety gear) may also prevent AARs from occurring right away. Together, these constraints can impact the timing of AARs. Research on workplace meetings has examined such constraints as meeting load (→Luong & Rogelberg, 2005) and ambiguity (→Scott et al., 2013), which reduce meeting effectiveness. There is no research as of yet that investigates the role of timing on AAR meeting effectiveness. We believe that these codes provide a foundation for future research in this area.

Reasons Not to Delay AARs. In opposition of the Delay codes, many firefighters recognized that there are costs to delaying AARs. One specific reason not to delay an AAR is the issue of memory reliability over time. Firefighters recognized that individuals' memories become less accurate as time passes after a call. Thus, the second-level code "Don't Delay: Memory" emerged as the most prominent code in the WHEN category overall (29.10% of WHEN codes). The sooner AARs can be held, the greater the likelihood that individuals will generate accurate statements about the call, which then will lead to more productive discussions of the past call through effective representations of and interpretations of the past (→Busby, 1999; Cox & Hassard, 2005). The process of piecing together and interpreting events as a group is called collective retrospection and is said to be an effective tool for organizational learning.

Interestingly, whereas 90% of crews mentioned needing to delay AARs as a primary concern for determining AAR timing, only 65% of captains agreed (p = .127). This

finding, while not statistically significant, nonetheless taps into the differences in perspectives between captain and crew. Captains may view a delay as necessary for multiple reasons, some of which may not be available to crew members, so captains might be less prone to view memory as a major issue.

Another reason that emerged for having an AAR immediately addressed the idea that having too much time to process and dwell on a call could in fact be detrimental to an AAR's effectiveness. The code "Don't Delay: Detrimental" (4.50% of WHEN category codes) encompasses the idea that processing the call alone requires too much energy and has the potential to result in anxious and defensive behaviors during an informal AAR discussion.

Summary of WHEN Codes. The information contained in →Table 3.2 suggested that there were contradictory emergent themes that firefighters must balance when making decisions about when to have informal crew-level AARs. Firefighters recognized the impact of time pressures on their ability to conduct effective AARs. On the other hand, memory may be affected if the AAR does not happen soon enough after a call. Research on memory has shown that retrieval-induced forgetting can also have a negative impact on problem solving (Storm, Angello, Bjork, & Ligon, 2011). Retrieval-induced forgetting is certainly a problem for firefighters, as the crew focus groups referenced "several calls running together." The emergent codes in the WHEN category highlight the benefits and downsides to having an AAR immediately after a call, as well as recognizing the many considerations that firefighters must weigh before deciding when to hold or participate in an AAR.

Captains mentioned the same reasons to delay and not delay AARs as crews. Crews, however, more strongly endorsed the reasons to delay and not delay on average compared to captains (see "Don't Delay: Memory" for an example). Our data suggest that captains may prefer to conduct AARs as soon as the call is over and contemplate delaying only if practical or resource concerns, such as another call, would make that impossible or impractical.

3.5.3 How to hold AARs

→Table 3.3 displays the second-level codes that describe how AARs should be conducted. The emergent themes identify what behaviors and contextual factors firefighters deem most important to AAR outcomes. All second-level codes described a particular contextual factor, which we grouped into three categories, namely, (a) Physical and Social Context, (b) Psychological Safety Considerations, and (c) AAR Responsibility.

Table 3.3: Second-Level Codes Addressing How to Hold AARs in the Fire Service.

2nd-Level Codes	Second-Level Code Definition	Examples	% Codes/ Category	% Transcripts	% Captains	% Crews	Fisher's Exact Test
Location	Identifying where AARs should be conducted, whether at the scene, on the rig or at the station.	• "Heck, a lot of them we start on the way back on a call. As soon as possible. On the rig on the way back." • "We'll talk about it, even on scene sometimes."	20.55	70	60	80	p = .301
Who	Some AAR participants may like a specific communication style and some participants may have relationships with a subject of a critical comment made.	• "its usually one of those things that you can kind of read how people respond to it" • "you have to be careful what you say, because you never know if his dad is the chief or his best buddy is the assistant chief"	8.30	22.5	15	30	p = .451

2nd-Level Codes	Second-Level Code Definition	Examples	% Codes/ Category	% Transcripts	% Captains	% Crews	Fisher's Exact Test
Constructive	Conductors of AARs should avoid being critical or micromanaging within the AAR, instead the focus of the AAR is to be constructive.	• "let's not rip somebody up about it" • "Unless you were just, unless it was something you were really nit-picking on someone, on one person"	15.81	45	40	50	p = .751
Positive Team Dynamic	The degree to which firefighters feel comfortable around each other and the informal, non-punitive nature of how AARs are conducted.	• "You have good rapport with that other person or the other people in that crew, like, if you're doing call back trade-time, you're still going to talk about it" • " … because they're informal"	7.91	27.5	25	35	p = .731
Ingrained	AARs are habitual; firefighters feel free to discuss with their crew, expect AARs to happen, and exert effort to make sure AARs happen.	• "I don't think there is ever an incident that you get on the rig and nobody says anything" • "Yeah, anybody could say anything"	28.46	60.0	50	70	p = .333

2nd-Level Codes	Second-Level Code Definition	Examples	% Codes/ Category	% Transcripts	% Captains	% Crews	Fisher's Exact Test
Captain's Job	Firefighters feel the captain is paid to make sure that his crew is as safe as possible, therefore it is his job to initiate and facilitate AARs.	• "Um, and again, it's my job to make sure that everybody else is ready to go, so if I see some things that worked or didn't work, I wanna let everybody else know." • "whether it's a medical call or in the fire or something like that, the captain always initiate it from what I've seen and he should"	18.97	47.5	20	75	** p = .001

Note. Transcripts: *N* = 40; Captain Transcripts *N* = 20; Crew Transcripts *N* = 20; Number of second-level codes: *N* = 253; Chi-square = 46.597***. Fischer's Exact Test was conducted to test differences between captain and crews. % Codes/category refers to the proportion of codes represented by the category. % Transcripts refers to the proportion of transcripts that mention that category across all transcripts. % captains is the proportion of captains who mention that code in their interview. % crews is the proportion of crews that mentioned that code during their interview. *** = $p < .001$; ** $p < .05$; * $p < .10$.

Physical and Social Context. In the majority of the interviews and focus groups, participants mentioned that "Location" (20.55% of HOW category codes) is an important factor to consider when conducting AARs. Having a location that is convenient and allows firefighters to easily listen and participate in discussion is seen as key for holding effective AARs. A few ideal locations mentioned by firefighters include on the scene, on the rig, and at the kitchen table at the firehouse. Certain physical settings can provide comfort to firefighters when they are exhausted (e.g., seating in kitchen), enable easier conversation (e.g., crews find it difficult to hear each other on the rig), allow firefighters to multitask (e.g., eat dinner while discussing the call), and increase firefighters' ability to recall events (e.g., at the event scene). Contextual factors like location or the physical space in which meetings occur have not been a major focus of workplace meeting research, perhaps because workplace meetings are assumed to occur within an office

space, like a conference room, that is specifically dedicated to group processes. Firefighters are an exception to this norm due to the nature of their job. More research may be needed on the location issue for workers who may not have access to a typical meeting room.

Firefighters in the present study stated that informal AAR discussions should take into account who is present for the meeting in order to effectively manage the tone and discussion strategy to engage all participants ("Who" made-up 8.30% of the codes in the HOW category). For example, if one AAR attendee is new to the job, it may be beneficial for firefighters to discuss calls in more detail to provide guidance that other attendees may not need. Creating an environment in which participants feel comfortable to speak up and express opinions, that is, establishing psychological safety (→Allen et al., 2018), will increase the willingness of the crew to participate. This is the case even when the discussion is sensitive, such as when mistakes were made. Such an environment will increase reflection and learning and will therefore contribute to increased safety norms and safety behaviors (→Reiter-Palmon et al., 2018). Thus, conducting AARs in a setting where everyone can attend and converse freely appears imperative.

As previously mentioned, firefighters are not sedentary workers, and because they are mobile as an essential part of their job, they face different obstacles for creating high-quality meeting environments. As two of the level one codes note, many crew members mentioned having AARs "on the scene" (i.e., location of the event, fire, accident, etc.) or "on the rig" (i.e., on the fire truck). Most workplace meetings occur in a regular meeting space, and many fire service meetings occur in the station, but some may not. Thus, the physical setting in which an AAR occurs is an important consideration for holding effective AARs, and future research may examine the relative effectiveness of AARs across the various environments where they typically occur.

Psychological Safety Considerations. The theme of "Constructive" was mentioned most frequently in the HOW category (45% of codes). Participants in our study mentioned that in order for AARs to be productive and lead to beneficial outcomes, the discussion should avoid of blame and criticism. Instead, crews should focus on learning from past mistakes and addressing opportunities for improvement, and do so constructively. Echoing results from another qualitative analysis of AARs (→Crowe, Allen, Scott, Harms, & Yoerger, 2017), this code encompassed preventing "bad" AAR behaviors and promoting more affirming group behaviors.

The code, "Positive Team Dynamic" accounted for 7.91% of the codes in the HOW category. Following the "Constructive" theme, firefighters reported a desire to feel that the team is supportive of individual team members and conducive to identified "good" group behaviors during AARs. Establishing a positive team climate before implementing AARs allows firefighters to feel comfortable in a group setting, thus enabling them to be forthcoming when sharing ideas and opinions or asking questions. The informal nature of the crew-level AARs studied here also makes AARs more comfortable for participants.

We found that a few first-level codes shared a thread of similar ideas that we chose to call "Ingrained" (28.46% of all codes in the HOW category; see →Table 3.4). This theme indicates that informal crew-level AARs should be a habitual activity and

commonplace for all firefighters, such that any crew member feels like they can contribute and initiate discussions, and everyone is committed to ensuring that AARs occur; both firefighters (70% of transcripts) and captains (50% of transcripts) thought that it is important for crew members to feel open to voice concerns and ideas in order for AARs to be productive. AARs, and meetings in general, can be considered a reflection of the inter-personal relationships of the group (→Svennevig, 2012). When these inter-personal relationships are fostered via the AARs, additional positive outcomes related to safety may be possible.

Table 3.4: First-Level Codes.

Category	Second-Level Codes	First-level Code	Definition
WHETHER	**Always have AARs**	**Every**	Firefighters mention that they should review every call, could review every call, or can review any call. This includes both "good and bad" calls.
	Always have AARs	**Never Avoid**	AARs should never be avoided.
	Learn	**Clarify**	Firefighters mention that a reason to have an AAR is to answer or pose a question or to simply add more explanation to a confusing/ambiguous call.
	Learn	**Improve**	Crews mention that improvement, getting better as a crew, and efficiency are reasons to have AARs.
	Learn	**Learn**	Specifically using the word "Learn" to describe why the AAR is useful. As a result of AARs, crew members/captains have the opportunity to learn.
	Learn	**Strategy**	A reason to have an AAR is to have a discussion of "attacking" strategy for a fire or positioning of the crew.
	Learn	**Talk**	Firefighters mention that AARs open a line of communication for the team. The AAR is a part of the larger conversation, and the crew can get together and discuss openly.
	Learn	**Teach**	Firefighters mention that firefighters use AARs as a teaching tool or that the run is something that can be used to teach with.
	Morale	**Cohesion**	Team members get to know people on the team better and understand how to work best with each other.
	Morale	**Praise**	The reason to have an AAR is to praise, encourage, or boost morale of crew members.
	Morale	**Emotional**	AARs should be held because someone may be struggling emotionally or stressed about a call, and AARs help people process those feelings.
	Nature of the Call	**Serious**	AARs should be held after more serious and/or complex calls such as fires, calls that are out of the ordinary, hazmat calls, unfamiliar calls, fatalities, injuries, and multiple-patient calls.
	Nature of the Call	**Not Simple**	There is no need to have an AAR if the run is simple or is a false alarm call.
	Nature of the Call	**Good**	If the result of the run was "good", an AAR should still be held. Firefighters mention that discussing "good" calls ensure that the same processes, techniques, or strategies can be repeated in future calls.
	Safe	**Safety**	Firefighters mention that AARs should be held if something was unsafe at the scene or improving safety that is not related to equipment use.
	Safe	**Equipment**	Firefighters reference that AARs help them learn the use/s of equipment, needs of the equipment, or how to use equipment.
	Solve	**Mistake**	Firefighters state that AARs should be conducted when there is a "mistake" or "miscommunication". This code also includes trying to find out why mistakes happen.
	Solve	**Problem**	Firefighters mention that they hold AARs when they encounter "problems" during a run or when something "goes wrong".

Category	Second-Level Codes	First-level Code	Definition
WHEN	**Decompress and Rest**	**Personal**	Delay the AAR if a family member or a friend is involved in an incident/call.
	Decompress and Rest	**Calm**	Delay the AAR if emotions or tempers flare, in an effort to calm down or think rationally about the call. References to children or serious calls as reasons to delay included in this code.
	Decompress and Rest	**Tired**	The AAR should be delayed if the call was a physically tiring run.
	Delay because of a Formal AAR	**Determine Formal**	Firefighters need to determine which type of AAR is needed – formal or informal.
	Delay because of a Formal AAR	**Formal AAR Pending**	The AAR should be delayed if there is a formal one scheduled, so that firefighters' memories aren't altered.
	Delay for Everyone to be Present	**Chief Wants to Talk**	The AAR should be delayed if the chief wants a chance to talk to the crew about the AAR.
	Delay for Everyone to be Present	**Wait**	Delay AAR for crew members who were not there or even for multiple crews to join the discussion.
	Delay for Everyone to be Present	**Multiple**	Firefighters should/may have AARs multiple times for each incident to ensure that everyone is exposed to the information learned.
	Delay for More Effective Analysis	**Analyze**	Delay the AAR if the fire is big. This allows for more time to analyze and think about it – time to process it.
	Delay for More Effective Analysis	**Info**	Delay the AAR to get more information about the incident. Firefighters mention that sometimes more information is needed to analyze the call.
	Don't Delay – Detrimental	**Too Much Time**	AARs should not be delayed because firefighters can think about it too much.
	Don't Delay – Detrimental	**Clear the Air**	Don't delay the AAR because AARs help to clear the air right away of negative energy, negative emotions, or mistakes.
	Don't Delay – Memory	**Details**	Don't delay the AAR specifically because crew members will lose/forget the details of the call. Do the AAR while the call is "fresh" in their minds.
	Don't Delay – Memory	**Forget**	Don't delay the AAR because firefighters may forget what they wanted to talk about or forget to ask a question they had about the incident.
	Don't Delay – Memory	**Immediate**	AARs should happen "right away" or "immediately" after the call/run.
	Specific Timeframe	**Up to 4 Days**	AARs can be delayed up to 4 days, or until the end of a cycle.
	Specific Timeframe	**Within 24 Hours**	Have AAR within "24 hours" or one shift of the incident.
	Specific Timeframe	**Within a Few Hours**	Have AAR within a "few hours" of the incident. Firefighters might say "a couple hours".

Category	Second-Level Codes	First-level Code	Definition
	Specific Timeframe	**Within 48 Hours**	AARs should happen within 48 hours after a call, or two shifts.
	Unavoidable Reasons to Delay	**End of Shift**	Firefighters mention that they go over/should go over incidents in the morning, or they mention that AARs happen with the oncoming crew at the end of the shift.
	Unavoidable Reasons to Delay	**Run**	Delay the AAR if there is another run right after the last call.
	Unavoidable Reasons to Delay	**Late**	Delay the AAR if a call comes in at the end of shift or a call comes in late at night.
	Unavoidable Reasons to Delay	**Equipment Care**	Delay the AAR to get the equipment in order first or to get ready for the next call.
HOW	**Captain's Job**	**Captain Initiates**	Firefighters mention that the captain should initiate the AAR.
	Captain's Job	**Captain Job**	Any description of the AAR being the captain's job or leaving the AAR to the Captain's discretion.
	Constructive	**Critical**	AARs should not be conducted to criticize individuals or single someone out.
	Constructive	**Micromanage**	When the leaders are nitpick or micromanage the firefighters, it can come across as punitive and impede the AAR.
	Constructive	**Constructive**	AARs are only useful if they are constructive discussions.
	Ingrained	**Anyone Initiates**	Anyone can initiate an AAR, whether it's a new crew member, senior crew member, or captain. Anyone can ask a question to initiate or mention that they want to talk or crack jokes about anything that happened at the call.
	Ingrained	**Anyone Inputs**	Anyone can input during the AAR. Some firefighters mention that the captain is "part of the crew" and that all points of view are welcome.
	Ingrained	**Ensure AAR Occurs**	Firefighters mention that someone or anyone needs to make sure AARs happen.
	Ingrained	**Natural**	AARs are second-nature to firefighters. Sometimes the AAR "just happens", they do not know that it is happening, or someone feels that they can talk with their team freely.
	Location	**Scene**	AARs should happen on scene. Having the AAR there allows the crew to walk through the structure of the site and recount the scene.
	Location	**Rig**	AARs happen on the rig or "on the way back" from a call.
	Positive Team Dynamic	**Rapport**	Crew and captain should have good rapport for the AAR. Firefighters mention that if there is a connection between the captain and crew, then everyone feels comfort in that relationship.
	Positive Team Dynamic	**Informal**	AARs need to be informal discussions.
	Who	**Careful Who**	Firefighters need to be careful where they discuss calls (who, and in what context). If the AAR is with someone new, there is apprehension. Firefighters also need to keep in mind HIPPA privacy restrictions.

Category	Second-Level Codes	First-level Code	Definition
	Who	**Differences**	Firefighters mention the need to be cognizant of co-worker's individual differences. Some firefighters have different communication styles or some can get defensive.

Essentially, we were excited to find "Constructive," "Positive Team Dynamic," and "Ingrained" as emergent themes in the present study because they stand in contrast to what is typically reported about AARs in the fire service (→Allen et al., 2018). Post-incident critiques, which are a more formal, organization-wide meeting in which battalions have to review a particularly damaging call, are clearly supported through policy and organizational leaders. However, no training or policy around informal AARs existed in this sample. Participants in our study described formal AARs as having a punitive tone, seldom providing opportunities for voice, and being rather ineffective at addressing the root cause of issues. We also learned from senior firefighters in our data collection that historically, firefighters often followed unwritten social rules that included not admitting to weakness or mistakes, as well as criticizing those who blunder. Firefighters admitted that such practices often cause people to focus too much on the problem, and not enough on fixing the problems that occurred during calls; if no one can admit anything went wrong, and if the focus is on the mistake rather than the solution, then the crew cannot learn from past events and improve in the future.

In contrast to these traditional norms that value stereotypically masculine (i.e., agentic) behaviors (→Stergiou-Kita et al., 2015), our study identified a set of values that are more conducive to learning, positive team relations, and psychological safety at the crew level. These values place less emphasis on masculine traits like dominance and heroism and more emphasis on supportive and voice behaviors. According to →Carmeli, Gelbard, and Reiter-Palmon (2013), supportive leader behaviors facilitate knowledge sharing, which improves creative problem solving. Other research on AARs illustrates the importance of supportive, or "constructive," behaviors of both leaders and attendees while solving problems in a team environment (→Crowe, Allen, Scott, & Harms, 2017). Since voicing dissenting opinions in a workplace setting is often discouraged, AARs require a supportive climate in order for employees to feel comfortable voicing their dissent (→Scott et al., 2013). By facilitating knowledge sharing, captains can ensure that whatever issues arise during the AAR are resolved as well as they can be. For AARs to be productive and successful, employees must feel that they are in a psychologically safe environment in which they can contribute ideas and opinions, and not be penalized for bringing up sensitive topics (→Walumbwa & Schaubroeck, 2009); they must feel that their opinions and ideas matter to the leaders of the organization (Morrison, 2011). A positive crew-level climate around learning and sharing of ideas helps to foster productive AARs. Thus, cultivating a strong, positive team climate outside of AARs may be valuable, even essential, to having consistent, productive informal AARs.

AAR Responsibility. The last code in the HOW category, "Captain's Job" (18.97% of codes), emerged from firefighters' statements about who should take responsibility for

initiating and facilitating informal AARs with their crews. Individuals in 75% of our focus groups said that the captain should be responsible for the crew's learning, safety, and team processes, and, therefore, AARs. However, only 20% of captains said that it is the leaders' job to ensure AARs occur and are productive. Based on the results of the Fisher's Exact Test (p = .001), there was a significant difference in the proportions of codes for captains and crews, with crew members seeing calling an AAR as the responsibility of the captain, while captains saw calling an AAR as a shared responsibility. This disconnect may possibly result in AARs occurring less frequently than optimal.

Summary of HOW Codes. Captains and crew members are both concerned with holding high-quality AARs by providing a physical, social, and psychological context that (1) encourages openness to new ideas, opinions, and perspectives, (2) focuses on solving problems rather than being punitive, (3) promotes the comfort and safety of all meeting participants, and (4) makes a habit of team-level discussion opportunities like informal AARs. All firefighters have the responsibility of creating and maintaining these aspects of a high-quality AAR environment. However, crew members realize that the captain plays a significant leadership role in ensuring that contextual factors are ripe for high-quality AARs, as well as in initiating such meetings. This is consistent with previous research on workplace meetings suggesting that the meeting leader plays a central role in facilitating the meeting's effectiveness (→Lehmann-Willenbrock, Lei, & Kauffeld, 2012).

3.6 General discussion

The current study expanded the existing AAR research by inductively exploring the intricacies of AARs in the fire service. The patterns we found in the data will give new direction to both future researchers and practitioners who would like to unlock the full potential of AARs for teams, especially in high-reliability work contexts. Our findings generally supported theory and empirical findings from past research on AARs. First, participants widely considered learning to be one of the most important outcomes of AARs, which is consistent with previous research on team reflexivity (→West, 1996; Yu, 2003) and sensemaking theory (→Weick, 1995). Second, our data were consistent with previous research findings supporting the idea that participants feel that AARs should occur as often as possible (→Allen et al., 2010). Third, the present study provided additional support for the central importance of leader-consideration behaviors within AARs and meetings in general.

Our findings also extend current research on AARs. First, firefighters generally feel that AARs should occur for almost every call because there is an opportunity to learn from every call. However, AARs need to be conducted "conveniently" for several reasons. Convenient AARs will allow *full participation* from all attendees by mitigating distractions, maximizing the potential for accurate memory, and taking place in a setting that is comfortable and familiar to all attendees. In addition, because firefighters' work schedules and job structure are so variable, and at times hectic, AARs must take place when and where they fit into their natural operations. Full participation

in AARs is seen as essential to gaining all perspectives of the call, not just the leader's perspective.

Our data tell us that firefighters feel they should take steps to mitigate hindrance factors to their AARs. Across all categories of themes, crews and captains acknowledged the many factors of their work that can get in the way of properly conducting AARs (e.g., "Nature of the Call," "Unavoidable Reasons to Delay," "Location"), the primary hindrance of which is a lack of communication among attendees. Previous research and the themes that emerged here verify that when attendees use accurate, clear, direct, and comprehensive communication, the AAR experience facilitates learning, sensemaking, and shared mental models necessary for effective future work (→Ellis & Davidi, 2005; →Ellis, Mendel, & Alomi-Zohar, 2009). Examples of impediments of communication in addition to lack of clarity and completeness include defensiveness, cynicism, and disinterest (→Bethune, Saseireka, Sahu, Cawthorn, & Pullyblank, 2010).

In the fire service, there are longstanding norms that work against open and psychologically safe communication (→Svennevig, 2012). Dysfunctional traits like dominance and aggression are prevalent in today's workplaces (→Berdahl, Cooper, Glick, Livingston, & Williams, 2018). Because firefighting has historically been completely male-dominated, suboptimal masculine behavior associated with aggression, dominance, and blaming is especially prevalent. In order for attendees to feel comfortable communicating honestly with their coworkers and leaders, individuals must feel that the team atmosphere is psychologically safe and that their voice will be heard and taken seriously by others. To mitigate such hindrances, organizational leaders must be intentional about taking steps to generate and maintain a culture of openness, free communication, and productive discussion.

3.6.1 Research implications

This study provides a richer, more refined look at the process and outcomes of AARs, building on and expanding upon what past quantitative studies have contributed to the literature, as well as extending the results of other qualitative studies (→Allen, Beck, Scott, & Rogelberg, 2014; →Crowe et al., 2017). In addition, AARs have largely been studied using empirical, deductive methodologies. The inductive and descriptive nature of the present study adds a deeper perspective to the current AAR literature, one that clearly sets the stage for subsequent quantitative research on AARs. The methodology deployed here allowed for conclusions to be drawn directly from the source. In our study the people who are attending and conducting AARs on a daily basis are reflecting about their experiences with the process.

Second, the present study allowed us to draw conclusions about the relative importance of various AAR outcomes. Many outcomes of AARs have already been studied, such as team performance, safety, and learning (→Reiter-Palmon et al., 2015; Tanenbaum & Cerasoli, 2013; →Villado & Arthur, 2013; →Zohar, 2000). However, no study has weighed the relative importance of these outcomes. We found that learning was seen as the primary purpose for conducting AARs in the fire service; this was expressed by both crew members and captains. This finding aligns with literature on

team reflexivity and supports the idea that team reflexivity that is essential to learning. Reflexivity is is a desirable team process activity that leaders in the fire service should promote, and one that researchers may wish to further investigate (→Reiter-Palmon et al., 2018).

Finally, the study provided evidence that there are some differences in how captains (leaders) view AARs compared to the crews. The only statistically-significant ($p < .05$) difference in captain and crew codes arose in the HOW category. Crew members were more likely to acknowledge the power difference between themselves and their captains. Crews expect captains to be responsible for initiating and leading quality AARs, whereas captains did not see it that way. Thus, captains may expect crew members to be more proactive, while crew members may be waiting for the captain to call an AAR, potentially resulting in no one being responsible.

Other interesting differences in the frequency of captain and crew responses also emerged. These differences were not statistically significant, but this was very likely a result of our small sample size. Note we provide some interpretation in the results and discussion, as well as here, of these non- statistically significant differences, due to the practical significance of the observed differences. In the codes, “Nature of the Call,” “Always Have AARs,” “Solve,” and “Don’t Delay: Memory,” captains appeared more aware of nuance in decision-making about whether and when to hold AARs. For example, captains were more likely to endorse the idea that the decision to hold AARs should be made based on the characteristics of the call (e.g., “Nature of the Call” and “Don’t Delay: Memory”) and were less likely to support the position that AARs be held after *every* call. Crews were more concerned about solving problems as the goal of the ARRs, while captains were somewhat less concerned about this (although the majority of captains still saw this as important).

3.6.2 Practical implications

The qualitative nature of this study gave participants the freedom to provide rich data that should be of value to practitioners who are interested in implementing or improving AARs in their organizations. The insights about whether, when, and how to hold AARs could easily be converted into a concise decision-making tool and/or training program to aid firefighters in conducting AARs at the “right” frequency, time, place, and with a consistently positive attitude. Ultimately, the training may affect the degree to which firefighters communicate about and learn from past calls, which then would affect firefighter performance and team relations. Such training programs are needed to teach organizations about AARs, their usefulness, and how they should be conducted to maximize the potential benefit to organizations (→Allen et al., 2018). We make three primary recommendations for leaders of AARs from the pattern of results of the present study. First, we recommend that AARs always be conducted when there is the possibility of learning from a recent event, which is almost always. Second, we suggest that AARs be conducted as soon as possible after an event, even if that means having the discussion at the site of the event. Third, we strongly encourage AAR participants and leaders to address identify and address any problems with team dynamics in general

within their group. In order for attendees to feel comfortable fully disclosing their opinions, they must feel that the atmosphere is a psychologically safe one. Indeed, holding AARs when a team cannot practice open and safe communication may even be detrimental to the team atmosphere, potentially promoting defensive and blaming behaviors, negatively affecting morale, and impeding learning.

3.6.3 Limitations and future directions

In terms of limitations, the sample of firefighters that we interviewed was quite small and drawn from one fire department, making statistical inferences difficult and limiting generalizability. Further study of larger groups of firefighters or other first responders from multiple locations would be in order to determine the significance of differences observed (e.g., captain vs. crew member perceptions), and the generalizability of the observations. Additionally, the culture of the department may also impact the breadth and scope of the responses we received to the questions asked. Because the responses were from a single fire department, it is likely that a department with a different organizational culture could have very different responses to the questions asked. Thus, future research should broaden the sample to capture a greater variety of department cultures and see if the findings presented here are consistent or different between departments.

In terms of future research, one especially critical question from our study that bears further investigation is whether it is best to have AARs after every call or only after some calls. A quasi-experimental research design may be one useful approach. One possible study could investigate two sets of firefighter teams, half of which are instructed to hold informal AARs after each and every call, and half after only ambiguous calls for a period of months. Subjective measures such as individual and team morale, perceived individual psychological safety and team safety climate, and concrete measures such as injury rates, near misses, and tardiness could be used to compare the two groups.

A second especially critical question concerns the best timing of AARs, as captains must weigh the pros and cons of having AARs as soon as possible. Teams must strive to preserve accurate memories of the event, but they must also take into account barriers to immediacy such as fatigue, weather, and equipment needs. To help teams make these daily, crucial decisions, we propose generating a decision tree or system that may be tested in the field to would help firefighter captains to know when to hold AARs in order to make them most effective for sensemaking. Once such a decision tree is employed within a practical setting, we suggest refining it until it is ready to be integrated into the organization through a formal policy and procedure.

3.7 Conclusion

In general, the forgoing study provides for a greater understanding of the complexity of decision-making around whether, when, and how to hold after-action reviews. By obtaining rich responses to structured interview questions, the findings illuminate some

of the opportunities and challenges that after-action reviews present. Although we standby our recommendation of engaging in after-action reviews due to the many meaningful benefits that flow therefrom, we also acknowledge the need for firefighters and leaders in general to use context, situational factors, and the environment to help them in determining how best to engage in team reflexivity. Sometimes the answer is that the team should debrief, but perhaps not this very second.

Appendix A

CAPTAIN Interview:

I would like to ask you some questions about After Action Reviews (AAR). Before I begin, I want to let you know that this interview will give us an idea about how the fire crew works as a unit. I want to know how you use AARs to help communicate with each other and why you use AARs. My colleagues and I are doing this research because we feel it could have a significant impact on safety across the industry, so please be open to sharing your opinions. We are coming to you because of your expertise, and we are excited to learn from you and hear your honest feedback.

So I want to start by defining what we mean by AAR. An AAR is a relatively brief, informal, semi-structured discussion held by a crew/company of first responders soon after calls. An AAR is not a formal, post-incident analysis; it is a discussion forum that happens after normal operations and doesn't require additional paperwork. For example, an AAR might be a scheduled meeting within a single crew to discuss a recent technical rescue, or it might be an informal group conversation that happens on the way back from a fairly typical call about what went well, what went poorly, and what almost went completely wrong. Also, AARs, as defined here, are not critical stress debriefings. Based on what I have just described, tell me about an AAR you have participated in recently.

1. How often do you conduct/participate in/hold AARs?
2. In your opinion, under what circumstances should you have an AAR?
3. What are the reasons you should initiate an AAR?
4. What are the reasons to avoid having an AAR?
5. Tell me about a time when you held an AAR that you thought was not needed.
    a. Why did you think it was not needed?
6. Tell me about a time you felt an AAR was needed but you did not have one.
    a. Why did you think it was needed?
7. How soon after an event/call are AARs most effective?
8. In your opinion, what are some reasons to delay – or postpone – having an AAR?
    a. Was there a time that you did not have an AAR initially, but decided to hold it later?
    b. What were the benefits and/or drawbacks of delaying or postponing the AAR?
9. Tell me about a time when you were unsatisfied with the outcomes of an AAR.
    a. Are there any other reasons why you would be unsatisfied with an AAR?
10. Are there times when you wish an AAR would have gone differently?

    a. Tell me why. Describe a time if it helps.
11. In your opinion, under what circumstances should a crew member initiate an AAR?
    a. What are the benefits to having a crew member initiate an AAR?
12. In your opinion, what are the benefits of having AARs?
    a. Do you feel you, or the crew, have gained something after having an AAR?
13. In your opinion, how would you make an AAR better?
14. Do you have any additional comments about AARs?
15. (Ad lib as appropriate) Do you have any connections with rural fire departments in NE? We are hoping to continue our research with firefighters in rural areas so that they could benefit from the research as well. Would you be willing to share contact information with us?

References

Allen, J., Beck, T., Scott, C., & Rogelberg, S. (2014). Understanding workplace meetings. A qualitative taxonomy of meeting purposes. *Management Research Review*, *37*, 791–814. doi:10.1108/MRR-03-2013-0067 →

Allen, J. A., Baran, B. E., & Scott, C. W. (2010). After-action reviews: A venue for the promotion of safety climate. *Accident Analysis and Prevention*, *42*, 750–757. doi:10.1016/j.aap.2009.11.004 a, b, c, d, e

Allen, J. A., Lehmann-Willenbrock, N., & Rogelberg, S. G. (Eds.). (2015). *The Cambridge Handbook of Meeting Science*. Cambridge University Press. →

Allen, J. A., Reiter-Palmon, R., Crowe, J., & Scott, C. (2018). Debriefs: Teams learning from doing in context. *American Psychologist*, *73*, 504–516. a, b, c, d, e, f, g, h

Beal, D. J., Cohen, R. R., Burke, M. J., & McLendon, C. L. (2003). Cohesion and performance in groups: A meta-analytic clarification of construct relations. *Journal of Applied Psychology*, *88*, 989–1004. →

Berdahl, J. L., Cooper, M., Glick, P., Livingston, R. W., & Williams, J. C. (2018). Work as a masculinity contest. *Journal of Social Issues*, *74*, 422–448. →

Bethune, R., Sasirekha G., Sahu A., Cawthorn S., & Pullyblank, A. (2010). Use of briefings and debriefings as a tool in improving team work, efficiency, and communication in the operating theatre. *Postgraduate Medical Journal*, *87*(1027), 331–334. →

Busby, J. S. (1999). The effectiveness of collective retrospection as a mechanism of organizational learning. *The Journal of Applied Behavioral Science*, *35*, 109–129. a, b

Carmeli, A., Gelbard, R., & Reiter-Palmon, R. (2013). Leadership, creative problem-solving capacity, and creative performance: The importance of knowledge sharing. *Human Resource Management*, *52*(1), 95–121. doi:10.1002/hrm.21514 →

Cox, J. W., & Hassard, J. (2005). Triangulation in organizational research: A re-presentation. *Organization*, *12*(1), 109–133.

Cox, J. W., & Hassard, J. (2007). Ties to the past in organization research: A comparative analysis of retrospective methods. *Organization*, *14*, 475–497.

Crowe, J., Allen, J., Scott, C., Harms, M., & Yoerger, M. (2017). After action reviews: The good behavior, the bad behavior, and why we should care. *Safety Science*, *96*, 84–92. →http://dx.doi.org/10.1016/j.ssci.2017.03.006 a, b, c

Dunn, A. M., Scott, C., Allen, J. A., & Bonilla, D. (2016). Quantity and quality: Increasing safety norms through after action reviews. *Human Relations*, *69*, 1209–1232. doi: 0018726715609972. →

Ellis, S., Carette, B., Anseel, F., & Lievens, F. (2014). Systematic reflection: Implications for learning from failures and successes. *Current Directions in Psychological Science*, *23*, 67–72. →

Ellis, S., & Davidi, I. (2005). After-event reviews: Drawing lessons from successful and failed experience. *Journal of Applied Psychology*, *90*, 857–871. doi:10.1037/0021-9010.90.5.857 a, b

Ellis, S., Mendel, R., & Aloni-Zohar, M. (2009). The effect of accuracy of performance evaluation on learning from experience: The moderating role of after-event reviews. *Journal of Applied Social Psychology*, *39*, 541–563. doi:10.1111/j.1559-1816.2009.00450.x →

Ellis, S., Mendel, R., & Nir, M. (2006). Learning from successful and failed experience: The moderating role of kind of after-event review. *Journal of Applied Psychology*, *91*, 669–680. doi:10.1037/0021-9010.91.3.669 →

Giessner, S. R., & van Knippenberg, D. (2008). "License to fail": Goal definition, leader group prototypicality, and perceptions of leadership effectiveness after leader failure. *Organizational Behavior and Human Decision Processes*, *105*, 14–35. →

Goralnick, E., Gates, J., Brown, C., Biddinger, P., Velmahos, G., Fisher, J., Gupta, A., Peleg, K. (2015). Leadership during the Boston Marathon bombings: A qualitative after-action review. *Disaster Medicine and Public Health Preparedness*, *9*(5), 489–495. →

Judge, T. A., Piccolo, R. F., & Ilies, R. (2004). The forgotten ones? The validity of consideration and initiating structure in leadership research. *Journal of Applied Psychology*, *89*, 36–51. →

Lehmann-Willenbrock, N., Lei, Z., & Kauffeld, S. (2012). Appreciating age diversity and German nurse well-being and commitment: Co-worker trust as the mediator. *Nursing & Health Sciences*, *14*, 213–220. →

Litt, A., & Tormala, Z. L. (2010). Fragile enhancement of attitudes and intentions following difficult decisions. *Journal of Consumer Research*, *37*, 584–598. →

Luong, A., & Rogelberg, S. G. (2005). Meetings and more meetings: The relationship between meeting load and the daily well-being of employees. *Group Dynamics: Theory, Research, and Practice*, *9*, 58. →

McDonald, J. H. (2014). Handbook of Biological Statistics (3rd ed.). Sparky House Publishing, Baltimore, Maryland. →

Morrison, E. W. (2011). Employee voice behavior: Integration and directions for future research. *Academy of Management annals*, *5*(1), 373–412.

Morrison, J. E., & Meliza, L. L. (1999). *Foundations of the after action review process* (No. IDA/HQ-D2332). Institute for Defense Analyses, Alexandria, VA. →

Mumford, T. V., Campion, M. A., & Morgeson, F. P. (2007). The leadership skills strataplex: Leadership skill requirements across organizational levels. *Leadership Quarterly*, *18*, 154–166. →

Preacher, K. J., & Briggs, N. E. (2001, May). Calculation for Fisher's Exact Test: An interactive calculation tool for Fisher's exact probability test for 2 x 2 tables [Computer software]. Available from →http://quantpsy.org. →

Reiter-Palmon, R., Kennel, V., Allen, J. A., Jones, K. J., & Skinner, A. M. (2015). Naturalistic decision making in after-action review meetings: The implementation of and learning from post-fall huddles. *Journal of Occupational & Organizational Psychology*, *88*, 322–340. doi:10.1111/joop.12084 →

Reiter-Palmon, R., Kennel, V., Allen, J. A., & Jones, K. J. (2018). Good Catch!: Using Interdisciplinary Teams and Team Reflexivity to Improve Patient Safety. *Group and Organization Management*, *43*(3), 414–439. Doi: 10.1177/1059601118768163. a, b, c

Rogers, E. W., & Milam, J. (2005, March). Pausing for learning: Applying the after action review process at the NASA Goddard Space Flight Center. In 2005 IEEE Aerospace Conference (pp. 4383–4388). IEEE.

Ron, N., Lipshitz, R., & Popper, M. (2002). How organizations learn: Post-flight reviews in a F-16 fighter squadron. *Organization Studies*, *27*, 1069–1089. →

Rudolph, J. W., Raemer, D. B., & Simon, R. (2014). Establishing a safe container for learning in simulation: the role of the presimulation briefing. *Simulation in Healthcare*, *9*, 339–349.

Rudolph, J. W., Simon, R., Raemer, D. B., & Eppich, W. J. (2008). Debriefing as formative assessment: closing performance gaps in medical education. *Academic emergency medicine*, *15*(11), 1010–1016.

Rus, D., van Knippenberg, D., & Wisse, B. (2010). Leader power and leader self-serving behavior: The role of effective leadership beliefs and performance information. *Journal of Experimental Social Psychology*, *46*, 922–933. doi:10.1016/j.jesp.2010.06.007 →

Sagie, A., & Koslowsky, M. (1996). International replication note decision type, organisational control, and acceptance of change: An integrative approach to participative decision-making. *Applied Psychology*, *45*, 85–92. http://dx.doi.org/10.1111/j.1464-0597.1996.tb00850.x →

Salas, E., Grossman, R., Hughes, A. M., & Coultas, C. W. (2015). Measuring team cohesion: Observations from the science. *Human Factors*, *57*, 365–374. →

Schippers, M. C., Den Hartog, D. N., & Koopman, P. L. (2007). Reflexivity in teams: A measure and correlates. *Applied psychology*, *56*, 189–211. →

Schippers, M. C., Den Hartog, D. N., Koopman, P. L., & Wienk, J. A. (2003). Diversity and team outcomes: The moderating effects of outcome interdependence and group

longevity and the mediating effect of reflexivity. *Journal of Organizational Behavior*, *24*, 779–802. →

Schippers, M. C., Edmondson, A. C., & West, M. A. (2014). Team reflexivity as an antidote to team information-processing failures. *Small Group Research*, *45*, 731–769. →

Schippers, M. C., West, M. A., & Dawson, J. F. (2015). Team reflexivity and innovation: The moderating role of team context. *Journal of Management*, *41*, 769–788. →

Scott, C., Allen, J. A., Bonilla, D. L., Baran, B. E., & Murphy, D. (2013). Ambiguity and freedom of dissent in post-incident discussion. *Journal of Business Communication*, *50*(4), 383–402. doi:10.1177/0021943613497054 a, b, c, d, e, f

Scott, C. W., Shanock, L. R., & Rogelberg, S. G. (2011). Meetings at work: Advancing the theory and practice of meetings. *Small Group Research*, *43*, 127–129. doi: 1046496411429023. →

Smith-Jentsch, K. A., Cannon-Bowers, J. A., Tannenbaum, S. I., & Salas, E. (2008). Guided team self-correction: Impacts on team mental models, processes, and effectiveness. *Small Group Research*, *39*(3), 303–327. →

Stergiou-Kita, M., Mansfield, E., Bezo, R., Colantonio, A., Garritano, E., Lafrance, M., ... & Theberge, N. (2015). Danger zone: Men, masculinity and occupational health and safety in high risk occupations. *Safety Science*, *80*, 213–220. →

Storm, B. C., Angello, G., & Bjork, E. L. (2011). Thinking can cause forgetting: Memory dynamics in creative problem solving. *Journal of Experimental Psychology: Learning, Memory, And Cognition*, *37*, 1287–1293. doi:10.1037/a0023921

Svennevig, J. (2012). Interaction in workplace meetings. *Discourse studies*, *14*, 3–10. a, b

Tannenbaum, S. I., & Cerasoli, C. P. (2013). Do team and individual debriefs enhance performance? A meta-analysis. *Human Factors*, *55*, 213–245. doi:10.1177/0018720812448394 a, b, c, d

Tjosvold, D., Hui, C., & Yu, Z. (2003). Conflict management and task reflexivity for team in-role and extra-role performance in China. *International Journal of Conflict Management*, *14*, 141–163. →

Tracy, S. J. (2013). Qualitative research methods. *UK: Wiley-Blackwell*. →

Turner, B. A. (1983). The use of grounded theory for the qualitative analysis of organizational behaviour. *Journal of Management Studies*, *20*(3), 333–348. →

Villado, A. J., & Arthur, W. J. (2013). The comparative effect of subjective and objective after-action reviews on team performance on a complex task. *Journal of Applied Psychology*, *98*(3), 514–528. doi:10.1037/a0031510 a, b, c, d

Walumbwa, F. O., & Schaubroeck, J. (2009). Leader personality traits and employee voice behavior: mediating roles of ethical leadership and work group psychological safety. *Journal of Applied Psychology*, *94*(5), 1275. →

Weick, K. E. (1995). Sensemaking in organizations (Vol. 3). Sage. a, b

Weick, K., & Sutcliffe, K. (2007). *Managing the unexpected: Resilient performance in an age of uncertainty*. San Francisco, CA: Jossey-Bass.

West, M. A. (1996). Reflexivity and work group effectiveness: A conceptual integration. In *Handbook of work group psychology*, edited by M. A. West. Chichester: John Wiley & Sons. a, b

Yin, R. K. (2003). Case study research (Vol. 5). Thousand Oaks, California.

Yoerger, M., Crowe, J., & Allen, J. A. (2015). Participate or else!: The effect of participation in decision-making in meetings on employee engagement. *Consulting Psychology Journal: Practice and Research*, *67*(1), 65.

Zibran, M. F. (2007). Chi-Squared test of independence. Department of Computer Science, University of Calgary, Alberta, Canada. →

Zohar, D. (2000). A group-level model of safety climate: Testing the effect of group climate on microaccidents in manufacturing jobs. *Journal of Applied Psychology*, *85*(4), 587. →

4 High reliability reflexivity

Jody L. S. Jahn

4.1 Introduction

HRO theorizing is a response to managing the emergent hazards that arise during crises (natural disasters) and ongoing risks (hazardous, complex operations). In general, HROs conduct technologically and organizationally complex operations (e.g., generating nuclear power, fighting massive forest fires, controlling air traffic, aircraft carrier missions) in the midst of uncertain and changing conditions (→Weick & Sutcliffe, 2015). Notably, their close attention to the details and fluctuations in their operations, combined with agile approaches to address problems while small, enable high reliability systems to experience relatively few catastrophic accidents. To remain responsive and resilient in complex or changing environments, HROs depend on members learning and applying lessons on the fly. In HROs, learning occurs in the moment through member's efforts to remain vigilant of what is unfolding around them (i.e., "mindfulness"). That is, research and theory has suggested ways learning occurs through in-the-moment awareness of how their operation is progressing, speculating where small problems might foretell larger issues, remaining flexible to address problems early and with the right expertise, and endeavoring to always learn from events large and small (HRO principles, AARs). HROs also learn when they codify lessons from operations into their technical documentation cycle (→Sauer, 2003)–an organizational process consisting of translating safety policies into formal training, designing practices and procedures, noting emerging best practices (→Barbour & Gill, 2014; →Jahn, 2016; →Ziegler, 2007), documenting events locally and through incident investigation processes, and producing learning-related products (→Jahn, 2019a; →Sauer, 2003). While there is quite a bit of research that helps us to understand how HROs learn, and where they store their lessons, we know less about how lessons get re-articulated and remembered in practice. Knowing more about the interplay between lessons and everyday practice is crucial for HROs due to their thin margins for error, potential for catastrophic failures, and limited opportunities to learn about how hazards emerge from complex technological, environmental, and human systems. Moreover, because there are high stakes associated with HROs, the linkages between lessons learned and practice are especially salient; insights from HRO contexts can help inform non-HROs hoping to bring their own operational practices, inefficiencies, and competitive advantages into sharper focus.

This chapter explores how HROs incorporate learned lessons back into practice, proposing that the notion of reflexivity can help organization and crisis managers understand how risks are re-articulated and remembered through various modes of action and documentation. Toward that end, the chapter proposes several ways that reflexivity processes might punctuate an organization's technical documentation cycle (e.g., in documents, training, accident inquiry processes and reports) so that dynamic,

ephemeral lessons about risks and crises might endure. This chapter contributes to high reliability organizing and response to emerging hazards and crises by suggesting ways that reflexivity about practice can introduce vigilance into the full cycle of noticing and documenting hazards in risky operations.

4.2 Learning in high reliability organizing

HROs depend on dynamic learning through vigilance and reflection, which members accomplish through acting out the principles of mindfulness (→Weick & Sutcliffe, 2015). According to →Weick and Sutcliffe (2015), HRO mindfulness principles include actions that maintain vigilance and respond to small or emerging problems, such as maintaining awareness of subtle or emerging details of an operation (sensitivity to operations), making sure to consider complex and less likely explanations for unexpected events (reluctance to simplify interpretations), and enabling those with specific expertise to act on problems regardless of their rank (deference to expertise). While →Weick and Sutcliffe (2015) maintain that their descriptions of high reliability practice highlight what these organizations do "right" to maintain vigilance, plenty of scholars have pointed out ways that communication is socially complex and rarely straight-forward; that is, maintaining vigilant awareness is a worthy ideal to strive for, but requires significant awareness of obstacles that might arise from collective, professional, and interpersonal relationships. For example, professional cultures direct members' attention toward what counts as a risk in such highly-situated and specific ways that what is deemed a necessary risk (versus a risk to avoid) might be so counterintuitive as to likely not make logical sense to an outsider (→Scott & Tretheway, 2008). Other studies have added detail to our understanding of communication nuances regarding locally appropriate ways members might raise concerns, noting that voicing a concern might demonstrate one's dedication to group goals in some contexts, but in other contexts might make the member appear inexperienced or lacking confidence (→Jahn, 2016, →2018, 2019b). Scholars also have critiqued ways that hierarchical relationships among members mostly constrain (but also can enable) communication as they make sense of what to do; for instance, hierarchical relationships can have a chilling effect on communicating problems and concerns when members question their own experience relative to that of other members (→Barton & Sutcliffe, 2009; →Blatt, Christianson, Sutcliffe & Rosenthal, 2006). However, communication can flow more freely in democratic workplaces (→Novak & Sellnow, 2009), or if those in supervisory roles empower lower-ranking members to voice concerns and ideas (→Baran, Shanock, Rogelberg, & Scott, 2012; Jahn & Black, 2017). Due to the highly situated nature of what counts as appropriate or inappropriate communication, it is no wonder that several studies have attended to ways members are socialized into the very specific ways to act, communicate, and show emotion in these professional cultures while also attempting to learn about high-stakes hazards (→Myers, 2005; →Myers & McPhee, 2006; →Scott & Myers, 2005; →Tracy, Myers, & Scott, 2006).

The mindfulness underlying high reliability organizing, according to →Weick and Sutcliffe (2015), also entails members learning through reflection, by articulating how they acted in the face of uncertainty through making adjustments to their actions as needed (commitment to resilience), and by discussing what went well or poorly (preoccupation with failure) during an operation. Again, while these mindfulness practices are useful ideals for members to strive for, there are deep nuances to unravel regarding how members might overcome the enormous communicative and social obstacles that make both mindful reflection and sense-making about ambiguous environments so challenging. For example, maintaining a *commitment to resilience* acknowledges that operations regularly are complex and emerging; a major consequence of this uncertainty is that it is difficult to articulate how cues and events might be pieced together into an explanation of cause and effect that can inform future best practices (→Weick & Sutcliffe, 2015). For this reason, after action reviews (AARs) or debriefs are a way for members to reflect on how well they coordinated efforts toward a shared goal, and what they might do differently next time so as to remain *preoccupied with failure.* Further, →Scott and colleagues (2013) examined how AARs were a form of collective sense-making, defined as "the process by which groups detect ambiguous shifts in their environments, bracket off portions of their information environments for further attention, collaboratively select interpretations of emergent events and retain successful interpretive schemes for relevant situations in the future" (→Scott, Allen, Bonilla, Baran, & Murphy, 2013, p. 283–384). AARs are a technique to encourage retrospective discussion, which enables workers to stay attuned to their typical operations and learn from unexpected events that arise. AARs facilitate learning by helping workers not only adapt their actions during incidents but also can provide fodder for potentially revising their professional values, assumptions, and decision premises.

While AARs are a valuable learning tool, several studies have found that they are fraught with complexity because they are not simply conversations that accomplish information exchange. Rather, AARs are an important venue for instantiating and maintaining a safety climate which has its own unique values and decision premises (→Scott et al., 2013). Thus, it is not simply *what* information is exchanged that makes AARs valuable for learning. Also important is how members treat each other when they participate in AARs, and the extent to which the conversations are satisfying, that can make or break their usefulness for learning. AARs do not always work to promote safety climate–they must be implemented in ways that are attentive to both broad professional values and local team norms (→Baran et al, 2012; →Jahn, 2016). Further, it is crucial that AARs, debriefs, and other learning-based conversations promote voice safety (or psychological safety) meaning that members feel interpersonally secure that their teammates will not ridicule them for their contributions (→Edmondson, 1999; →Van Dyne, Ang, & Botero, 2003). Learning-based conversations must also promote voice efficacy, or knowing that one's contributions were heard and valued, even if not acted upon (→Van Dyne et al., 2003).

Overall, the sampling of HRO research presented previously demonstrates how members learn in HROs as they act with vigilance and reflection. However, important

questions remain: *Where do those lessons go? And, how do organizations (not just individuals) remember them?* An emerging area of HRO work looks at the role of technical documentation on organizational learning, presented next.

4.3 Gathering and codifying lessons through documentation

A dedication to learning through vigilant ongoing actions defines how HROs make sense of ever present uncertainty. However, another crucial way these organizations learn is by storing their lessons in (and retrieving them from) their technical documentation (→Jahn, 2019a; →Sauer, 2003). Theorizing on HROs has begun to examine the role of the technical documentation cycle (→Figure 4.1), that is the cycle of documentation learning by codifying safety policies; translating policies into training, procedures and rules; designing inquiry processes to understand accidents; and producing accident reports and other learning products to inform future organizing (→Sauer, 2003).

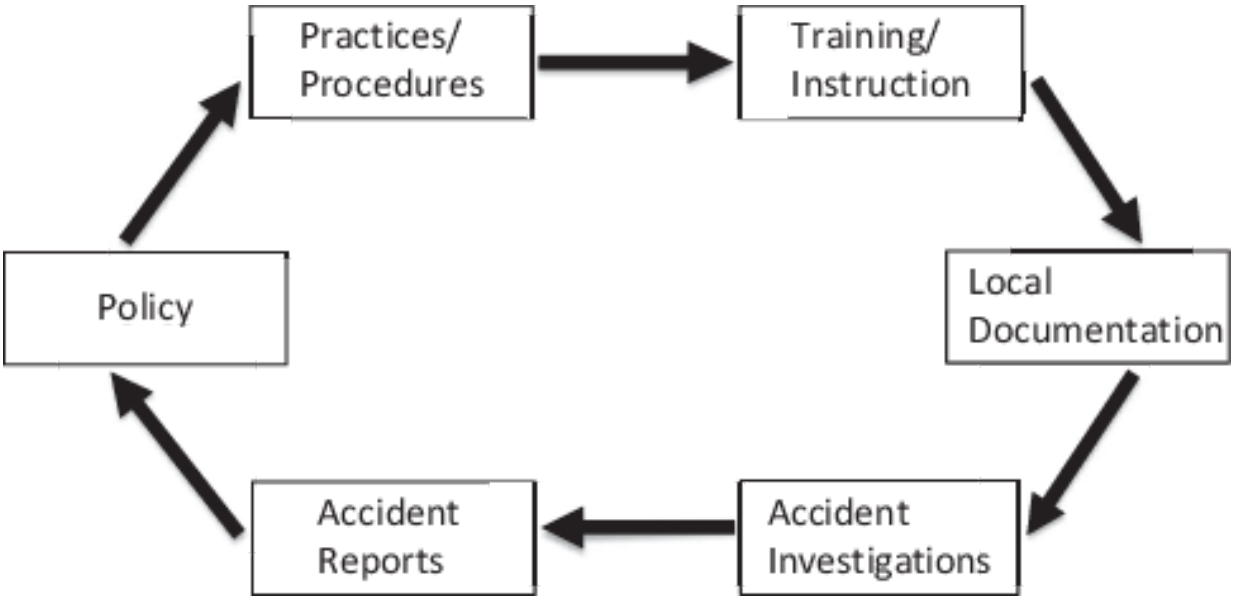

Figure 4.1: Diagram of Technical Documentation Cycle (adapted from →Jahn, 2019a; →Sauer, 2003).

Safety rules and procedures are such a quotidian aspect of technical documentation in many organizations that their ubiquity and commonness can obscure the social and communicative complexities associated with how lessons from practice are translated from documentation into action (→Barbour & Gill, 2017, →Jahn, 2016; →Zeigler, 2007). As mentioned earlier, HRO cultures can entail such situated norms that something as seemingly straightforward as following a safety rule is, in reality, fraught with nuance and precarity (→Scott & Trethewey, 2008). At the most proximal level to practice is translating rules according to team values and norms (→Jahn, 2016; →Scott &

Trethewey, 2008; →Weick, 1987). For instance, comparing the cultures of two wildland firefighting crews, →Jahn (2016) found that local subcultures and value systems provided very different sets of decision premises about how to use the same set of safety rules in practice.

Slightly more distal expectations enter workers' decision space from organizational or professional norms or cultural values. On the one hand, HROs exhibit various hallmarks of traditional management control in that they encourage members to report errors, document and learn from failures, and generally try to avoid complacency (→Weick & Sutcliffe, 2015). However, HROs cannot rely on traditional means of management control to enforce these practices; instead, HROs depend on their safety cultures to convey to members specific attitudes, values and patterns of behavior that demonstrate a commitment to managing safety (→Bierly & Spender, 1995). Eventually, through socialization into an organizational culture, members learn unique, shared ways of seeing situations and events and are guided in how to think, act and make decisions (→Bierly & Spender, 1995; →Weick & Roberts, 1993). Related research also suggests that probing "normal" work practices provides a glimpse into team's premises for action and how they reflect local sub-cultures and value systems (→Jahn, 2019a; →Scott & Trethewey, 2008).

The previous research emphasizes the importance of understanding how organizational and professional value systems provide guidance for translating rules and procedures into practice, and thus re-enacting the lessons they codify about ambiguity and risk in HROs. However, there is still a need to know more about the underlying premises for translation that guide risk and safety perceptions. Toward that end, an under-explored area of HRO theorizing is understanding these organization's bedrock assumptions about safety and risk, referred to as the safety paradigm in which members operate (→Hollnagel, 2014).

4.3.1 Safety paradigms: Guiding assumptions about risk, safety, and failure

A *safety paradigm* is a worldview composed of a set of bedrock assumptions about what constitutes a "risk" or what can be considered "safe" in an organization (→Hollnagel, 2014). Considering an HRO's safety paradigm assumptions is valuable for enhancing operational reflexivity because it provides a language for articulating, labeling, and isolating both helpful and unhelpful assumptions that undergird decision premises, so that meaningful changes can be made to practices and learning (→Hollnagel, 2014; →Jahn, 2019a). As such, safety paradigms can be applied to systematically unpack the internal logic of safety documentation, accident causes, investigations, and prevention efforts. →Hollnagel (2014) proposed that safety paradigms include ontological, phenomenological, and aetiological assumptions about risk and safety. In particular, ontology refers to foundational assumptions about the nature of what is considered "safe" or a "risk." Phenomenological assumptions pertain to how organizations define the traits or characteristics that make something appear safe (or unsafe). Aetiology refers to how we explain the cause/effect mechanisms leading to failures or successful events (see →Table 4.1).

Table 4.1: How the Rationalist and Adaptation Safety Paradigms Compare on Their Assumptions.

Paradigmatic Assumptions		**Nature of Hazards**	
		Rationalist	**Adaptation**
Ontology	Nature of hazards	Objective, known, controllable	Emergent, unpredictable
Phenomenology	Traits that indicate hazards or safety	Objective Identifiable through scientific measurement, calculation	Emerging Known and unknown Cues not always clear or of clear importance
Axiology	Mechanisms that contribute to hazard events	Linear, root cause for accidents Singular explanations	Network of events and decisions Multiple explanations

When people think of how safety rules are generally used in organizations, the *rationalist* paradigm likely comes to mind. Specifically, safety rules are typically associated with a logic of compliance/violation, such that workers expect to *comply* with rules, and anticipate some form of punitive discipline if they *violate* them (→Hale & Borys, 2013). The compliance/violation logic of the safety rules is grounded in the rationalist paradigm's safety ontology, which assumes that it is possible to discover and control for any hazards that might arise in an operation. Thus, safety rules codify known hazards, and members are responsible to heed safety rules (and other safety documentation) to capitalize on an organization's stored knowledge (→Barbour & Gill, 2017; →Jahn, 2019a; →Zeigler, 2007). A rationalist safety paradigm also assumes that hazards can be predicted and identified through scientific measurement or calculation (a phenomenological assumption), and further assuming that members can anticipate and plan around most (if not all) possible future hazards. This paradigm also considers that adverse events can be traced back to a single root cause that triggered a linear trajectory toward failure. Overall the rationalist safety paradigm is grounded in Frederick W. Taylor's ideas about scientific management, or the 'one best way' to conduct a complex operation (→Hale & Borys, 2013). A rationalist safety paradigm is especially applicable to contexts in which technical documentation is useful for limiting or circumscribing worker actions to avoid identifiable, generally known, and more tightly controlled hazards (e.g., factories, assembly lines).

While the rationalist safety paradigm might be appropriate for non-HROs whose operations are lower stakes and more predictable, it is an ill fit for the typical work HROs do because HROs encounter a great deal of uncertainty about what is and is not safe. Instead of falling under a rationalist safety paradigm, several HROs are a better fit with an adaptation paradigm (→Hollnagel, 2014; →Jahn, 2019a). In an adaptation safety paradigm, safety is considered a *dynamic non-event* (→Weick, 1987), meaning that some hazards can be known and predicted, but there is plenty of opportunity for unexpected hazards to emerge or accumulate without notice (an ontological assumption). Important indicators (or cues) do not always stand out as clearly playing a role in the unfolding trajectory of events (a phenomenological assumption), and accident cause is attributable to multiple explanations that are both proximal to the failure (e.g., on-

scene decisions immediately leading up to the event) and distal to it (e.g., system-level factors, networks of actions and decisions). Recently, scholars and practitioners have begun to define the hallmarks of an adaptation safety paradigm, including what safety rules mean and how they should be used in action (→Dekker, 2014; →Hollnagel, 2014; →Jahn, 2019a). These authors propose that rules should not limit action through rationalist (i.e., compliance/violation) uses. Rather, rules should be adaptable, or used as "tools" that expand options for actions, and members should draw from them to address novel situations with innovative solutions (→Dekker, 2014; →Kontogiannis & Malakis, 2013).

Safety paradigm assumptions enter every part of an organization's technical documentation, and they directly influence the lessons members seek, experience, and document in every step of that cycle. It cannot be overstated the critical consequences an organization's safety paradigm has on its ability to learn about risky and safe actions–both in the moment as action unfolds, and as organizations attempt to document and carry lessons forward to future operations. The next section introduces the idea of reflexivity, or making deliberate efforts to notice and understand one's circumstances through planned and spontaneous pauses in collective action (→Schippers, Edmondson, & West, 2014). Importantly, I will argue that safety paradigm assumptions undergird which lessons are sought, reflexively experienced, and documented. The section then provides recommendations for reflexivity that align with assumptions of the adaptation safety paradigm.

4.4 High reliability reflexivity: Remembering and re-enacting lessons in an adaptation safety paradigm

The previous sections explained that HRO theorizing attends to ongoing *vigilance*, or processes by which members navigate uncertainty and ambiguity on-scene. However, there is less work exploring HRO *reflexivity*, or how teams articulate and act on their situated premises for action (e.g., culture, value systems) that guide how they draw safety documentation into action in the first place. Toward that end, this section combines the bedrock assumptions of the *adaptation safety paradigm* with the notion of reflexivity to theorize *high reliability reflexivity*, which draws from research on team reflexivity (→Schippers et al., 2014).

In general, reflexivity refers to deliberate efforts to articulate aspects of one's experience that both shape how they interpret events, and situate what stands out as important to them in the first place; it is a common idea in qualitative research methods and pertains to the researcher's transparency about their personal connections to the research questions, context or participants (→Tracy, 2013). In recent years, management scholars have applied the idea to teams. *Team reflexivity* refers to deliberate talk about team goals, processes, and outcomes in order to adapt them when needed (→Schippers et al., 2014). Similar to the qualitative researcher providing transparency behind how their situated value system and personal biases influence their research decisions, a reflexive team makes deliberate efforts to articulate how their underlying value systems might be presenting obstacles or opportunities to their

communication and operations. Team reflexivity involves discussions in which teams talk about "past or planned actions, decisions, or conclusions, with respect to goals, processes or outcomes. The aim of team reflexivity is to evaluate past actions and performance, learn from failures and successes, and craft action intentions for improved future functioning" (→Schippers et al., 2014, p. 735).

The purpose of introducing reflexivity into team practice is to explicitly address communication malfunctions, or information processing failures, among members (→Schippers et al., 2014). For instance, teams with relatively novice members might encounter the hidden profile effect, a communication malfunction that happens when people fail to pass along unique information because their inexperience makes them unaware of its importance, or they assume other people see what they see, and trust that others will raise the issue if it is important enough (→Schippers et al., 2014). In contrast, teams composed of experienced members might encounter representational gaps in which members have difficulty integrating their divergent perspectives to reach an agreement. Highly experienced crews also can get stuck in a rigid routine in which they maintain automatic, habitual routines that keep them from considering alternative courses of action (→Schippers et al., 2014).

High reliability reflexivity involves organizations (or operations) making deliberate efforts to articulate and act in ways consistent with their chosen safety paradigm. This means that all organizational learning about risks and safety is interpreted through the lens of the paradigmatic assumptions underlying the paradigm, whether rationalist or adaptation. It is important to note that the technical documentation cycle–the goals and genres composing the cycle–will direct attention, inquiry, effort, and reward in very different ways depending on the bedrock assumptions of the safety paradigm undergirding it. The next section proposes organization-level and workgroup-level recommendations for introducing reflexivity into a technical documentation cycle informed by the adaptation safety paradigm. Some comparison between a rationalist and an adaptation safety paradigm will be incorporated to illustrate important differences between the bedrock assumptions under the two paradigms.

Communication is central to reflexivity–it is the process by which it occurs. However, the role(s) communication plays in reflexivity will differ based on safety paradigm. In particular, in the rationalist paradigm, communication is largely a means of information exchange by which members use a deductive reasoning process to narrow down and diagnose obstacles to seeing known hazards and working around them (Jahn, Myers, & Putnam, 2018), referred to as information processing failures (→Schippers et al., 2014). Members remain vigilant and reflective about practice (i.e., mindful, →Weick & Sutcliffe, 2015) by communicating to ask questions, alert others about what they see, interpret safety policies into best practices, debrief and document local events, and codify lessons that provide a more complete sense of clarity about a set of risks. In effect, communication within the rationalist safety paradigm is a means for removing and reducing ambiguity about a set of risks or other operational circumstances. In contrast, communication in the adaptation safety paradigm largely plays a constitutive role as an inductive process in which members construct an actional understanding of their circumstances by developing a plausible storyline that contextualizes the fragmented

pieces of information that–for reasons identified with reflexivity–become salient in unfolding circumstances (→Jahn et al., 2018). The next sections confront each aspect of the technical documentation cycle to propose opportunities for reflexivity about, specifically, adaptation safety paradigm assumptions.

4.4.1 Punctuating organizational learning with organization- and workgroup-level reflexivity

Organization-level values, expectations, and incentive systems provide a foundational understanding for members about what the organization (or a broad profession) deems appropriate or inappropriate behavior. Particular aspects of organizational culture, like rites, rituals and norms can operate both visibly and beneath member's awareness (→Weick, 1987). These elements of organizational culture also convey assumptions about risk and safety.

Policy. Safety policy typically falls under the broad jurisdiction of an organization or a profession, therefore, efforts to introduce reflexivity about policy might best be directed toward the organization-level. A first step to introducing reflexivity into organizational learning about risks is diagnosing whether an organization's safety policy aligns with its safety paradigm assumptions. The stakes of having a misalignment between policy and paradigm permeate every aspect of the technical documentation cycle, influencing everything from whether workers see risks as predictable versus emerging, considering single versus multiple cause/effect explanations for events and accidents, and following a line of inquiry that seeks to identify obstacles to rule compliance versus following a line of inquiry that looks for new ways to connect the dots about how an accident might have occurred. Additionally, paradigm assumptions undergird learning reports such that the take-away findings of any investigation will only make sense to members to the extent that they are conceptually anchored within the values orientation members hold. Organizations adopting an adaptation safety paradigm might ask the following questions to reflect on their safety policy:

- In what ways does safety policy wording acknowledge that hazards are emerging and sometimes not possible to know?
- How does policy language imply or suggest *the kinds of lessons* the organization has *learned* that it wants to carry forward in regular, expected practice?
- How does policy language specify circumstances under which various parties will be held accountable for accidents, and what counts as negligence?

To illustrate how to answer the above questions consider some differences between rationalist and adaptation safety paradigms. A rationalist paradigm carries assumptions that following rules and procedures can prevent accidents; they want to reenforce and enforce the rules toward that end. Moreover, if an accident occurs, members expect to be held accountable if they violated safety policy in ways that might have 'caused' an accident. In contrast, the adaptation paradigm carries the assumption that members must always be able to learn something new from–or connect the dots among–both expected and unexpected events and pieces of information. However, while this

approach might better account for innovative, spontaneous solutions, much theorizing about the adaptation safety paradigm has not clearly specified how to set clear expectations for determining what counts as negligence. One way the US Forest Service has approached this challenge with their *doctrine* policy–which follows the adaptation safety paradigm and allows selective usage of safety rules–is to use a peer review process to make sense of wildland firefighting cultural influences on "normal work" practices (→Jahn, 2019a). In particular, a bedrock assumption of the doctrine policy is that wildland firefighters should draw from their expertise to incorporate safety rules where necessary. If an accident happens, the US Forest Service investigates *not* by asking 'what went wrong' (a rationalist paradigm question); instead, the organization asks a group of peers (relative to those involved in the accident) 'what made sense about people's actions in this situation?' (→Jahn, 2019a). While this approach to understanding negligence and accountability is vulnerable for critique, it does align with the assumptions of an adaptation safety paradigm, which grants workers the benefit of the doubt for knowing their domain of expertise.

4.4.2 Rules and procedures, training, and local documentation

The workgroup (or team) level of analysis is a useful place for probing training, rules and procedures. While early HRO research theorized that organizational culture, broadly, would shape member's safety values and rituals (see →Weick, 1987), more recent communication-based research centers on workgroups (or the team level) as the social context in which members are most motivated to hold themselves accountable to their immediate colleagues (→Moreland & Levine, 2001). For instance, research on socialization in the structure firefighting HRO has suggested that members spend a great deal of time learning about the acceptable ways of communicating and acting so that their actions demonstrate their trustworthiness to their colleagues (→Myers, 2005; →Myers & McPhee, 2006). Another important and related finding about the importance of the workgroup level of analysis is just how compelling the team environment is in applying social pressure on members to act a certain way; thus, team members hold both themselves and one another accountable to the specific value systems undergirding their teams's sense of purpose. In the adaptation paradigm, the goal is not so much about memorizing rules, as it is grasping and acting on general principles. This is why elements of culture are important for HROs. Guiding value systems, provide reasons or premises on which to act, even when circumstances are ambiguous. This is not a new insight; however, organizations following an adaptation safety paradigm might not have a well-articulated grasp of their underlying culture or the variations on that culture that show up across an organization's, possibly siloed, localities. Thus, it is important to guide reflexivity about values and assumptions about safety and risk, as well as norms and practices for handling risks. Teams might introduce reflexivity about their team membership in general. For instance, teams might reflect on their team's collective identity and openly discuss how that identity is expressed through local norms, and the pressures members feel to uphold a team identity or reputation. Along similar lines, teams might reflect on aspects of team membership about which they take

pride. Workgroups operating within an adaptation safety paradigm might ask the following questions to reflect on training, rules and procedures, and local documentation:

- How do organizational or professional value systems get translated into action and contextualized within a particular team? How do those translations and contextualizations of values differ across teams?
- Workgroups might reflect on ways their workgroup is different from other workgroups by asking: What is our team's reputation within our profession? What is our workgroup known for being especially skilled at? What are our areas for improvement?
- What do workgroup members see as their team's most important professional priority?

To illustrate, →Jahn (2016) compared how two wildland firefighting teams compared based on the decision premises upon which they translated safety rules into action. Findings suggested that the team's collective identities played a central role in contextualizing member's actions and decisions. For example, taking pride in a collective identity as teachers/learners compelled the less-experienced Manzanita team members to participate in instructional interaction patterns, while a collective identity as experts pressured the more-experienced West Fork members to make decisions autonomously, which closed off opportunities for them to engage in instructional interactions. Importantly, the core behaviors that demonstrated credibility and commitment to the team differed between the two teams such that exhibiting the valued behavior from one team in the other team's environment might make the firefighter seem less credible. Moreover, given that the adaptation safety paradigm holds a central assumption that members must always be able to connect the dots in new ways, training needs to help them know the decision premises upon which to notice relevant pieces of information, or to register trajectories of events as being likely problematic or opportune.

Accident Inquiry Processes, and Learning Reports/Products. Rationalist and adaptation safety paradigms attribute distinctive cause/effect understandings about sources of risk, accomplishing safe operations, tracing accident cause, and extracting lessons to carry into future action (→Jahn, 2019a). A crucial aspect of organizational learning about risk and safety occurs in both accident inquiry processes, specifically the questions they ask, and in learning reports, particularly the questions these products answer. Communication patterns and practices are symbolic actions grounded in team cultures and value systems (see →Barker, 1993; →Myers, 2005; →Scott & Trethewey, 2008, among others), such that symbolic values can become taken-for-granted scripts for accomplishing work. Team reflexivity activities can help to identify how symbolic aspects of membership like team identity and values provide scripts for locally "appropriate" behavior; the same line of questioning can be directed at understanding broader professional or organizational scripts as well. When scripts go unarticulated or unquestioned, they can lead to problematic interaction patterns (→Schippers et al., 2014). This is why it is important to enter incident investigations with the goal of gaining

a deep understanding of “normal work” according to workgroup, organization, and professional identities, an approach the US Forest Service uses to inquire about accidents under their *doctrine* safety policy (→Jahn, 2019a). These various identities provide scripts for action that encourage and justify certain approaches to work. Thus, under an adaptation safety paradigm, investigators enter an inquiry process with the foundational assumption that an accident might have occurred because a course of action was expected or valued as “professional,” rather than assuming someone made a mistake. Thus, the inquiry process begins by asking what made sense and went according to plan, then it looks to uncover unintended consequences of organizational, professional, and workgroup value systems. Organizations and workgroups operating within an adaptation safety paradigm might reflect on “normal work” in the following ways in their accident inquiry processes, learning reports and other products:

- What about members’ plans and actions made sense given the circumstances?
- How did members’ actions reflect valued reputations (e.g., profession, organization, and workgroup) in beneficial or harmful ways under the circumstances?
- What accomplishments or products are rewarded, punished, or overlooked? How, by whom, and under what circumstances?
- What distal, system-level factors influenced decisions and actions? What was the flow of orders, stated priorities, pressures, and decisions throughout the entire chain of command, and over a continuous span of time? How did these factors influence on-site actions?

Finally, learning reports and products (e.g., accident reports, learning reviews) under an adaptation paradigm are focused on understanding the multiple perspectives and deeper cultural decision premises that operate within their occupation, organization, or workgroup in ways that are difficult to identify and articulate. Learning reports, then, provide a cultural narrative that gives members material with which they can relate their individual, workgroup, organization, and professional experiences. In particular, the adaptation safety paradigm seeks to uncover unintended consequences of accepted action premises that are specific to various aspects of culture. Rather than pinpointing what went wrong, they highlight what generally works about a course of action according to closely-held values, and then encourages members to engage in reflexivity to figure out how to use practices even more deliberately or purposefully in the future.

4.5 Conclusion

This chapter proposes that the notion of reflexivity can help crisis managers and organizations (both HROs and non-HROs) understand how risks are re-articulated and remembered through various modes of action and documentation. In particular, high reliability reflexivity involves organizations taking intentional steps to articulate and make salient the underlying assumptions of their chosen safety paradigm. As such, an organization’s learning about risks and safety is interpreted through the lens of the assumptions about what constitutes risk (or safety) that underlie their safety paradigm,

whether it be rationalist or adaptation. The chapter proposes ways that an organization adopting an adaptation safety paradigm might engage in reflexivity regarding their technical documentation cycle (e.g., in documents, training, accident inquiry processes and reports) so that dynamic operational lessons about risks might endure. This chapter contributes to high reliability organizing and response to emerging hazards and crises by suggesting ways that reflexivity about culture (professional, organizational, workgroup) and practice can introduce value-awareness and intention into the full cycle of noticing and documenting hazards in risky operations.

References

Baran, B. E., Shanock, L. R., Rogelberg, S. G., & Scott, C. W. (2012). Leading group meetings: Supervisors' actions, employee behaviors, and upward perceptions. *Small Group Research*, *43*(3), 330–355. →https://doi.org/10.1177%2F1046496411418252 a, b

Barbour, J. B., & Gill, R. (2014). Designing communication for the day-to-day safety oversight of nuclear power plants. *Journal of Applied Communication Research*, *42*(2), 168–189. https://doi.org/10.1080/00909882.2013.859291 →

Barbour, J. B., & Gill, R. (2017). Questioning as regulatory work practice: The communicative accomplishment of reliability and safety in the oversight of nuclear power plants. *Communication Monographs*, *84*(4), 466–487. →https://doi.org/10.1080/03637751.2017.1322212 a, b

Barker, J. R. (1993). Tightening the iron cage: Concertive control in self-managing teams. *Administrative science quarterly*, 408–437. https://doi.org/10.2307/2393374 →

Barton, M. A., & Sutcliffe, K. M. (2009). Overcoming dysfunctional momentum: Organizational safety as a social achievement. *Human Relations*, *62*, 1327–1356. doi: 10.1177/0018726709334491 →

Bierly III, P. E., & Spender, J. C. (1995). Culture and high reliability organizations: The case of the nuclear submarine. *Journal of management*, *21*(4), 639–656. →https://doi.org/10.1016/0149-2063(95)90003-9 a, b

Blatt, R., Christianson, M. K., Sutcliffe, K. M., & Rosenthal, M. M. (2006). A sensemaking lens on reliability. *Journal of Organizational Behavior*, *27*, 897–917. doi:10.1002/Job.392 →

Dekker, S. (2014). *Safety differently: Human factors for a new era*. Boca Raton, FL: CRC Press. a, b

Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly*, *44*(2), 350–383. doi:10.2307/2666999 →

Hale, A. R., & Borys, D. (2013). Working to rule, or working safely? Part 1: A state of the art review. *Safety Science*, *55*, 207–221. http://doi.org/10.1016/j.ssci.2012.05.011 a, b

Hollnagel, E. (2014). *Safety-I and Safety–II: The past and future of safety management*. Farnham, UK: Ashgate. a, b, c, d, e, f

Jahn, J. L. S. (2016). Adapting safety rules in a high reliability context: How wildland firefighting workgroups ventriloquize safety rules to understand hazards. *Management Communication Quarterly*, *30*(3), 362–389. http://doi.org/10.1177/0893318915623638 a, b, c, d, e, f, g

Jahn, J. L. S. (2018). Genre as textual agency: Using communicative relationality to theorize the agential-performative relationship between human and generic text. *Communication Monographs*, *85*(4), 515–538. http://doi.org/10.1080/03637751.2018.1481986 a, b

Jahn, J. L. S. (2019a). Shifting the safety rules paradigm: Introducing Doctrine to US wildland firefighting operations. *Safety Science*, *115*, 237–246. https://doi.org/10.1016/j.ssci.2019.02.002 a, b, c, d, e, f, g, h, i, j, k, l

Jahn, J. L. S. (2019b). Voice enactment: Linking voice with experience in high reliability organizing. *Journal of Applied Communication Research*, *47*(3), 283-302. →https://doi.org/10.1080/00909882.2019.1613555

Jahn, J. L., & Black, A. E. (2017). A model of communicative and hierarchical foundations of high reliability organizing in wildland firefighting teams. *Management Communication Quarterly*, *31*(3), 356–379. →https://doi.org/10.1177%2F0893318917691358

Jahn, J. L., Myers, K. K., & Putnam, L. L. (2018). 8. Metaphors of Communication in High Reliability Organizations. In *Organizing for Reliability* (pp. 169–193). Stanford University Press.

Kontogiannis, T., & Malakis, S. (2013). Remaining safe by working at the edge of compliance and adaptation: Reflective practices in aviation and air traffic control. *Theoretical Issues in Ergonomics*, *14*(6), 565–591. http://doi.org/10.1080/1463922X.2012.672597 →

Levine, J. M., Moreland, R. L., & Choi, H. S. (2001). Group socialization and newcomer innovation. *Blackwell handbook of social psychology: Group processes*, *3*, 86–106. →

Myers, K. K. (2005). A burning desire assimilation into a fire department. *Management Communication Quarterly*, *18*(3), 344–384. doi: 10.1177/0893318904270742 a, b, c

Myers, K. K., & McPhee, R. D. (2006). Influences of member assimilation in workgroups in high-reliability organizations: A multi-level analysis. *Human Communication Research*, *32*, 440–468. doi: 10.1111/j.1468-2958.2006.00283.x a, b

Novak, J. M., & Sellnow, T. L. (2009). Reducing organizational risk through participatory communication. *Journal of Applied Communication Research*, *37*(4), 349–373. doi: 10.1080/00909880903233168 →

Sauer, B. (2003). *The rhetoric of risk: Technical documentation in hazardous environments*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc. a, b, c, d, e

Schippers, M. C., Edmondson, A. C., & West, M. A. (2014). Team reflexivity as an antidote to team information-processing failures. *Small Group Research*, *45*(6), 731–769. →https://doi.org/10.1177%2F1046496414553473 a, b, c, d, e, f, g, h, i

Scott, C., Allen, J. A., Bonilla, D. L., Baran, B. E., & Murphy, D. (2013). Ambiguity and freedom of dissent in post-incident discussion. *Journal of Business Communication*, *50*, 383–402. doi:10.1177/0021943613497054 a, b, c

Scott, C., & Myers, K. K. (2005). The socialization of emotion: Learning emotion management at the fire station. *Journal of Applied Communication Research*, *33*(1), 67–92. →https://doi.org/10.1080/0090988042000318521 →

Scott, C. W., & Trethewey, A. (2008). Organizational discourse and the appraisal of occupational hazards: Interpretive repertoires, heedful interrelating, and identity at work. *Journal of Applied Communication Research*, *36*(3), 298–317. →https://doi.org/10.1080/00909880802172137 a, b, c, d, e

Tracy, S. J. (2013). *Qualitative research methods: Collective evidence, crafting analysis, communicating impact*. Malden, MA: John Wiley & Sons. →

Tracy, S. J., Myers, K. K., & Scott, C. W. (2006). Cracking jokes and crafting selves: Sensemaking and identity management among human service workers. *Communication Monographs*, *73*(3), 283–308. https://doi.org/10.1080/03637750600889500 →

Van Dyne, L., Ang, S., & Botero, I. C. (2003). Conceptualizing employee silence and employee voice as multidimensional constructs. *Journal of management studies*, *40*(6), 1359–1392. https://doi.org/10.1111/1467-6486.00384 a, b

Weick, K. E. (1987). Organizational culture as a source of high reliability. *California management review*, *29*(2), 112–127. →https://doi.org/10.2307%2F41165243 a, b, c, d

Weick, K. E., & Roberts, K. H. (1993). Collective mind in organizations: Heedful interrelating on flight decks. *Administrative science quarterly*, 357–381. https://doi.org/10.2307/2393372 →

Weick, K. E., & Sutcliffe, K. M. (2015). *Managing the unexpected: Sustained performance in a complex world* (3rd ed.). Hoboken, NJ: John Wiley & Sons, Inc. a, b, c, d, e, f, g, h

Ziegler, J. A. (2007). The story behind an organizational list: A genealogy of wildland firefighters' 10 Standard Fire Orders. *Communication Monographs*, *74*(4), 415–442. →http://doi.org/10.1080/03637750701716594 a, b, c

5 Integrating dynamic modeling solutions towards a resilience model

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5.1 Introduction

High-risk work is often characterized across industries as operations that are highly complex and dynamic (e.g., wildland firefighting, off-shore drilling, emergency medicine; →Collinson, 1999; →Eisenberg et al., 2005; →Jahn, 2016). Such structurally and technologically intricate operations are compounded by uncertain and changing conditions, the outcomes of which may threaten the viability of key organizational resources, such as property and revenue, and, potentially, human life. A dynamic, complex environment obliges organizations to regularly redefine their standing in their competitive landscape just as it forces their employees to contend with a "fugitive quality of meaning" (→Weick, 1993, p. 645) about their work that can risk their wellbeing as well as desired operational outcomes. In other words, high-risk organizations at large and their members in particular regularly face multiple, frequent, and obfuscating shifts in their work – shifts that, while they might implicate potential hazards, also mask their nature and significance for organizational health.

Although the study of high-risk work is valuable to the field of organizational risk management, few have adequately captured the realities of these settings in hypothetico-deductive models. →Beus and colleagues (2016), for example, contend in their review of workplace safety paradigms that generalized measures of safety behavior (e.g., →Griffin & Neal, 2000) do not capture the full range of behaviors that indeed mitigate error in high-risk work settings. This claim is similar to that of →Zohar's (2008), which seeks improved, multifaceted models of organizational climate for high-risk work as a result of extant models failing to explain why or how structural and technological organizational complexities yield error-ridden – and, at times – error-free outcomes.

Such difficulty in modeling the complex, dynamic realities of high-risk work is not new. Jens Rasmussen framed the nature of this problem for risk management in his highly influential works, and that this problem still persists reveals that scholars and practitioners continue to confront these realities. This chapter returns to the scholar's cumulative thoughts on the matters of complexity and dynamism to redress the connotations of risk and resilience for organizations.

5.2 Rasmussen's dynamic modeling problem

Pivotal for the development of safety science, cognitive science, human factors, and ergonomics, Jens Rasmussen inspired scholars and practitioners alike with his research

and thought leadership (→Le Coze, 2015). Moreover, his research is renewed with each wave of scholars attempting to unpack high-risk work. From models of human error (→Reason, 1990) to developments in the fields of normal accident theory (→Perrow, 1984), resilience engineering (→Hollnagel, 2014) and high reliability organizing (→Weick & Sutcliffe, 2015), to analyzing recent accidents (→Kee, Jun, Waterson, & Haslam, 2017), Rasmussen's claims and techniques hold their relevance.

→Rasmussen's (1997) "dynamic modeling problem" represents the culmination of the scholar's decades-long research. The author summarizes the many efforts to model risk at different levels of abstraction and centers his claims on the increasing dynamism and complexity of organizational environments. Rasmussen cites, for instance, the pace of technological obsolescence and aggressively competitive organizational landscapes; such is not only a 'problem' for practitioners, but also one for scholars that attempt to test and derive theory. Rasmussen then contends that future models should, at large, be more sensitive to context – particularly value systems (e.g., organizational culture, organizational climate) – and include a range of inputs that span multiple disciplines and levels of analysis.

Rasmussen's discussion of this 'problem' effectively catalyzed scholarship; new models and theories adopted organizational factors in addition to human ones (→Waterson, Le Coze, & Andersen, 2017). That is, rather than address *who* caused an accident, scholars and practitioners now seek more details about the nature of the conditions and processes that contribute to the probability of an accident. Moreover, models and theories more readily accommodate an individual's capacity to adapt as integral to a system's reliability (→Borys, Else, & Leggett, 2009). In the same vein, research steadily declined use of analyses that assume tight control of the organizational environment in favor of those with that accommodate multiple actors (e.g., managers, employees) and contexts. Rasmussen's Accimap method became a particular means of capturing factors from different systems levels that contribute to accidents (→Svedung & Rasmussen, 2002), where the model describes the failures, decisions and actions at the different system levels and posits the nature of the interactions between them.

5.3 Dynamic modeling 'solutions'

Rasmussen's dynamic modeling problem and risk management framework are unique because they frame risk as that which can be abstracted. Scholars and practitioners now readily posit the supposed conditions that enable and constrain the likelihood of error and the nature of the interrelationships among those conditions in a larger system – a positive step toward capturing dynamism and complexity. Here we introduce two of these many approaches, or 'solutions,' to Rasmussen's dynamic modeling problem: (1) a sociocognitive solution and (2) a risk-centered solution.

Both 'solutions' attend to daily operations of high-risk organizations, a point of focus that Rasmussen emphasized: "risk management can only be discussed in depth when considering carefully the decision making involved in the normal operation of the hazardous processes posing potential for major accidents" (→Rasmussen & Svendung,

2000). This interpretation is particularly concerned with the adaptive properties of a collection of individuals in a complex, dynamic environment. We highlight these characteristics in both ‘solutions’ towards exploitative ends for high-risk organizations.

The aforementioned dynamic modeling problem and risk management framework not only kickstarted a wealth of scholarship and practice-based interventions, but also called upon interdisciplinarity as the tool with which the larger research community can address complexity and dynamism in its models and theories. Thus we draw upon these two distinct, albeit overlapping ‘solutions’ to model the collaborative attitude that early risk management work inspired. Moreover, we are careful to frame these two ‘solutions’ in particular terms; such attention to terminology and construct definitions might renew cross-disciplinary work for the future.

5.4 Sociocognitive ‘solution’

Rasmussen’s claims shift the risk management discussion away from reaction to risk towards interaction with it. The scholar’s emphasis on systems theory, for example, draws attention to the organization as situated within an environment with which it interacts (→Leveson, 2017). In other words, through interaction, the organization both invents an environment and becomes a part of that invention. What’s more, this view contends that properties of an organization (e.g., safety) are emergent and, moreover, perishable; the organization must perpetually manage complex, dynamic conditions or become obsolete.

Sociocognitive theories and models explore the processes with which we come to understand and adapt to an embedded, emergent environment. Among the processes that are cited as amenable to the complex, dynamic conditions of organizations, “continuous talk” (→Rochlin, 1989), “heedful interrelating” (→Weick & Sutcliffe, 2001), and sensemaking (→Weick, 1995) are central because they enable flexible interpretations among individuals. The overarching assumption among these is that thoughts, discussions, and decisions among individuals (e.g., employees, supervisors) are always in process. An essential component of these interactions is coordinated responses and behaviors that modify ongoing action (→Weick, Sutcliffe, & Obstfeld, 2005). These interactions are characterized by one’s ongoing attempts to troubleshoot various interpretations of events as they unfold, and they are often guided by interpretations of previous, seemingly analogous events. The particular risk that is acted upon is the result of this ongoing, collective process.

Such an iterative accomplishment of meaning is a key feature for the theory that guides organizational reliability. These efforts perpetuate patterns of analyzing, categorizing and making distinctions, which amount to a collective commitment to mindfulness. Whereas mindfulness broadly describes a present-centered frame of reference, it is evoked here as a capability among group members to discern discriminatory detail about emerging issues and to act swiftly in response to these details (→Vogus & Sutcliffe, 2012). Influential works in the organizational sciences (e.g., →Weick & Sutcliffe, 2015) characterize collective mindfulness by a group’s preoccupation with failure, a reluctance to simplify interpretations, sensitivity to

operations, a commitment to resilience, and deference to expertise. Another way to conceive of collective mindfulness is to consider its alternative effects. A group that spends little to no time examining instances of failure for insight into the health of their organization develops no grounds to identify and comprehend risk. Similarly, a group that does not regularly share both similar and discrepant insights about dynamic, complex features of their organizational environment stifles progress toward nuanced understanding and robust responses. This view essentially predicts reliable operations among those committed to these mindful practices.

A group's commitment to collective mindfulness gives order to an organization via improved latitude for interpretation, improvisation, and contextual action (→Vogus & Sutcliffe, 2011). As stated before, interpretation, improvisation and action are ongoing, rather than static accomplishments. Thus these aforementioned processes are oftentimes noted in theory and accompanying models by an activity-oriented gerund (i.e., "-ing"), namely, mindful organizing. Although collective mindfulness and mindful organizing are referenced interchangeably, they can be somewhat discerned from one another. Collective mindfulness is an attribute of a group as well as a product of what that group does. What that group does – namely, their mindful organizing – serves in their evaluation and response to their dynamic, complex environment toward organizationally-imperative outcomes. In turn, mindful organizing has been linked with lower turnover rates (→Vogus, Cooil, Sitterding, & Everett, 2014), improved resource allocation (→Wilson, Talsma, & Martyn, 2011), and greater innovation (→Vogus & Welbourne, 2003).

The sociocognitive 'solution' then is one that preempts scholars and practitioners to adopt tools to develop the collective mind. The collective mind emerges from the processes that iteratively evaluate dynamic, complex goings-on, reduces the wasted cognitive effort of overlapping knowledge, and provides improved access to rich insight toward coordinated responses to emergent risks (→Weick & Roberts, 1993). Debriefs substantiate a rich area of practice where the collective mind is nurtured. Akin to post-mortems or after-action reviews, debriefs are discussions and analyses of experiences toward improved action in the future (→Scott, Allen, Bonilla, & Baran, 2013). Not only do debriefs serve a functional role in a variety of organizational types and settings – including medicine (→Reiter-Palmon, Kennel, Allen, Jones, & Skinner, 2015) and the fire service (→Crowe, Allen, Scott, Harms, & Yoerger, 2017) – those that are well-conducted can demonstrably improve learning and team performance; they align attention, remove distraction, and limit abstractions among those debriefing (→Tannenbaum & Cerasoli, 2013).

Debriefs support collective understanding of the nature and significance of changes in the organizational environment – and the hazards that those changes implicate. As such, where threats from a complex, dynamic environment loom, debriefs support the detection of misunderstandings that can exacerbate those threats. What's more, debriefs are among the organizational learning interventions that scholars of traditional high reliability organizations and high-risk organizations position as integral to their maintenance of relatively error-free operations (→Sutcliffe, 2011). That is, debriefs serve their participants in combating complexity and reducing the ramifications of tightly

coupled processes by slowing the speed of the crisis at hand as it unfolds. The nature of the debrief is such that participants can jointly identify what may have set the problem in motion and where interventions and solutions are possible well before larger-scale consequences emerge.

Research across organizational settings and debrief types offer generalizable insight about what makes for an effective debrief session. Not only do participants discuss their reactions and observations during an effective debrief, but they also explore the focal event for applicable, often codifiable insights for the future. An effective debrief can thus be characterized by both a diagnostic and supportive approach (→Salas et al., 2008). As such, participants and facilitators alike gear the discussion toward specific learning objectives (→Sawyer, Eppich, Brett-Fleegler, Grant, & Cheng, 2016). Moreover, participants of effective debriefs readily perceive the opportunity to share and analyze experiences from a focal event, reflect on both positive and negative behaviors and outcomes, and discuss potential improvements for the future (→Kolbe et al., 2019).

The ‘solution’ here suggests that organizational risk emerges from shared perception among individuals and that these individuals amplify their assumptions about their dynamic, complex environment through discussion with one another. As such, indicators of error that might threaten organizational viability are better identified as events unfold and their potential, multiple explanations are examined. The debrief is a central platform for the iterative and collective assignment of meaning to a group’s (and, by extension, their organization’s) successes, failures, and their potential risks. Subsequently, the debrief is among the tools an organization can employ for purposeful ambiguity management; debriefs nurture the collective mind toward improved awareness of and response to important performance-based and environmental cues.

5.5 Risk-centered ‘solution’

Recent crisis events (e.g., the global supply chain crisis) have led to multi-billion dollar losses. Such events indicate substantive breakdowns of the risk management process. While underlying threats may come to be known, how those threats manifest themselves in a complex system is indeed unpredictable. Business continuity planning is a professional practice that emerged in response to these challenges and that serves to enhance an organization’s ability to withstand the negative impact of a crisis event.

Business continuity planning is an ongoing process to support effective responses to crisis events. Such work extends beyond informal discussion of interdependencies and potential disruptions to complex, networked organizations and leverages analytical models to determine points of failure that may lead to even greater vulnerabilities. Just as complexity magnifies the effects of crisis events even further, so too do business continuity planning practitioners assume that individuals and the organizations they lead can improve their response aptitudes. Threat checklists, for example, provide a multitude of scenarios to prepare for. In addition, some organizations consider worst-case scenarios to further improve their responses to crisis events. A black swan event, for instance, is totally intractable because its occurrence and impact are unpredictable

(→Taleb, 2007). That is, black swans are “unknown unknowns.” The impact of these events is treated often as if it is unbounded, where failed controls and other effects on a complex interconnected system are revealed as a consequence.

Business continuity planning further focuses on the selection of robust strategies to counter crisis events. Business continuity strategies are set to improve an organization’s capability to respond to crisis events and to continue operations relatively uninterrupted, while recovery strategies are poised to augment the organization’s capability to resume secure operations after an event has caused a disruption. We note that these strategies often treat the negative impact of risk, but that they may also support positive outcomes. For example, a supplier who installs a back-up generator as a strategy to mitigate the impact of a power outage may gain additional future business due to the supplier’s ability to continue operations while its competitors could not.

In general, business continuity planning contends with risk, including risk planning and risk treatment. Risk is the possibility of experiencing an event, measured in terms of probability and impact. A fundamental assumption is that risk cannot be eliminated; rather, risk is managed. Thus risk planning is an approach to treating risk towards accomplishing risk-related objectives (e.g., continuation of banking services during a power outage), and risk treatment focuses on avoiding the risk, transferring the risk, reducing the likelihood and/or impact of the risk, and accepting the risk. Business continuity planning practitioners develop holistic methodologies to ascertain how events impact the organization and to implement cost-justified strategies to manage risk. Furthermore, these practitioners frequently evaluate the advantages and disadvantages of alternative strategies, which are evaluated by such prioritized criteria as: protection of human life; protection of the environment; minimization of asset loss; facility recovery; and, safeguarding the organization’s reputation.

Given this framework, risk is often viewed as quantifiable, and as a result, probabilistic risk analysis is frequently called upon for risk planning and risk treatment. This analysis serves to identify events, determine their causes, and estimate probabilities and impact. Moreover, a risk evaluation compares risk levels with established risk criteria. A risk assessment encompasses both risk analysis and risk evaluation. This approach helps determine the most significant threats and supports planning to address these threats. Risk analysis works particularly well when history serves as a forecaster of future events. Events such as power outages, floods, winter storms, and equipment failure may usually be analyzed using historical data. Once threats have been identified, it may be possible to assign probabilities with some level of confidence through the review of available historical data. When probabilities of events are difficult to determine, estimating the probability of threat occurrence within a range is considered a more practical method for practitioners. In cases when the events have never occurred, or have never even been thought about, obtaining useful probability estimates is practically impossible.

Decision models which incorporate sensitivity analysis of the decision maker’s risk attitude are valuable in the selection of risk strategies (→Engemann & Miller, 2015). Business continuity professionals agree that the decision maker’s background

knowledge needs to be taken into consideration when describing and communicating risk. As such, business continuity supports methods that evaluate the strength of that background knowledge. In general, these methods assume that the risk of missing assumptions increases with the complexity of the situation of interest (→Langdalen, Abrahamsen, & Abrahamsen, 2020). Practitioners develop strategies to maintain an organization's critical components at acceptable levels. In general, this process requires identifying and prioritizing objectives and making resource allocation decisions. Prioritizing objectives of the organization indeed relies on the subjectivity of the organization's managers. As such, this process abides by a series of steps, including: determine when the critical organizational deliverables are to resume; estimate the impact of a disruption; and, determine the necessary continuity and recovery resources. Note that a crisis event's level of impact may be based upon various criteria such as loss of life, environmental damage, asset damage and duration of disruption. The resulting impact analysis attempts to quantify the impact of possible events.

Practitioners then apply various criteria and decision models to select risk treatment strategies. In comfort decision modeling, the measure of satisfaction is defined as the difference between the payoff received by selecting a particular strategy and the worst payoff that could have been received under the manifestation of the same state-of-nature (→Engemann & Yager, 2018). Comfort decision modeling uses attitudinal measures of the decision maker. and sensitivity of the resulting decision to a measure of the attitude of the decision maker. Robust design allows the system to function in extreme circumstances. Robust design includes design using components that have very low likelihoods of failure, built in redundancy, and systems that can be backed up elsewhere by mirror image systems. Even the most robust design, however, may fail under unexpected conditions. Avoidance is a strategy that can eliminate certain classes of black swans. Naturally, carrying this strategy to the extreme is untenable – avoiding all threats would mean nothing would ever be attempted. Practitioners acknowledge the implications of selecting risk treatment strategies, knowing that at times it is possible that the risk of implementing a strategy may overshadow its rewards. A decision model can be used when analyzing unintended consequences in these complex situations, incorporating the decision-maker's attitude in the determination of the preferred decision policy (→Miller & Engemann, 2019).

The assessment of risk treatment strategies ultimately reflects the attitude of the decision maker, which in turn is influenced by organizational climate. Within the framework of the *Risk Attitude Chain,* for instance, safety climate can be regarded as influencing risk attitude (→Engemann & Engemann, 2017). A high safety climate is reflective of a cautionary style and is consistent with a risk attitude that puts more emphasis on possible negative consequences. A low safety climate echoes an uncritical opinion of unsafe behavior and is consistent with a risk attitude that predicts that matters will go very smoothly.

5.6 A framework of resilience maintenance

Dynamism and complexity are indeed real, foreboding characteristics of high-risk work that forge a common hazard for these organizations and their members: ambiguity. To support Rasmussen's paradigmatic-shifting claims and to further the interaction of the sociocognitive and risk-centered 'solutions' introduced here, we emphasize the role of ambiguity – namely, its preservation – en route to resilience. As multiple, plausible interpretations of the organizational environment (→Baran & Scott, 2010), ambiguity poses a threat via the equivocality that it conjures. Whereas too much ambiguity yields inefficiencies and overcomplication, too little results in inaccuracy, oversimplification, and loss of valuable resources. Ambiguity essentially permeates interpretation and action in response to emergent events (→Scott & Trethewey, 2008). Moreover, resilience is the ability of an organization to withstand the impact of a crisis event (→Engemann & Henderson, 2012). Expanding on this definition, we now posit that resilience incorporates: *robustness* to manage the negative aspects of known risk; *mindfulness* to manage the negative aspects of unknown risk; and, *flexibility* to exploit the positive opportunities of risk.

The most salient threats to high-risk organizations are often linked. What's more, their attributes are useful in identifying new threats. These implications are derived from the assumption that the more an event, process, product, resource, setting, system or venture is described – often with a negative connotation – the more apparent (and, thus, greater) the inherent risk. As such, known and emergent risks often revolve around such familiar themes as scope and scale, complexity and dependency, the environment and shifts within it, knowledge and uncertainty, and precision and readiness (→Engemann, 2019).

Through the lens of this developing framework, and with these themes in mind, resilience takes on an iterative nature. That is, resilience is that which must be maintained, and to do so necessitates awareness of and preserved insights about existing and emergent threats. These features are central to the concerted effort among employees, supervisors, and business continuity professionals alike to understand and act in response to successes, failures, near-misses, and outright crises. Moreover, these features are just as essential for responding to emergent crisis events as they are for safeguarding the processes of risk planning and cultivating a culture of resilience. These ends are perhaps best achieved via continued exercising and updating. In this vein, we detail several recommendations towards resilience maintenance.

The following recommendations are posited for practitioners to evaluate the practicality of a risk plan and to develop a tolerance for ambiguity. These recommendations particularly feature tests and exercises; whereas tests assess equipment functioning, exercises serve as rehearsals for individual and team tasks. Given that crisis events pose challenges that are unlike the tasks employees perform during standard operations, the goal of testing and exercising is then to determine how and to what degree a risk plan can fail. Actions taken in responses to tests and exercises necessarily manage – rather than eliminate – the ambiguity about these practitioners' dynamic, complex organizational environment. In turn, these practitioners take steps to maintain their organization's resilience.

5.7 Recommended maintenance exercises

An exercise program toward resilience maintenance should start with simple exercises that grow in complexity over time. The concept of doing an exercise is not to fixate on a checklist, but rather to ensure that planning, procedures, awareness, training and equipment are adequate despite the event. Eventually, all aspects of the risk plan should be included in the exercise program. The purpose of exercising is to strengthen the effectiveness of the risk plan and to foster confidence. Performing an exercise should not place an organization in jeopardy. If no one at the organization has experience being a facilitator for an exercise and ensuing debriefing, an outside consultant should be engaged.

A talk-through exercise is a discussion on a specific topic, normally used as new procedures are introduced. A walk-through exercise adds a physical dimension, such as following an evacuation path. In a tabletop exercise, a crisis scenario is presented, including as much detail as possible to help to ensure participant buy-in. Then the participants work on questions as a team, however, it is important for everyone to think imaginatively to find new solutions that were not at first conceived of. Afterwards, the participants discuss how they performed and novel procedures often emerge. The exercise facilitator should be the only one who knows the scenario beforehand. Sufficient detail should be presented in the exercise, however, there should be some missing and conflicting data.

A full-scale exercise, or simulation game, presents a time constrained unknown scenario to the participants to give them the opportunity to exercise their response. These exercises attempt to duplicate the existential reality of an actual surprise crisis. This may require part of the organization to cease normal operations in practicing the response. Some of these exercises require teams to travel to recovery operations off-site. Full scale exercises involve role playing and are significantly detailed. Event timing, participant scripts, and interim reports are meant to provide realism that the participants believe. The availability of timely, relevant and accurate information affects the course of action as the crisis plays itself out. Analysis of information under pressure may lead to a decision maker using correct information incorrectly, leading down the wrong path. Some players may be unfamiliar with some involved systems, resulting in misinterpretation of information and time spent on bringing players up to speed. A full-scale exercise is challenging, high-profile, time consuming, and requires significant financial commitment.

An exercise is more challenging if the constructed crisis event being examined is unknown to the participants. This is a more true-to-life scenario because many crisis events are not preceded by a warning. An unannounced exercise adds another layer of realism and difficulty. Ambiguity in the fabric of the exercise gives the participants the opportunity to come up with creative solutions that eventually lead the way to an increase in the overall system reliability. In some time-constrained scenarios, strong central leadership may be the most effective way to reach a timely, correct decision, however this should be corroborated in the exercise. In some scenarios, it may be best

for a group to evaluate the information and thrash out alternatives, allowing a view of the situation using a broader perspective.

Crisis situations illustrate how core values manifest themselves in decisions made under pressure. Knowledge is a valuable resource capable of empowering coordinated action and change. High reliability organizations operate within very ambiguous and frequently hazardous situations. These particular organizations are distinctive because they continue a dialogue among members, capturing collective learning from success and failure. Studying the role of knowledge in these dynamic, complex environments – particularly from the perspectives of risk and uncertainty – provides valuable insight for organizations of all types looking to manage risk (→ Engemann, 2018).

Each exercise should conclude with a debrief to document any problems and, if necessary, explore solutions. In the debrief, the participants discuss key issues, including: what they learned; how well did they performed; if the plan satisfied the objectives; what changes are needed; if additional resources are needed; if additional training if needed; and when the next exercise will take place. Debriefing after exercises provides an opportunity to reflect on the organization's resilience by analyzing the participants' ability: to execute their roles in a crisis according to planned procedures; to improvise outside of the plan to immediately address previously unknown threats; and, to take advantage of emerging positive opportunities. Thus, as previously defined, resilience implies robustness, mindfulness and flexibility.

Maintenance calls for consistency within the risk plan and between the plan and the organization. Practitioners can delineate every review and exercise with respect to its objective and scope, scheduling, procedures and participants toward a maintenance plan. Maintenance plans specify the reviews and exercises to be performed, responsibilities, and target completion dates. It is vital that the risk plan and its maintenance plan be reviewed and exercised frequently and adjusted as necessary.

Reviewing the risk plan should precede exercising because prior plan weaknesses would undoubtedly lead to undesirable results. Such review should particularly reassess the criticality of operations and the assumptions made with respect to selected strategies, including the crisis events and associated impact. Practitioners should renegotiate their assumptions about the availability of required resources through discussions with managers, supervisors, suppliers, customers, and other partners. Reviewing also includes inspection of backup sites, examination of documentation, and checking the accuracy of information.

Practitioners can also maintain these exercises by determining whether their elements are functioning appropriately. Specifically, practitioners should review their risk plan and update it to best reflect changes in operations, processes, technologies, services and products. Changes in priorities, supply chains, competition, regulations, and other external factors also need to be studied. The results should be evaluated to ensure the adequacy of an action plan to complete necessary modifications. A procedure should then be in place to review and exercise the plan after software and hardware changes take place. As such, the objective of these maintenance exercises is to ensure that the risk plan is appropriate under current conditions.

5.8 Conclusion

In pursuit of improved theory and modeling of organizational risk, we return to Jens Rasmussen's dynamic modeling problem that framed risk management for the modern era. The sociocognitive and risk-centered 'solutions' to this problem are particularly attuned to processes as they are iteratively maintained in the face of ongoing error. Moreover, we integrate these solutions – with particular attention to their convergent theory and practical applications – on matters of organizational ambiguity and its management. We preliminarily establish a resilience model that highlights the detriments *and* benefits of multiple, plausible interpretations of a dynamic, complex environment. This model is posited in particular terms to support future cross-disciplinary research and renewed thought leadership in the field.

References

Baran, B. E., & Scott, C. W. (2010). Organizing ambiguity: A grounded theory of leadership and sensemaking within dangerous contexts. *Military Psychology*, *22*(Suppl. 1), S42–S69. →

Beus, J. M., McCord, M. A., & Zohar, D. (2016). Workplace safety: a review and research synthesis. *Organizational Psychology Review*, *6*(4), 352–381. →

Borys, D., Else, D., & Leggett, S. (2009). The fifth age of safety: the adaptive age. *Journal of Health and Safety Research and Practice*, *1*, 19–27. →

Collinson, D. L. (1999). 'Surviving the Rigs': Safety and Surveillance on North Sea Oil Installations. *Organization Studies*, *20*(4), 579–600. →

Crowe, J., Allen, J. A., Scott, C. W., Harms, M., & Yoerger, M. (2017). After-action reviews: The good behavior, the bad behavior, and why we should care. *Safety Science*, *96*, 84–92. →

Eisenberg, E. M., Murphy, A. G., Sutcliffe, K. M., Wears, R., Schenkel, S., Perry, S., & Vanderhoef, M. (2005). Communication in Emergency Medicine: Implications for Patient Safety. *Communication Monographs*, *72*(4), 390–413. →

Engemann, K. J., & Henderson, D. M. (2012). *Business Continuity and Risk Management: Essentials of Organizational Resilience*. Brookfield: Rothstein. →

Engemann, K. J., & Miller, H. E. (2015). Risk Strategy and Attitudinal Sensitivity. *Cybernetics and Systems*, *46*(3–4), 188–206. doi:10.1080/01969722.2015.1012890 →

Engemann, K. J., & Yager, R. R. (2018). Comfort decision modeling. *International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems*, *26*(1), 141–163. →

Engemann, K. N. (2018). Knowledge in high reliability organizations: a review of interrelated perspectives. In K. J. Engemann (Ed.), *The Routledge Companion to Risk Crisis and Security in Business* (pp. 80–90). New York and London: Routledge. →

Engemann, K. N., & Engemann, K. J. (2017). Risk attitude chain: safety climate, risk attitude and risk decisions. *International Journal of Business Continuity and Risk*

Management, *7*(3), 211–221. →

Griffin, M. A., & Neal, A. (2000). Perceptions of safety at work: A framework for linking safety climate to safety performance, knowledge, and motivation. *Journal of Occupational Health Psychology*, *5*(3), 347–358. →

Hollnagel, E. (2014). *Safety-I and Safety–II: The past and future of safety management*. Farnham, United Kingdom: Ashgate. →

Jahn, J. L. S. (2016). Adapting Safety Rules in a High Reliability Context. *Management Communication Quarterly*, *30*(3), 362–389. →

Kee, D., Jun, G. T., Waterson, P., & Haslam, R. (2017). A systemic analysis of South Korea Sewol ferry accident – Striking a balance between learning and accountability. *Applied Ergonomics*, *59*, 504–516. →

Kolbe, M., Eppich, W., Rudolph, J., Meguerdichian, M., Catena, H., Cripps, A., … Cheng, A. (2019). Managing psychological safety in debriefings: a dynamic balancing act. *BMJ Simulation and Technology Enhanced Learning*. →

Langdalen, H., Abrahamsen, E. B., & Abrahamsen, H. B. (2020). A New Framework To Idenitfy And Assess Hidden Assumptions In The Background Knowledge Of A Risk Assessment. *Reliability Engineering & System Safety*, *200*, 106909. →

Le Coze, J. C. (2015). Reflecting on Jens Rasmussen's legacy: A strong program for a hard problem. *Safety Science*, *71*, 123–141. →

Leveson, N. G. (2017). Rasmussen's legacy: A paradigm change in engineering for safety. *Applied Ergonomics*, *59*(Pt B), 581–591. →

Miller, H. E. and Engemann, K. J. (2019). The precautionary principle and unintended consequences. *Kybernetes*, *48*(2), 265–286. a, b

Perrow, C. (1984). *Normal accidents: Living with high-risk technologies*. New York: Basic Books. →

Rasmussen, J. (1997). Risk Management in a Dynamic Society: A Modeling Problem. *Safety Science*, *27*(2/3), 183–213. →

Rasmussen, J., & Svendung, I. (2000). *Proactive Risk Management in a Dynamic Society*. Karlstad, Sweden: Swedish Rescue Services Agency. →

Reason, J. (1990). *Human error*. New York, NY: Cambridge University Press. →

Reiter-Palmon, R., Kennel, V., Allen, J. A., Jones, K. J., & Skinner, A. M. (2015). Naturalistic decision making in after-action review meetings: The implementation of and learning from post-fall huddles. *Journal of Occupational and Organizational Psychology*, *88*(2), 322–340. →

Rochlin, G. I. (1989). Informal organizational networking as a crisis avoidance strategy: U.S. naval flight operations as a case study. *Industrial Crisis Quarterly*, *3*, 159–176. →

Salas, E., Klein, C., King, H., Salisbury, M., Augenstein, J. S., Birnbach, D. J., … Upshaw, C. (2008). Debriefing Medical Teams: 12 Evidence-Based Best Practices and Tips. *The Joint*

Commission Journal on Quality and Patient Safety, *34*(9), 518–527. →

Sawyer, T., Eppich, W., Brett-Fleegler, M., Grant, V., & Cheng, A. (2016). More Than One Way to Debrief: A Critical Review of Healthcare Simulation Debriefing Methods. *Simulation in Healthcare*, *11*(3), 209–217. →

Scott, C. W., Allen, J. A., Bonilla, D., & Baran, B. E. (2013). Ambiguity and freedom of dissent in post incident discussion. *Journal of Business Communication*, *50*(4), 383–402. →

Scott, C. W., & Trethewey, A. (2008). Organizational Discourse and the Appraisal of Occupational Hazards: Interpretive Repertoires, Heedful Interrelating, and Identity at Work. *Journal of Applied Communication Research*, *36*(3), 298–317. →

Sutcliffe, K. M. (2011). High reliability organizations (HROs). *Best Pract Res Clin Anaesthesiol*, *25*(2), 133–144. →

Svedung, I., & Rasmussen, J. (2002). Graphic representation of accident scenarios: Mapping system structure and the causation of accidents. *Safety Science*, *40*(5), 397–417. →

Taleb, N. N. (2007). *The Black Swan: The Impact of the Highly Improbable*: Random House. →

Tannenbaum, S. I., & Cerasoli, C. P. (2013). Do team and individual debriefs enhance performance? A meta-analysis. *Human Factors*, *55*(1), 231–245. →

Vogus, T. J., Cooil, B., Sitterding, M., & Everett, L. Q. (2014). Safety organizing, emotional exhaustion, and turnover in hospital nursing units. *Medical Care*, *52*(10), 870–876. →

Vogus, T. J., & Sutcliffe, K. M. (2011). Organizational mindfulness and mindful organizing: A reconciliation and path forward. *Academy of Management Learning & Education*, *11*(4), 722–735. →

Vogus, T. J., & Sutcliffe, K. M. (2012). Organizational Mindfulness and Mindful Organizing: A Reconciliation and Path Forward. *Academy of Management Learning & Education*, *11*(4), 722–735. →

Vogus, T. J., & Welbourne, T. M. (2003). Structuring for high reliability: HR practices and mindful processes in reliability-seeking organizations. *Journal of Organizational Behavior*, *24*(7), 877–903. →

Waterson, P., Le Coze, J. C., & Andersen, H. B. (2017). Recurring themes in the legacy of Jens Rasmussen. *Applied Ergonomics*, *59*, 471–482. →

Weick, K. E. (1995). *Sensemaking in organizations*. Thousands Oaks, CA: Sage. →

Weick, K. E., & Roberts, K. H. (1993). Collective mind in organizations: Heedful interrelating on flight decks. *Administrative Science Quarterly*, *38*(3), 357–381. a, b

Weick, K. E., & Sutcliffe, K. M. (2001). How to Manage Mindfully. In *Managing the Unexpected: Assuring High Performance in an Age of Complexity* (pp. 149–173). New York: Jossey-Bass. →

Weick, K. E., & Sutcliffe, K. M. (2015). *Managing the Unexpected: Sustained Performance in a Complex World*. Hoboken, New Jersey: John Wiley & Sons. a, b

Weick, K. E., Sutcliffe, K. M., & Obstfeld, D. (2005). Organizing and the Process of Sensemaking. *Organization Science*, *16*(4), 409–421. →

Wilson, D. S., Talsma, A., & Martyn, K. (2011). Mindful Staffing: A Qualitative Description of Charge Nurses' Decision-Making Behaviors. *Western Journal of Nursing Research*, *33*(6), 805–824. →

Zohar, D. (2008). Safety climate and beyond: A multi-level multi-climate framework. *Safety Science*, *46*(3), 376–387. →

6 Renovated leadership for the 21st century: Complexity, uncertainty and trust in the digital era

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6.1 Introduction

There are innumerable ways of understanding the philosophy of organizations and institutions.[1] During the last decades of the 20th century, we realized that not just individual or legislative dimensions were relevant, but the ethical, symbolic and cultural dimensions were also pertinent. New concepts arose on leadership theories such as symbolic capital, social capital or moral capital. In this context, social philosophy such as tradition (→Gadamer, 1982), values (→Scheler, 1973), corporate social responsibility (→Cortina et al., 2008), environmental sustainability and reciprocity (→Ricoeur, 2000) as well as virtue (→MacIntyre, 1981), increased in relevance. Globalization (→Beck, 1992) and digitalization are key categories for 21st century organizations. With that in mind we reflect about the traditional leadership propositions. These are not theoretical categories but are instrumental and practical as both question the relationship between nature (natural resources) within the organizations and worker relation with its organizational ecosystem.

It is representative of self-understanding of communitarian and self-identity to be deployed from and within the infosphere (→Floridi, 2020). That transformation may take place as self-realization or forced by circumstances. Nevertheless, leadership theories should integrate 20th century contributions, but also rethink in terms of globalization and digitalization. Applying those processes to organizations is not homogenous neither unlinked from leading on global and digital organizations.

The changes before the digital era were slow from an organized culture, from a structured and dynamic evolution within the organizations. Those organizations were created and evolve from the ontological paradigm (anthropological and historical) of stability-order of societies and cultures. Globalization and digitalization are new orders. A plurality of orders accelerating changes to radically transform the stable coordinates of leadership arose, including: capabilities, pro-socialization, communication, and rhetoric.

What is left from that “order” paradigm? We may conclude it has been substituted by chaos and entropy paradigms. So, what is leadership in times of chaos and social entropy? How can we think on a solidary and responsible leadership under this cultural change? How will human teams evolve in a disruptive ecosystem?

Some reason that new regulation and new order do not need to be reflected on. We propose a new way of thinking regarding organizational stability and dynamism in terms of trust and responsibility, reconciling self-identity and team identities with a necessary philosophy for change. At this time, a focal element is trust, which although

previously highlighted in leadership studies (→Braun, Peus, Weisweiler, Frey, 2013), now has to be presented as a new dimension because of the acceleration and gravity of rapid changes. Trust 4.0 (→Carbonell-Valin and Domingo, 2021) represents a heuristic value and is a metaphor representing an essential human dimension that helps transition among the new realities for this humanistic technological change.

We propose the need for a generative leadership, that is open to discussion and academic debate, to strengthen the human relevance for the digitalization of society. We think a renewed perspective on leadership is necessary as the digital context and organizational changes impose a new reality. Artificial Intelligence (AI) applied to organizations does not substitute the urgency and need of a natural intelligence. Both intelligences promote dynamic organizations and teams using human capabilities and intelligence complemented by AI. Generativity helps to deconstruct the traditional relation between machine agents and human agents. In this context, it is vital to understand the ethical dimension within the scope of risk management decisions. When considering risk management, global crises or organizational challenges, we analyze it from a measurable perspective in terms of values (moral standards) and accountability (mathematical standards).

If we reflect on terrorism, financial crises, humanitarian crises, climate change, or disinformation, we are likely to make a social assessment at first. For example, human impact on the environment is measured in many ways. Measurable problems and faced and resolved, but the intangibles are difficult to pinpoint. When taking into account the long term, impact becomes more clear when the dust of a specific situation settles and time passes by. Technology impacts the speed and manner in which we share information. The quick response of AI machines outperforms human capabilities, and because time and speed determine today's reality, we propose a human centric leadership approach.

Uncertainty and chaos are part of the human experience. We may assess that uncertainty is structural as it constantly challenges the status quo. There is a constant rephrasing and reinterpreting due to risks stemming from economic dangers, terrorist attacks, political instabilities, financial crises, liberty restrictions, and more. Society is embracing a technified humanism that raises many questions regarding the role of transversal leadership and ethical decision making.

In this chapter, we focus on the relevance of a construct – trust. Trust itself involves uncertainty and risk, however, it brings balance to social interaction in a complex and chaotic world. Trust is fundamental for leaders to manage risk. Trust helps generative leaders create an ethical ecosystem to make better decisions during today's uncertainties. Innovation and science, properly applied, may reduce uncertainties with machine algorithms. More technology does not necessarily mean less reliance on people, less humanity or diminishing trust; on the contrary, it does mean more responsibility.

The changes of the virtual, digital and technological infosphere that affects society, require a new trustful and integrative approach. The Information Society evolution together with an increasing leadership crisis, highlights the importance of trust that empowers a human centered perspective for a generative leadership approach. This

proposition adapts and transcends the “persona” in the 20st century digital reality that presents many challenges. We need to rethink trust, as traditional leadership theories are under scrutiny. There is an opportunity for a generative leadership to bring a conscious balance between risk and reliability. In a data driven society where uncertainty and chaos are increasing, there is a need for trustful leadership to foster reliability in our organizations.

6.2 Technology and uncertainty

Advances in technology provide significant benefits in living conditions and in the development of society. However, along with the advantages technological transformation yields, there also are considerable associated risks. We are constantly transforming our environment, so unpredictability and uncertainty is ubiquitous. Humans use various approaches and tools to deal with change in an attempt to provide more security and manage risk. In the 21st century, technology has been developed to the point that it is entrenched in decision making processes, making human agents uncomfortable about the resulting uncertainties brought about. Uncertainty, in part, is generated by the human aspiration of controlling the future.

A naïve position assumes a purely positive perspective on the issue; however, utilization of detailed risk assessment needs to be considered. Risk management is part of the process of decision making, where the assessment of risk has been traditionally delegated to human agency. The person making decisions addressing risk base their conclusions on their personal knowledge, experience and disposition. In business, a short term focus may lead to controlling behavior and this may potentially lead to non-reflective strategies in order to manage towards certainty to decrease risk. Human fears can contribute to the propensity to use control to find a solution, however, there are ethical questions about the future and the use of technology.

AI is a dominant technology that is shaping the future through autonomous decision making. Although there is massive investment in AI, the implications of the technology remain misunderstood by many. Governments are grappling with the role of regulation to integrate it safely, and to avoid severe negative impact. When assessing AI implementation, one must consider the implications of the human need for power and control (→Russell, 2021), and the inevitability of technological means of surveillance (→Zuboff, 2019). The uncertainty is brought about by the inevitability machine decision making processes influencing society and unbalancing it. Technology scholars and innovators point out that AI is unpredictable with respect to autonomy and limitations (→Yampolskiy, 2020). Emergent behaviors stemming from AI is impossible to predict, even for programmers, as it remains necessary to execute code to observe results.

Perhaps the benefits of using AI to solve problems through automatized decision making would improve the human condition. Nevertheless, there are those who fear AI will take control, and profess that super intelligent AI presents an existential risk to humanity (→Russell, 2021). In fact, this is not just an AI or machine learning problem. As robotics enter the scene more fully, we need to realize the limitation that the machine agent has no moral grounding. Processes with no moral responsibility, such as

robotized automatized weaponry or automatized driving mobility, will inevitably result in tragic consequences.

Human intelligence is not able to conceive of solutions or strategies analyzing data as does AI (→Yampolskiy, 2019). When analyzing the risk of using AI, it is commonly agreed that human coordination helps to find the right path when technology adopts inscrutable ways (→Shlegeris, 2020). In a survey of 15.000 participants, contemplating the arrival of super-intelligent AI, the vast majority think control should be coordinated by both humans and AI (→Future of Life Institute, 2017). Those who most contribute to the rise and use of AI have created a sort of monopoly on the technological ecosystem (→Thiel, 2014). Vast arrays of intelligent systems are being built that do not reflect a human centric view of the future (→Webb, 2019). This virtual society introduces many uncertainties on what we need to do to achieve good outcomes as digitalization affects intimacy and transparency (→Han, 2017). We need to improve our capabilities to adapt to this new digital reality (→Peiró, Soler, 2020).

6.3 Human centricity

To achieve a secure future, a human centric approach regarding technology is essential, supported by ethical agents leading to trusted interactions. The preponderance of the human factor is promoted by those who understand the role of the individual in the organization (→Ryan, Deci, 2020). Nevertheless, human control has not always been benign, as evident by the negative impact of our actions on our planet and the history of human injustices. The application of technology offers the potential to help mitigate risks that we are facing. However, there are serious risks that are created by automating decision processes; a dehumanizing of the organization may occur. The term dehumanization is used to denote the removal of the human from the decision process, such as implementing computer algorithms that are void of human intervention. Algorithmic decision making can lead to discontinuity and dissociation. Trust is essential in a context of credibility and moral standards in highly digitalized organizations.

Taking risks without measuring the potential impact is not a reasonable approach in navigating an uncertain future. The unpredictability may be reduced by exploring the potential use of the latest technologies. Modeling future complex environments to manage risk requires a reinforced sense of responsibility for assuming an ethical position that goes deeper that just being part of a computerized plan. Leadership involves conscientious decision making to validate responsible actions within a decision making process which is moving towards machine dominance. We are on a path toward a highly complex society where human integration within a digitalized society is at its early stages. Trust is a mechanism that can assist in moderating complexity (→Luhmann, 2018), as we deal with uncertainties.

A human agent is able to verbalize a sense of accountability as the act of understanding the responsible role of the decision maker. Responsibility links the person with the decision and accountability represents the obligation or function within an organizational dimension. A human agent assumes the responsibility for consequences of their decisions and is accountable for the role played within a system

or organization. With industrialization, the system, as opposed to the individual, became the central figure (→Taylor, 1992), and this understanding underlines dominant narratives in management. Nevertheless, in confronting complexities we propose an interpretation for prioritizing the relevance of the centric human element when making decisions. When the human centric narrative imposes its vision, it does consider Taylorism standards towards utilitarianism, but it does as well value intangibilities such as the ones that trust generates.

6.4 Trust and complexity

6.4.1 Context complexities and trust as a social construct

An understanding of the concept of trust, related to the complexities of the information society, requires analyzing the historical evolution of the concept under the different eras human evolution and the use of technology (→Bell, 1976). The pre-industrial societies relied on control over basic agricultural communities. More sophisticated trustful relations were created during the industrial age based on scientific analysis through secure organizations. We may represent a third era on a post industrial age where trust is related to information and knowledge. We stand at a historic moment where trust is generated over data and capabilities evolving from the rule of the infosphere. We refer to this intangible as trust 4.0 (→Carbonell-Valin and Domingo, 2021).

Modern context complexity creates many challenges, in particular within the scope of technological advancements, limited resources, and the ensuing uncertainty. Bringing balance requires a responsible and reflective leadership, featuring human centricity with a rationalized sense of trust. The complex surveillance paradigm we face today (→Zuboff, 2019) creates a dependency on the infosphere created by data storage and speed (→Floridi, 2014). The infosphere is the 21st century data ecosystem representing the digital revolution. The dynamism of such changing context reflects digitalization complexities. Trust should help to integrate processes towards equilibrium, mitigating discontinuities and dissociations. Human control over certain complex processes has been superseded by technology, and in a sense the human agent has progressively become less relevant. This represents a clear ethical dilemma regarding the exercise of control in decision making. Should it be the human agent or the machine agent?

Today’s advanced society is enmeshed in the complexity of decision making processes that rely greatly on the machine agent. There are known and unknown risks in this abdication of human control. Some people, adopting an optimistic attitude, are willing to accept those risks. Others, however, foresee an inevitable catastrophic endpoint. The middle ground may be the actual future that we can’t foresee with certainty. The philosophical basis when developing Deep Blue or Alpha Go to defeat chess or Go masters was based on AI with an Aristotelian positive architecture or design. With this, we mean that the goal is to solve problems for the common good as the machine would perform better than the human player. What is not taken into

account were the implicit risks inherent in machine learning. The Aristotelian conceptualization of searching for common good in problem solving does not take into account the implicit risk resulting from the fact that AI does not have a moral status (Bostrom, →Yudkowsky, 2011). The machine operates on a different level than humans when implementing decision making.

In a sense, a positive attitude towards AI accepts that a superior intelligence finds ways to improve results which are incomprehensible for a lesser human intelligence (→Yudkowsky, 2011). There is a mystery on how results are obtained by uncontrolled agents smarter than humans (→Russell, 2021). This narrative confronts the traditional social science views of thinking about imposing limits for a better coexistence. Human nature through history has demonstrated the importance of controlling its surroundings. This has been understood in terms of territory and the crises or conflicts attached to it. History has demonstrated that some humans have a tendency towards Machiavellian control through power and politics. Even though there is a mystique involved, as explained by religions relying on a supernatural power, we need to have a sense of control as we anticipate beforehand unpredictable and uncertain outcomes. The conflict concerning power and redesigning the status quo is a constant part of human development. We question how a transference in the power of decision making from the human agent to the machine agent may generate additional risk and uncertainty.

The risk of excessive data or exposure in the era of transparency (→Han, 2017) may dehumanize relations, virtualizing reality. As the digital world ensues, there is a need for coordinating through human leadership to avoid the dehumanization of participants in organizations. There are countless paths to choose from, some expanding creativity, others limiting it; nevertheless, in the path chosen, the ends cannot be used to justify the means (→Huxley, 1937). Critical thinking is central to understand the new enigmatic uncontrolled reality of relying on a machine agent. As we do integrate our motivations and objectives for the long term, critics explain that AI cannot develop human consciousness capacities (→Brooks, 2019). The pros and cons of such technology are evident from the ethical point-of-view, yet, the implications of machine learning bias, and its limits and responsibilities are unclear. We face complex situations involving unanticipated and incalculable risk, requiring the integration of human and machine agent input. This condition requires trust in our capacities, relations and agents. The digitalization of life is intensifying, with: predictions that 80% of sales in 2025 will be virtual (→Blum, 2020); uncertainties making organizations modify salaries (→Rodriguez, 2021); and, home-office adaptations (→Pichai, 2021). The acceleration described and the risk of dehumanizing relations affects social stability. This hybrid reality requires trust as a central piece for success and the common good.

6.4.2 Trust 4.0 for a better transitioning towards the digital complexities

Organizations need to generate trust in order to achieve their objectives and to help develop the competencies needed in the emergent virtual world (→Carbonell-Valin and Domingo, 2021); this a a trace of human centrality. The capabilities that need to be

reshaped constantly depend on personal qualities such as efficiency at work, education or knowledge. The need for renewed values to navigate in a technological world makes integrity a cornerstone (→Stahl & others, 2021). Trust is an intangible attribute that generates freedom and growth. Freedom of acting has been jeopardized by digitalization, and growth is an objective shared by leaders and organizations. Trust is reliable when it embodies the motivations that actioned it; it helps social and organizational interaction. As a mechanism to reduce complexity, trust saves time and simplifies. Trust relies on others to not improperly take control. Trust demands humbleness as it reflects a lack of knowledge and the need to collaborate with other agents. Trust also requires patience as we are contributing for the future. We need patience on a continuous process as it has indicium from the past, together with machine and human agents' intervention that require a faithful acceptance of the uncertain outcome of the interaction. Obviously trust, humbleness or patience do not guarantee success, however, they open a window for opportunity, endurance, resiliency that helps to solve problems when relying on others. This does not mean we should be mechanizing all human actions or interactions. Trust presents challenges in a complex world in which digitalization and optimization question freedom. At the same time, the infosphere, necessitates leadership to respond to this complexity.

As we are transitioning to a new social, technological and organizational reality, trust will play a central role. For this transition there are key categories when applying trustful and integrative mechanisms to navigate through complexities: dialogue, proximity, respect and social responsibility (→Cortina et al., 2008). Likewise, a human centric intervention is needed for an ethical application of technology, rethinking leadership from a psychosociological perspective that considers virtues on global patterns (→Kouzes, Posner 2002). The challenge is towards an integrative and reflective leadership model that diminishes complexities and uncertainties.

Leading in complex times with a multitude of risks and crises, requires a cooperative and trustful understanding of decision making. Traditionally, managing is considered to be comprised of stages of learning, planning, experiencing and doing, as a useful method to solve problems and make decisions. In today's world the traditional way of understanding things has been jeopardized as many decisions are made by machine agents. This shift from a human agent control to machine agent control is among other considerations the human leader deals with. Uncertainty rules today's complex world, therefore, alignment to that reality in needed. We have an opportunity to contribute to solving the complex challenges of the present impact of technology and have the responsibility to foster a future of a green and blue social model (→Floridi, 2020) where blue states for advancement on digital technologies and green as what Pope Francis I referenced as an integral ecology (→Domingo, 2017). Both trends should be aligned, with solutions achieved with integration and strengthening through trust.

Trust in times of uncertainties and complexity is extremely crucial, especially as technological advancements promote systemic change. We are in a transitioning paradigm that is disruptive; it does need an updated concept of trust that we present as trust 4.0. Simplifying a complex process through technology is a worthwhile goal, however, implementing an unbridled automated decision process is very risky.

Dehumanizing processes are devoid of human intervention and oversight, and may lead to a dehumanized organization as the algorithmic performance on decision making creates discontinuity and dissociation. The integration of the human factor and AI depends on the application. Various decision scenarios are possible, leading to different approaches, including:

- Using strictly automated algorithms
- Viewing the human as the architect in decision making
- Deciding with adequate communication
- Using synthesis requiring a communitarian reflective style
- Retaining responsibility while accompanying the process
- Leading by joint learning and maturing.

Summing up, today's context requires a reinforced humanistic tradition from where to consolidate human principles to navigate thorough emotions and a disruptive technology. The new ruling of information, knowledge and data requires a conscious reflective action from leaders. This is an opportunity to implement an integrated leadership proposal, avoiding discontinuity and dissociation. This may be achieved through a post conventional communicative theory aiming for organizational change (→Habermas, 2014). This will constitute a balanced regulatory organizational acumen, together with the ethical aspirational proposition from the person. The outcome: dynamizing thorough leadership the new context we live in. This adaptive leadership should bring an equilibrated frame of trust and truth among stakeholders.

6.5 Generative leadership

Generative leadership represents the conceptualization of an approach to bring balance between risk and reliability. A generative leadership identity cannot be viewed in isolation; it is part of a larger value system (→Taylor, 1992). Generative grammar, when building selective statements, rules and axioms, represents a choice among a body of data (→Chomsky, 1988). This generative constructing of language leads to an understanding of today's central role of technology and its human centric development. Human language, as communication, remains plausible for AI code creation and processes. Human attributes (e.g. being prudent, reflective, and deliberative) are relevant to bring balance, reducing technology risks and enhancing reliable ethical values. Our generative leadership proposition is consistent with the development of a philosophical understanding of creating for the future that endures over time (→Iula, 2018). A critical concept states that decisions, particularly related to technology, should balance the value of both preserving and challenging the status quo, while not jeopardizing the future. Generative leadership can be instrumental in preserving the past, contributing to the present, and securing a prosperous future. To facilitate the process of balancing risk and organizational continuity, trust 4.0 (→Carbonell-Valin and Domingo, 2021) enables todayś technological context under a human centric approach, suggesting key concepts of generative leadership, including: *continuity, authorship, authenticity, strategic, communication, traceability,* and *reflective*.

Continuity is an emblem of growth, maturity and prosperity. There is a need to interpret and understand where we came from, where we are, and how we flourish and fashion the future. AI can be disruptive, requiring contingency planning to overcome strategic challenges. Generative leadership represents an integration of doing (solving the problem at hand) and being (avoiding emotivism and conventionalism). Doing and being imply *authorship* of a leader, it is much more than just being agent of a process. It does mean being part of an ethical narrative (Ricoeur, 2012). Generative leadership creates *authenticity* by constructing an identity with communicative traits that characterize non-isolation. Generative leadership belongs to a cultural background from post conventional principles (→Habermas, 2014), and possesses the trait of alterity, meaning reflecting, and getting ready for action (→Ortega y Gasset, 2006).

Generative leadership creates openness based on practical reason and moral narrative that has *strategic* organizational standards. Openness principles are prudent, reflective and deliberative. A generative leader is imaginative for new solutions and opportunities. There is a constant reference to the narrative and the potential of language and human *communication*. Generative intelligence is based on plural traditions that represent intentions, social environment and history, making understandable our living events (→Macintyre, 1981). Generative leadership joins together intentional, social and historical remnants. Strategic *traceability* recognizes personal and private practices as based on ethical and legal values. This strengthens a recognizable generative authorship, with a human centric strategy. Generative leadership seeks intelligible action, sincerity and authenticity. *Reflective* leadership ponders the telos (purpose) of human nature, as technology offers a road to communicate better. Uncertainty appears to be reigning, just as trust seems to be scarce in the era of AI. Due to a generalized laissez faire narrative, there exists an opportunity to contribute and take responsibility to preserve and improve the human centric contribution seeking for trust.

6.6 Conclusion

Digitalization and its resulting changes increase uncertainties which are difficult to assimilate at the speed things are evolving. New technologies are replacing human agents increasingly in decision making, even changing the way we interact with each other. An integrative proposition is needed to deliberately contend with this digital reality, raising relevant questions of trust and responsibility in automated decision making. Strategic leadership is required, with traceable communication verifying accountability for decisions. Automation may propose solutions not controlled by human agents; however, humans cannot relinquish their responsibility, even when technology supersedes human intelligence. AI does not have to be characterized by diminishing trust, on the contrary, it offers the opportunity for responsible innovation where trust and truth are instilled through generative leadership.

References

Beck, U., Lash, S., & Wynne, B. (1992). *Risk society: Towards a new modernity* (Vol. 17). Sage. →

Bell, D. (1976). The coming of the post-industrial society. (B. Books, Ed.) →

Blum, K. (2020). *Future of sales 2025: why B2B Sales needs a digital-first approach*. Gartner. Retrieved 06 01, 2021, from →https://www.gartner.com/smarterwithgartner/future-of-sales-2025-why-b2b-sales-needs-a-digital-first-approach/#:~:text=The%20Gartner%20Future%20of%20Sales,will%20occur%20in%20digital%20channels. →

Bostrom, N., & Yudkowsky, E. (2011). The ethics of artificial intelligence. In *The Cambridge Handbook of Artificial Intelligence*. William Ramsey and Keith Frankish.

Braun, S., Peus, C., Weisweiler, S., & Frey, D. (2013). Transformational leadership, job satisfaction, and team performance: A multilevel mediation model of trust. *The leadership quarterly*, *24*(1), 270–283. doi:https://doi.org/10.1016/j.leaqua.2012.11.006 →

Brooks, R. (2019). Challenges for human level intelligence. *Harvard data science review*, *1*(1). doi:10.1162/99608f92.7ef56abe →

Carbonell-Valin, M., & Domingo Moratalla, A. (2021). Leadership & trust 4.0 challenges of Artificial Intelligence. *Article in press*. a, b, c, d

Chomsky, N. (1988). Generative grammar. *Studies in English linguistics and literature*. →

Cortina, A., Conill, J., Domingo, A., & García-Marzá, D. (2008). *Business Ethics* (Vol. 174/C82e). Madrid: Trotta. a, b

Domingo Moratalla, A. (2017). *Human condition. Integral ecology. Educative horizons for a global citizenship*. Madrid: PPC. →

Floridi, L. (2014). *The 4th revolution. How the infosphere is reshaping human reality*. Oxford. →

Floridi, L. (2020, 01 04). The Green and the Blue: A New Political Ontology for a Mature Information Society. 32. doi:http://dx.doi.org/10.2139/ssrn.3831094 a, b

FutureofLifeInstitute. (2017). *Future of Life Institute*. Retrieved from →https://futureoflife.org/superintelligence-survey/ →

Gadamer, H. (1982). *Truth and method*. Freeport, NY, USA: Crossroad Publishing Company. →

Habermas, J. (2014). *The future of human nature*. John Wiley & Sons. a, b

Han, B.-C. (2017). *In the swarm: Digital prospects*. MIT Press. a, b

Huxley, A. (1937). *Ends and means: An inquiry into the nature of ideals and into the methods employed for their realization*. Transaction Publishers. →

Iula, E. (2018). *We, the sons of deconstruction. Generative ethics essay*. Nimesis. →

Kouzes, J. M., & Posner, B. Z. (2002). *The leadership challenge*. San Francisco: Jossey-Bass. →

Luhmann, N. (2018). *Trust and power*. John Wiley & Sons. →

MacIntyre, A. (1981). *After virtue*. London. Duckworth. a, b

Ortega y Gasset, J. (2006). *Self absortion and alteration: meditation on technique*. Madrid: Taurus. →

Peiró, J., & Soler, A. (2020). *Home office during covid-19. Challenges*. Valencia: Ivie. →

Pichai, S. (2021, 05 05). A hybrid approach to work. USA: Google & Alphabet. Retrieved 06 05, 2021, from →https://blog.google/inside-google/life-at-google/hybrid-approach-work/ →

Ricoeur, P. (2012). *Time and narrative Volume 1*. University of Chicago Press.

Ricoeur, P. (2000). *The just*. University of Chicago Press. →

Rodriguez, P. (2021, 05 06). Google will not pay Silicon VAlley payrols to its home office: payrol readjustment depending on location. (Xataca, Ed.) Retrieved 05 29, 2021, from →https://www.xataka.com/pro/google-no-pagara-sueldos-silicon-valley-a-sus-teletrabajadores-reajustara-salario-funcion-donde-se-ubique-empleado →

Russell, S. (2021). Human-Compatible Artificial Intelligence. In *Human-Like Machine Intelligence* (pp. Human-Like Machine Intelligence). Oxford University Press. a, b, c

Russell, S. (2021, 02 28). Sparks! Interview of Berkeley professor Stuart Russel on current efforts towards strong AI! (CERN, Interviewer) Youtube. Retrieved 09 12, 2021, from →https://www.youtube.com/watch?v=yISUlBXvtDM

Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary Educational Psychology, 61*. doi:https://doi.org/10.1016/j.cedpsych.2020.101860 →

Scheler, M. (1973). *Selected phylosophical essays*. Northwestern University Press. →

Shlegeris, B. (2020, 07 21). *Machine Intelligence -Research Institute-*. Retrieved 02 12, 2021, from →https://intelligence.org/2020/08/13/august-2020-newsletter/:https://www.lesswrong.com/posts/y3jDSoTTdBD9Nj3Gx/how-good-is-humanity-at-coordination →

Stahl, B. C., Andreou, A., Brey, P., Hatzakis, T., Kirichenko, A., Macnish, K., ... Wright, D. (2021). Artificial intelligence for human flourishing–Beyond principles for machine learning. *Journal of Business Research*, *124*, 374–388. doi:https://doi.org/10.1016/j.jbusres.2020.11.030 →

Taylor, C. (1992). *The ethics of Authenticity*. Harvard University Press. a, b

Thiel, P. (2014). *Zero to One: notes on startups, on how to build the future*. Currency. →

Webb, A. (2019). *The big nine: How the tech titans and their thinking machines could warp humanity*. Hachette. →

Yampolskiy, R. V. (2019). *Unpredictability of AI*. arXiv preprint arXiv:1905.13053. →

Yampolskiy, R. V. (2020). Unpredictability of AI: On the Impossibility of Accurately Predicting All Actions of a Smarter Agent. *Journal of Artificial Intelligence and Consciousness*, *7*(1), 109–118. doi:https://doi.org/10.1142/S2705078520500034 →

Yudkowsky, E. (2011). Complex value systems in friendly AI. *International Conference on Artificial General Intelligence* (pp. 388–393). Berlin: Springer. doi:DOI: 10.1007/978-3-642-22887-2_48 a, b

Zuboff, S. (2019). *The age of surveillance capitalism. The Fight for a Human Future at the New Frontier of Power*. New York: Public Affairs. a, b

Notes

1 This study is sponsored by the Science Research and Tech Development PID2019-109078RB-C22 Project, backed by the Ministry of Science, Innovation and Universities of the Excellence Research Group PROMETEO/2018/121 from the Valencian Regional Government.

Part II: Applications

7 Getting employees on board: Fostering perceived organizational support during organizational change

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7.1 Introduction

Organizational change is “ever-present, increasing in pace, open-ended and comes in many shapes and sizes” (→Jones et al., 2019, p. 156). Changes to organizations can occur because of internal or external forces and can be planned or unplanned. For example, between 1997 and 1998 Asia faced an unplanned financial crisis due to external forces. In South Korea, organizations faced a tough decision of whether they should use downsizing to avoid losing public approval and government financing for their organizations to survive. Downsizing would break a deeply embedded collectivist norm in the country (→Alakent & Lee, 2010). Meanwhile in 2019, Google faced an unplanned internal change when they forced an executive to resign after employees protested the organization for trying to cover up sexual assault investigations (→The Guardian, 2019). In contrast to unplanned changes, organizations also make their own decisions to enact change, whether due to internal or external forces (Bartunek & Woodman, 2015). Deloitte, for example, planned to overhaul their performance management system after recognizing deficiencies in their approach to performance appraisals (→Buckingham & Goodall, 2015). They made a radical change in how ratings were made by asking leaders to report what future actions they would take with

employees, rather than evaluating them based on pre-defined goals or competencies.

No matter the type of change described above, employees are likely to feel uncertainty, anxiety, and stress through the change process (e.g., →Belschack et al., 2020; →Dahl, 2011). Whether organizations must react to an unplanned change or have time to proactively think through the implementation of a planned change, it is important for supervisors and executives to recognize that the change can and will affect their employees. Much of the research to date on organizational change has focused on the success or failure of the change in terms of organizational outcomes like costs or productivity, with less research on the potential negative effects of change on employees. However, the American Psychological Association Center for Organizational Excellence (→2017) reported that employees who went through a change process experienced work-life conflict (39%), felt cynical towards their coworkers (35%), and increased their food intake and/or smoking habits during and after work (29%). Organizational change can also signal to employees what the organization values and potential new directions, lead to employees reevaluating their own relationship with the organization, and ultimately affect employee motivation (→Cullen et al., 2014). Employees who went through a change reported they were three times more likely to not trust management compared to those who have not undergone changes (34% versus 12%; →APA, 2017). While 71% of employees felt satisfied with their jobs during change, they were not nearly as satisfied as those who underwent no changes (81%; →APA, 2017).

Therefore, organizations need to recognize and focus on mitigating those potential negative employee outcomes and instead foster positive outcomes in employees. Positive organizational scholarship, a broad concept focused on how to create a positive work environment, emphasizes “positive outcomes, processes, and attributes of organizations and their members” (→Cameron et al., 2003, p. 7). Unlike researchers and practitioners who discuss change through a negative lens, which is rooted in uncertainty and anxiety

(→Cameron & McNaughtan, 2014), the positive organizational scholarship literature argues that change can be viewed as an opportunity to build a strong environment and overcome challenges (→Cameron & McNaughtan, 2014). To this end, researchers have also been noting that one way to reduce negative outcomes from change is to make sure employees feel supported through the change (→Smollan & Morrison, 2019).

In this chapter, we focus on a positive approach to supporting employees through change. We posit that perceived organizational support (POS) can help employees adjust to change, reduce negative employee well-being and turnover, and increase commitment. Perceived organizational support (POS) is a well-researched, theory-driven, and practically relevant concept that describes the extent to which employees feel their organization cares about their well-being and values their contributions (→Eisenberger et al., 1986). Despite literature pointing out that support can be helpful during change, there is a dearth of literature on both what could lead to employees feeling supported by their organization during change as well as what outcomes could be positively affected by providing POS during change.

We integrate literatures on POS and organizational change to provide both theoretical and practical insights about support during change. First, we discuss various types of change and their potential impact on employees. Next, grounded in organizational support theory, we theorize and discuss what organizations can do to increase POS during change. We then revisit outcomes of POS during change and describe how POS can reduce negative outcomes and increase positive outcomes. Finally, we end by providing a summary of recommendations to increase POS during organizational change and an agenda for future research to enhance the positivity of the experience of change.

7.2 Understanding change: What is change and how do employees react to change?

Organizational change is defined as “alterations of existing work routines and strategies that affect a whole organization” (→Shin et al. 2012; p. 727). Change is not stable nor fully sequential or linear because organizations operate in a volatile, uncertain, complex, and ambiguous world (→Rodriguez & Rodriguez, 2015). In the last decade, the need for change has grown exponentially as organizations expand globally, deal with rapid advances in technology, face increased competition, and shift demographically (→Baran et al., 2012; →Jones et al., 2019). As the rate of change increases, organizations need to move quickly and continuously adapt to keep up. Therefore, we define organizational change as a continuous process that occurs as a natural response to internal or external conditions (→Leifer, 1989). Organizational change varies in terms of its intention (planned and unplanned) and can occur for many reasons, originating from both internal and external sources. We explain these types of change below.

7.2.1 Planned internal and external change

Planned change is change that is proactive and anticipated (Knowles & Saxburg, 1988); organizations can take time to carefully plan for and implement this type of change. Planned changes can be targeted, simple changes like implementing work-family initiatives or a software update or as broad and complex as structural change, diversification of products or services, or global expansion (→Stouten, et al., 2018). Further, organizations may plan to execute a change in response to a variety of forces, both internal and external to the organization. Typically, planned changes are triggered internally by poor performance and/or the introduction of new strategies to increase organizational success and externally by changes in the market that organizations must adjust to (Knowles & Saxburg, 1998).

More specifically, planned change due to internal factors occurs when organizations redesign and implement an underperforming aspect to help achieve their strategic goals and gain a competitive

advantage (→Stouten et al., 2018). This can take the form of restructuring (including downsizing or expanding the workforce), opening new locations, employee promotions, or mergers and acquisitions (→Stouten et al., 2018). For example, in 2018, Amazon announced a planned internal change to open a second headquarters located in Arlington, VA and Long Island City, NY (→Newcomb, 2018). Part of this change included a planned massive hiring push of 25,000 employees in the new locations (→Newcomb, 2018). Similarly, in 2014, Microsoft was facing a declining market value and made a strategic internal decision to hire a new CEO, Satya Nadella. After Nadella redesigned the culture from cutthroat to one based in growth mindset, Microsoft was able to exceed $1 trillion in market value (Business →Insider, 2020). The goal of planned change is to have potential positive implications for the organization. Along with that, though, can come positive (e.g., growth in number of available job or promotion opportunities with rapid upticks in staffing or from cutthroat to growth mindset) or negative implications for employees (e.g., stress of growing so quickly, changing the culture, etc.).

To remain competitive, organizations also frequently undergo planned changes in response to external forces (→Furxhi et al., 2016; →Stouten et al., 2018). These changes occur because of policy changes, new laws, or potential competitors that could undermine their market share (→Stouten et al., 2018). For instance, as the LGBTQ+ movement became more present in the United States, policies have also evolved. In June 2020, the EEOC announced that the LGBTQ+ community would be protected under Title VII of the Civil Rights Act of 1964 (→Gruberg, 2020). This external decision triggers changes inside an organization, such as HR supervisors discussing these changes with hiring supervisors, implementing training, and updating their tracking and reporting mechanisms to ensure no discrimination based on gender identity occurs. Prior to this becoming a protected class under Title VII, many states had decided to use their own legislation to file gender identity as a protected class. At the same time, there were three main court cases that HR

departments were aware of that were focused on LGBTQ+ discrimination. Between states making their own legislation and news about the court cases, organizations had time to prepare for this change as it was talked about in various news outlets and with employment lawyers.

The entire field of organizational development has been developed to focus on preparing for, scheduling, implementing, and evaluating planned changes (Bartunek & Woodman, 2014). Having time to prepare for the change should give organizations a leg up in successfully navigating the change and getting employees to buy into the new ways of doing things (→Stavros et al., 2016). Planned change provides the opportunity for a proactive response, heightened communication, and increased training and development opportunities to help employees cope and manage the change process (Alakent & Lee, 2010; Burtenek & Woodman, 2014). Thus, one might conclude that planned change should allow for a more seamless implementation process for employees.

Though, unfortunately, planned change initiatives tend to fail between 30% to 80% of the time (→Wang & Kebede, 2020). One reason for these high failure rates is because organizations do not spend enough time thinking through their employees' reactions to the change. Organizations might successfully implement new systems, technology, and policies, but if employees are resistant or have negative attitudes towards the change, employees will not be committed to the change or the organization, feel positively about their workplace, or want to remain there (→Oreg et al., 2011). During planned changes, employees who feel threatened by the change or are unwilling to adapt may look for a new organization, change their behaviors, become stressed and burnt out, not try as hard, or even stop sharing information among employees (→Oreg et al., 2011). Thus, to help employees view the change more positively overall, it is important for organizations to support employees through the change (e.g., →Cameron & McNaughtan, 2014).

7.2.2 Unplanned internal and external change

In contrast to planned change, there are times when organizations need to change based on unforeseen circumstances such as changes in the economy, technological advances, major global shifts, or employee relations. These situations create the need to respond to unplanned changes, which are unanticipated shifts in the internal or external environment requiring an immediate response by the organization (Knowles & Saxburg, 1998). Like planned changes, unplanned changes can occur because of either internal or external forces. Unplanned internal changes occur when an employee suddenly resigns, an organization must fire someone immediately for disciplinary actions, a CEO or upper-level executive passes away unexpectedly. For example, in 2019, Google forced one of their executives to resign following sexual assault allegations. After trying to cover up the allegations, more news came out about the executive agreeing to a 35-million-dollar separation payout (→The Guardian, 2019). This sparked outrage among Google employees and thousands of employees walked out of work one day. This is an example of unplanned change because Google had little time to come up with a strategy for how to deal with the change (i.e., the executive leaving) and was unable to predict the employee reactions to the payout news.

Organizations may also experience unplanned change due to external forces, better known as external shocks, that trigger reactive, rapid internal organizational changes. These external shocks are unforeseeable and create unpredictable shifts in an organization's external environment (→Dieleman, 2010) that require organizations to restructure their work environment and processes to successfully navigate through turbulent times. The COVID-19 pandemic, the 9/11 terrorist attacks, and the 2008 financial crisis are all examples of external shocks that forced organizations to rethink the way they operate, remain competitive, keep employees productive, and stay open once the shock had subsided (→Dunn et al., 2020).

With the COVID-19 pandemic, organizations had to decide how to curb loss in profits (e.g., institute layoffs or pay cuts across the board to retain employees), teach employees how to work from home, and

provide the resources necessary to do so (→Dunn et al., 2020). These types of unplanned external change create uncertainty among employees about how the organization will respond and can trigger intense employee reactions such as fear, confusion, stress, anxiety, inability to complete tasks, and emotional burnout (→Society for Human Resource Management [SHRM], 2020; →Smith, 2020). It is up to each organization to react quickly, implement training as needed, and communicate about how the organization is handling the change to ease employee fears and reduce uncertainty. While all organizations face external shocks differently, many organizations find it difficult to succeed at the cost of breaking institutionalized practices (→Alakent & Lee, 2010). For instance, a norm in the United States is to use employee downsizing as a quick way to cut costs to stay afloat (→Pfeffer, 2007). Understanding this norm and the external environment, when employees learn of an external shock, they likely feel insecure and stressed, which can have ripple effects on their productivity (→Kalleberg, 2009).

Unplanned changes can be particularly daunting for organizations and supervisors because time is of the essence; organizations need to react immediately to remain competitive, help reduce employee stress and confusion, and survive the change (Knowles & Saxburg, 1998). When there is a lack of time or other uncontrollable factors, it is challenging for organizations to successfully navigate the change (→Jones et al., 2019). Organizations need to communicate about the rapid decisions being made and have all hands-on deck to give employees the resources they need to cope with the unexpected change (Knowles & Saxburg, 1998). Such unplanned changes can bring heightened anxiety, stress, and uncertainty (→SHRM, 2020). Thus, with unplanned changes, organizations need to not only help employees navigate through changes to their jobs, but also try and deal with employee reactions to the change in real time.

Since employees are key stakeholders of an organization and its success, it is important that organizations meet their needs during planned and unplanned changes. But how can organizations know if

employee's needs are being met or how to best help employee's attitudes remain positive and focused on their work? We turn to the widely studied, theoretically backed research on perceived organizational support as well as some of the nascent literature on positive organizational scholarship to provide theorizing and practical recommendations on how to support their employees during change.

7.3 Overview of organizational support theory and perceived organizational support

Organizational support theory states that employees form global beliefs to evaluate whether the organization views them favorably (*the organization cares about me*) or unfavorably *(the organization does not care about me*; →Rhoades & Eisenberger, 2002; →Kurtessis et al., 2017). The central construct within organizational support theory is perceived organizational support (POS). Specifically, POS captures an employee's perceptions of how much the organization values their contributions and cares about their well-being (→Eisenberger et al., 1986).

Employees create a global perception of support by personifying and assigning the organization human-like characteristics, rather than viewing it as an entity compromised of individual people (→Rhoades & Eisenberger, 2002). When employees view the organization as a single entity, they often assume the processes and people within the organization are a direct reflection of the organization (→Eisenberger et al., 1986; →Rhoades & Eisenberger, 2002). Therefore, when a process seems unfair or a supervisor seems unsupportive, an employee often attributes this as coming from the organization as a whole. Based on social exchange theory and guided by the norm of reciprocity, POS is an important construct because if an employee has high POS, the employee feels compelled to return the favor with increased work ethic, commitment, and decreased job withdrawal (→Rhoades & Eisenberger, 2002). High POS is also good for employees as it relates positively to employee well-being. On the contrary, if employees feel like the organization is unsupportive, they

are less likely to give back to the organization in positive ways and feel stressed (→Kurtessis et al., 2017).

Previous research on POS during normal operations has commonly studied three antecedents to POS: human resource practices, supervisor support, and fairness (→Kurtessis et al., 2017; →Rhoades & Eisenberger, 2002). First, employees evaluate how well the organization cares about their well-being based on HR practices such as benefits (paid sick leave, vacation time, tuition reimbursements) and employee recognition. Next, employees often view supervisors as representatives of the organization; a supervisor who shows that they care about their employees during a stressful situation can increase POS (→Rhoades & Eisenberger, 2002). Lastly, employees associate the fairness of policies, procedures, outcomes, and interpersonal treatment to their beliefs about organizational support (→Kurtessis et al., 2017; →Rhoades & Eisenberger, 2002). Increasing and maintaining POS in an organization starts at the top with C-suite executives (→Eisenberger et al., 2020). Support from the top in terms of implementing fair policies, practices, and enacted values creates a cascade of support that trickles down to the employees through supervisors (→Eisenberger et al., 2020). Interactions with immediate supervisors are also opportunities to demonstrate fairness through informational and interactional justice (→Kurtessis et al., 2017).

7.4 Conveying perceived organizational support during change

Despite the large amount of literature that has amassed on POS, its antecedents, and its outcomes, there has been little work to date on POS during organizational change. It is important to further explore POS during change because the few studies to date suggest that employees with higher POS are less resistant to change (→Ming-Chu & Meng-Hsiu, 2015; →Wang & Kebede, 2020) and tend to feel that the organization, even during the change process, has their best interest at heart (→Ming-Chu & Meng-Hsiu, 2015). In turn, employees feel

inclined to accept, and even actively participate in, the change process, with the assumption that the organization will be fair and be looking out for not just the *employer,* but also the *employee* (→Ming-Chu & Meng-Hsiu, 2015; →Wang & Kebede, 2020).

However, more research needs to focus on the importance of POS during change, given its nascent knowledge base and the fact that organizational change is a common occurrence. During organizational change, leaders need to ensure they design a plan that helps reach the organization's desired state while also creating and embedding a culture of support. We argue POS is integral in reducing resistance, stress, and other factors that might erode employee backing for the change as well as employee well-being during change. POS may also ensure organizational success in the change process because supported employees will want to repay the organization with enhanced performance and willingness to stay with the organization. Drawing from organizational support theory's main antecedents, we argue this can be done through supportive Human Resources (HR) practices (training, compensation, benefits, etc.), treating employees fairly, exhibiting supervisor support, and practicing favorable discretionary treatment.

In the following sections, we argue that the principles from organizational support theory during normal operations may also convey support during change. We also posit that POS can play an important role in reducing negative employee outcomes during change. We draw from existing literature on organizational support theory principles and the few studies on POS and change (e.g., →Chen & Wang, 2014; →Dunn et al., 2020, →Ming-Chu & Meng-Hsiu, 2015; →Wang & Kebede, 2020) as well as recent work on positive organizational scholarship (e.g., →Cameron & McNaughtan, 2014) to posit theoretical arguments and practical recommendations about how supervisors and organizations can convey support. We then discuss how several key employee outcomes could be affected by POS during change. Unless otherwise noted, we posit these supportive practices would be useful regardless of the type of change (planned or unplanned).

7.4.1 Human resources practices

During change, when uncertainty is high among employees, employees tend to reassess what the organization is doing to help them through the process (→Chen & Wang, 2014). Human resources professionals play an integral part in the change process because they work with employees at various levels of the organization (→Zagelmeyer & Gollan, 2012). The policies and practices created and implemented by human resources professionals are designed to align employee behavior with the overall goals and plans of the organization, including those goals related to change (→Zagelmeyer & Gollan, 2012). In their study, →Chen and Wang (2014) found four HR practices associated with POS during change: training, benefits, compensation, and scheduling.

Training. Training is an opportunity for organizations to help develop and improve employee's skills, while also signaling to the employee that the organization supports them (→Mullen et al., 2006). Training can help employees prepare for the change process by providing the necessary tools and resources needed to succeed. →Chen and Wang (2014) argued that although training content matters, employees attach meaning to *why* the training is being offered. That is, employee's attributions about the training drives perceptions of support during change. If employees feel like the training is offered to improve the quality of work life and the organization, employees are more likely to feel supported and have positive perceptions of the change compared to if employees attribute the training to an effort to reduce costs (→Chen & Wang, 2014). Therefore, to increase POS, the organization needs to communicate to employees that the training is being offered to help the employee succeed and make their work-life more manageable.

Another study found that employees who accumulated enough personal (e.g., positive attitude via positive psychological capital) and conditional resources (e.g., support via perceived organizational support) felt less stressed and resistant to change (→Ming-Chu & Meng-Hsiu, 2015). Drawing from the positive organizational

scholarship literature, psychological capital is associated with positively viewing organizational change because employees realize their organization allows them to work to their strengths (→Cameron & McNaughtan, 2014). This suggests another reason training is an important aspect of support; it may provide both personal and conditional resources for employees during change. We argue that training should be clear and transparent, build employee confidence that they can successfully do their future jobs (personal resources), and explain to employees how the organization will help them with the transition to their new roles (conditional resources). If employees have the confidence to succeed and they know the organization will help them through the change, they are likely to feel like the organization cares not just about the organization's goals, but also about the employee's future contributions.

The type and content of training may vary depending on whether the change is planned or unplanned and what internal or external forces are at play. For instance, during planned changes, HR can design trainings to help supervisors learn about the change, effectively communicate about the change to subordinates, and provide information and resources to help their employees learn new skills. During planned changes, employees also can have the opportunity to enroll in training that fits their schedules and that will help them learn new key skills or knowledge that may be essential to a successful transition. During unplanned change, training content might be centered around how to quickly pivot and react. For example, when the external shock of the COVID-19 pandemic occurred, employees needed training about what to do when working from home, how to enact socially distance safety protocols at work, and how to use Zoom and other online platforms. No matter the type of change, offering employees training and giving them an opportunity to succeed is likely to create the perception that the organization cares about them, wants them to succeed, and values their future contributions, thus increasing POS.

Benefits, scheduling, and compensation. Given the stresses that accompany organizational change (→Dahl, 2011), benefits that signal

the organization not only cares about the employee's contribution, but also their well-being will be important. For example, many organizations offer wellness programs as a benefit. During stressful changes, organizations can encourage the use of wellness programs and participation in employee resource groups, exercise classes, or meditation. Additional leave time or more flexible use of leave time might also benefit employees, particularly during unplanned changes. →Dunn and colleagues (2020) found that when the COVID-19 pandemic occurred, employees reported feeling supported when their supervisors gave them a flexible schedule to care for sick family members and/or shift quickly to homeschooling their children and trusted them to still get their work done.

Compensation can help incentivize employees to work hard during change and adapt to the change quickly. Symbolically, extra compensation or incentives during change may provide recognition that change is hard, the organization appreciates the employee, and recognizes the employee's extra effort and contributions. This idea was reinforced during the pandemic when employees reported feeling supported when their organization provided hazard pay for working on the front-line as essential workers (→Dunn et al., 2020). This can be translated to planned changes by incentivizing adopting the change, compensating volunteers to be change agents who talk to others about the importance of the change or answering questions about the change, and/or compensating employees for working extra hours during the change.

7.4.2 Fairness of treatment

In addition to training and benefits, treating employees fairly throughout the change process is key. Within organizational support theory and meta-analytic findings, fairness of treatment is consistently an important predictor of POS (→Kurtessis et al., 2017; →Rhoades & Eisenberger, 2002).

Fairness of benefits, scheduling and compensation. During the change, employees will likely evaluate and reassess their perceptions

of both procedural justice (fairness of procedures used to distribute outcomes) and distributive justice (fairness of the outcomes themselves [e.g., amount]). That is, employees will be paying attention to who gets flexible schedules or compensation and why and will compare it to their own schedules or compensation. Procedural justice is one of the main predictors of support within organizational support theory, which means organizations and supervisors should distribute benefits, scheduling, and compensation using fair and equitable procedures (→Kurtessis et al., 2017; →Rhoades & Eisenberger, 2002). If the employee perceives that they are unequally rewarded, they are also likely to experience a decrease in POS. For example, when the pandemic hit, employees reported feeling unsupported when their organization cut tenured employees' pay but hired new employees at higher salaries (→Dunn et al., 2020). Organizations can use the equality distribution rule (e.g., everyone gets extra pay) or the equity distribution rule (e.g., people who have put in extra effort during the change get extra compensation) to ensure fair distribution of compensation (→Adams, 1965).

Displaying fairness through job-focused support. In a recent study on POS and change, employees were able to distinguish between support from the organization and support from supervisors (→Dunn et al., 2020). That is, employees reported that organizations supported them through change most often via job-focused support, whereas supervisors supported them mainly via employee-focused support (e.g., providing empathy and reassurance; discussed in the next section). Employees expressed feeling job-focused support when the organization ensured they could do their job and make valuable contributions by providing them with tangible resources, information, and flexibility to carry out tasks. By providing these resources, especially during change, it indicates to employees that the organization is trying to reduce uncertainty about their job and the new environment.

When providing support through tangible resources, organizations need to ensure employees perceive fairness and a high level of procedural justice. Procedural justice focuses on remaining

fair during the implementation of procedures and policies (e.g., no bias in decision-making; →Rhoades & Eisenberger, 2002; →van Dierendonck & Jacobs, 2012; →Wang & Kebede, 2020). Thus, resources need to be distributed via fair processes. During stable times, employees who perceive the organization and its processes as fair tend to show significantly higher levels of POS compared to those who do not (→Rhoades & Eisenberger, 2002). The changes are likely to trigger and direct employees' attention to *how* policies are implemented (→van Dierendonck & Jacobs, 2012), thus, making procedural justice even more important during this time.

Transparency in decision-making, a key element of procedural justice (→Leventhal, 1980), can also play an important role in perceptions of support during change (→Dunn et al., 2020). Organizations that provide a constant and clear stream of information about the change process are likely to reduce uncertainty and anxiety that comes with any type of change. This will also create a perception of informational justice, or employees' perceptions that they are receiving truthful and comprehensive information (→Rhoades & Eisenberger, 2002; →van Dierendonck & Jacobs, 2012; →Wang & Kebede, 2020). Informational justice is likely to make employees feel supported because it signals the organization cares about their ability to do their job well during and after the change. Additionally, when designing and implementing change processes, many organizations fail to include important stakeholders like employees (→Austin, 2015). To combat this, we suggest that organizations use a two-way feedback system to increase perception of voice, another aspect of procedural justice. Focus groups, town hall meetings, or employee surveys (→Austin, 2015; →Burtenek & Woodman, 2015) can help employees feel part of the decision-making, thus increasing fairness perceptions and, in turn, POS. These ideas align well with the more general positive organizational scholarship arguments that creating an environment of positive communication and interpersonal communication increases positive relationships in organizations (→Cameron & McNaughtan, 2014; →Losada & Heaphy, 2004).

7.4.3 Exhibiting supervisor support via job-focused and employee-focused support

If supervisors and executives work together to initiate and execute change, employees are more likely to support the process and experience fewer negative outcomes (→Heyden et al., 2017). →Heyden and colleagues (2017) note that this is because front-line supervisors have the best understanding of their employees and what they need while executives have the resources, capabilities, and knowledge of the budget, vision, and strategy, to make changes happen. Support displayed by direct supervisors may be the most impactful given their bidirectional connection between employees and upper management (→Rhoades & Eisenberger, 2002; →Smollan & Morrison, 2019).

In terms of job-focused support, in the bottom-up direction, supervisors can relay employee performance levels to those higher in the organization, push for resources necessary for completion of projects (→Rhoades & Eisenberger, 2002; →Smollan & Morrison, 2019), or submit employee feedback during change (→Smollan & Morrison, 2019). In the top-down direction, during change processes specifically, supervisors should take the opportunity to communicate vague organizational changes and translate them into concrete action plans (→Heyden et al., 2017), allowing employees to feel more certain about the development and outcomes of the process.

Supervisors can also show top-down employee-focused support, more so than the organization, given their direct link to employees in the organizational hierarchy. Such employee-focused support, categorized as compassion and reassurance, refers to empathy towards and concern for employee well-being (→Dunn et al., 2020). Compassion is a form of emotional support that signals caring, consideration, and empathy towards employees (→Smollan & Morrison, 2019). Supervisors can signal compassion, and support in turn, in a variety of ways such as consistently checking-in with employees' work and personal lives, encouraging communication among coworkers, implementing an open-door policy, advocating for

employee health and benefits, and offering help to complete tasks (→Dunn et al. 2020). Providing a means for employees to express concern or anxiety is especially important during change, when uncertainty in the change process is high, and can enhance POS as it helps fulfill employee's socioemotional needs (→Dunn et al., 2020; →Rhoades & Eisenberger, 2002). In addition, findings in the broader positive organizational scholarship literature suggest leaders who display positive emotions foster well-being and fulfill the need for support among their employees (→Cameron & McNaughtan, 2014; →Fry et al., 2005). Thus, displaying positive emotions might aid perceptions of employee-focused support.

Supervisors can also help ease anxiety in the change process through reassurance, or encouragement and recognition of employee performance (→Dunn et al., 2020). Reassurance can appear in the form of job security, recognition of good work, and creating low stress and pressure environments for employees (→Dunn et al., 2020). Providing reassurance enhances POS and can help reduce anxiety in the change process by emphasizing employee contributions as well as investing in the employee's future at the organization (→Dunn et al., 2020). Employees want to feel valued. When supervisors reassure employees that they are doing a good job, especially when outcomes are uncertain, this signals to employees that the organization values their efforts, thus increasing POS (→Eisenberger et al., 1986).

7.4.4 Discretionary treatment

Discretionary treatment is a main theoretical tenet of OST that plays a critical role in the development of POS. Discretionary treatment, which can be viewed as favorable or unfavorable, captures the treatment that organizations give to their employees voluntarily (e.g., treatment not mandated by law, external sources, or social pressures). Employees attribute discretionary treatment to the organization's benevolent intent to care about and value them. Therefore, such treatment more strongly relates to POS than

treatment that is mandated or outside the organization's control (→Eisenberger et al., 1986; →Shanock et al., 2019).

Within the context of organizational change, it is likely that the attributions employees make about treatment from their organization will be particularly important. Both →Cullen et al. (2014) and →Chen and Wang (2014) argued that during times of change, employees become more acutely aware of the organization's treatment and spend more time deciphering the motivations behind the organizations' practices. This helps employees make sense of the change and reduces uncertainty. For example, if employees believe that, during change, decisions and HR practices under the organization's control are only used for cost reduction or employee exploitation, employees will not feel valued. This, in turn, will lower POS because they believe the organization is not holding up its end of the bargain in being committed to their well-being (→Chen & Wang, 2014). Conversely, when employees believe the HR practices are under the organization's control and favorable, (e.g., by focusing on helping employees and increasing their well-being), it is likely to signal commitment to employees and, thus, increase POS.

Consistent with these arguments, when employees believed downsizing is for profit (versus due to economic downturn, e.g., 2008 financial crisis, COVID-19) and thus under the discretionary control of the organization, employees felt a decreased sense of fairness (→van Dierendonck & Jacobs, 2012), which influences perceptions of support (→Rhoades & Eisenberger, 2002). Research has shown that employees perceive communication, transparency in decision-making, job security, and providing resources to complete the job task as under the organization's discretionary control during change (particularly unplanned change; →Dunn et al., 2020). Because no one in the organization is required to do so, recognizing employees for their commitment and hard work during the change event is a form of discretionary treatment and could also enhance POS. Thus, during change events, to increase POS, it is important that organizations communicate about the reasons behind the change clearly, honestly, and frequently to let employees know these aspects of favorable

treatment that are being provided voluntarily. Conversely, when organizations implement unfavorable treatment due to external constraints (e.g., government mandates or unavoidable changes in the external environment), organizations should communicate with employees to explain why these changes are necessary and highlight any discretionary treatment they are providing to mitigate the negative effects of unfavorable treatment on POS.

In summary, HR practices that signal commitment to employees during change, particularly training, compensation, benefits, and schedule flexibility, are expected to be perceived by employees as supportive during change. As well, treating employees fairly before, during, and after the change process through perceptions of voice, clear and transparent communication, and fair allocation of resources should convey organizational support. Finally, organizations should enlist supervisors as representatives of the organization to engage in job-focused (related to completing tasks) and employee-focused (related to providing empathy and reassurance) support on behalf of the organization (→Eisenberger et al., 2020). The effects of POS are enhanced if these practices and actions are provided voluntarily. In the next section, we discuss how POS can also contribute to positive outcomes of organizational change, including reducing resistance and turnover and enhancing commitment, performance, and employee well-being during change.

7.5 Relationships between POS and important change outcomes

7.5.1 Resistance to change and affective organizational commitment

Two important, contrasting, employee outcomes to consider when discussing change are employee resistance to change and affective organizational commitment. While resistance to change occurs when employees do not completely embrace the change organizations and/or supervisors propose (→Dent & Goldberg, 1999), affective

organizational commitment captures the emotional attachment employees have with their organization whereby employees are proud to work for the organization and want to remain, despite the change (→Allen & Meyer, 1996). Previous theorizing in OST suggests that POS can be integral in decreasing employees' resistance to change and increasing commitment.

As we have discussed above, employees tend to resist change because of uncertainty and anxiety about what may happen during and after the change or because they are not provided with the proper tools and resources to implement the change (→Dent & Goldberg, 1999). POS can help reduce employee resistance to change by drawing on the OST tenet of discretionary treatment and utilizing appropriate aspects of favorable treatment (→Dent & Goldberg, 1999). For instance, employees' POS would likely increase, and they would be more willing to accept a change if organizations voluntarily provide employees with training (e.g., to address gaps in skills, implement a new software, introduce new work processes). This favorable discretionary training signals that the organization wants employees to successfully navigate the change.

Further, a multitude of research on POS and organizational change identify communication as the top strategy to keep morale and POS high (→van Dierendonck & Jacobs, 2012; →Stavros et al., 2016; →Flovik et al., 2019; →Smollan & Morrison, 2019). However, the degree and areas of emphasis that leadership communicates to employees may fluctuate as the change occurs. Organizations can create perceptions of informational justice and increase POS among employees by implementing open and consistent lines of top-down and bottom-up communication (→Dunn et al., 2020). The presumably discretionary action of two-way communication signals to employees that the organization cares about them and values their contributions while simultaneously quelling concerns about the change. Further, based on the norm of reciprocity, employees may reciprocate voluntary treatment, particularly that which is designed to reduce resistance to change, by embracing the change.

The norm of reciprocity also explains how POS might enhance affective organizational commitment during change. A place where one might see decreased organizational commitment during change is when downsizing, layoffs, or outsourcing occurs (resulting in job loss; →Flovick et al, 2019; →van Dierendonck & Jacobs, 2012). This decrease in commitment might be even more pronounced if organizations voluntarily decide to downsize to enhance profit and can create a sense of unfairness among employees. To mitigate this, organizations should be sure to convey the reasoning behind downsizing to employees, especially if the decision to downsize is outside of the organization's control. If POS is high, employees will likely be more understanding of the organization's position and want to repay the organization by sticking with and trusting that the organization values their contributions and has their best interest in mind, which is characteristic of organizational commitment.

7.5.2 Performance

The uncertainty employees experience during change can also negatively affect their performance (→Vakola & Nikolaou, 2005). However, POS is a tool that can help organizations ensure that their employees are staying productive through the change event. In times of stability, POS has been shown to lead to both in-role behaviors and extra-role behaviors (also referred to as organizational citizenship behaviors [OCBs]; →Kurtessis et al., 2017; →Rhoades & Eisenberger, 2002). Organizational support theory explains that the relationship between POS and performance and POS and OCBs is, in part, due to the norm of reciprocity. Employees feel obligated to reciprocate perceived support from the organization with something that is of value (→Blau, 1964; →Eisenberger et al., 1986). As a result, evidence shows that employees tend to work harder and to engage in extra behaviors like helping coworkers or working longer hours that will help the organization to achieve its goals (e.g., see →Kurtessis et al., 2017 for the latest meta-analysis of POS and performance and OCB outcomes).

It is likely the case that the relationship between POS and employee performance and OCBs is applicable during organizational change as well. First, POS itself may enhance the relationship between a change intervention (e.g., new technology) and employee performance or helping behaviors based on the norm of reciprocity (i.e., employees perceive the organization as supportive during the change and therefore are more likely to reciprocate by responding positively to the change intervention). It is also important to consider that specific types of support may result in increased performance. For instance, job-focused support will help employees do their jobs better. As well, other forms of support like scheduling flexibility and wellness initiatives could allow employees the ability to complete work on their own time, after having reduced stress by working out, for example, and after meeting family care needs. These types of support should result in high POS during change and allow employees the personal resources needed to reciprocate by working harder on the organization's behalf. Through their enhanced performance, ultimately, employees can contribute to the overall success of the change endeavor (→Shin et al., 2012).

7.5.3 Turnover intentions and turnover

From the extant literature on POS in times of stability, POS has a moderately negative relationship with turnover intentions (ρ = −.50) and turnover (ρ = −.21; →Kurtessis et al., 2017). The uncertainty and disruptions that employees experience during an organizational change might exacerbate this finding, and cause employees to engage in several withdrawal behaviors, most notably considering leaving or finally leaving the organization (→Shin et al., 2012). Losing key talent becomes a concern when change occurs. As employees evaluate how the organization handles the change, employees may question whether the organization is still the right place for them (→Austin, 2015). Turnover is costly and employees who do not feel supported are likely to search elsewhere if their socioemotional needs are not being met and their contributions are not valued

(→Eisenberger et al., 2020). It is therefore important for organizations to convey support so that, in return, employees stay, help the organization achieve its goals, and the organization saves the costs of hiring someone new (→Tziner & Birati, 1996).

However, the role of POS in relation to turnover during change may depend on the type of change. Consistent with OST, when employees do not perceive support from their organization during a planned change, it is likely that their intentions to quit and/or their job search behaviors will turn into actual turnover. However, if the change is due to external, unplanned forces (e.g., an economic recession, high unemployment rates), employees might have strong turnover intentions, but stay with the organization because there are few, if any, employment alternatives. Instead, in this case, we might expect employees to reciprocate the lack of POS with other withdrawal behaviors including cyberloafing, absenteeism, and tardiness (→Kurtessis et al., 2017; →Rhoades & Eisenberger, 2002). Finally, there may be times when the very source of a change alters an employees' desire to leave an organization. For example, if the change is ousting a CEO who had created a cutthroat culture and installing leadership that focuses the culture on support and collaboration, the very change itself may increase POS and, in turn, reduce intentions to quit.

7.5.4 Employee well-being

The stressors employees experience in their jobs during normal operations (e.g., unfair benefits and negative work relationships) can create negative attitudes towards the organization, resulting in more resistance when a change comes about (→Vakola & Nikolaou, 2005). Prior to and during the change process, employees may feel stressed and anxious because they do not have enough resources to adapt to or overcome change (→Ming-Chu & Hsiu, 2015). In fact, 55% of Americans experience chronic work stress from change initiatives (→APA, 2017). This stress is likely to create negative psychological and emotional consequences (→Smollan & Morrison, 2019). The study

completed by the →APA (2017) found that sources of stress for employees undergoing change, as compared to those in a stable environment, included working long hours (54% vs 23%), a lack of participation in decision-making (52% vs 18%), and problems with supervisors (49% vs 15%).

However, POS is a tool that organizations can use to promote well-being (i.e., reduced stress and strain, increased mental health) among its employees (→Smollan & Morrison, 2019). POS signals the organization is fulfilling the socioemotional needs of employees. To this end, POS represents a socioemotional resource that can help employees cope with the demands of their work (Kurtessis et al., 2017). Socioemotional resources can lessen the stress, anxiety, and burnout that employees experience during change (→Cullen et al., 2014). In addition to the socioemotional resources that POS provides to employees, job-focused types of support (e.g., tangible resources to complete job tasks; →Dunn et al., 2020) may help to alleviate strain caused by more role-related stressors. As a result, employees who perceive support from their organization during change are likely to have increased well-being and decreased stress.

In summary, we suggest POS can buffer many of the potentially negative employee outcomes and promote positive outcomes of organizational change. Grounded in previous research about the positive role of POS during stable times, we used OST to explain how POS could be useful during organizational change. In the next section, we provide practical recommendations for organizations and supervisors about how to support employees during organizational change, as well as future research ideas to better understand the role of POS during change.

7.6 Practical recommendations

As we have uncovered, support can falter during change even if there is high POS prior to implementing the change (→Belschak et al., 2020). During planned change, employees may not feel adequately prepared or advised (→Stavros et al., 2016) and these feelings are

likely exacerbated during external shocks when organizations must deal with things on the fly. We therefore provide a summative list of recommendations, discussed throughout the chapter, for organizations and supervisors regarding how to show support during organizational change (→Table 7.1). Engaging in these behaviors will show employees that the organization and its representatives care about their well-being and values their contributions, which in turn should lead to employees engaging in behaviors that repay the organization, even during change, with hard work and dedication.

Table 7.1: Summary of Recommendations to Convey Support During Change.

Category	Purpose	Recommendations
Human Resources Practices		
Training	Training should signal to employees that the organization is committed to their success through the change as well as employees' professional development.	• Attach meaning to the training content ("why is this important?"). • Communicate that the goal is to help the employee succeed during and after the change and make their work-life more manageable during change. • Emphasize building personal resources and conditional resources through confidence-building and skills-building. • Supervisor training centered around effective communication with subordinates about information and the change process (during *planned* change). • Supervisor training centered around quick, reactive responses (during *unplanned* change).

Category	Purpose	Recommendations
Benefits, Scheduling, and Compensation	These three HR practices should signal to employees that the organization cares about their health and well-being during the stress of an organizational change via various programs or perks.	• Offer programs and classes that help relieve stress such as wellness programs, employee resource groups, exercise classes, etc. • Allowing leave time or more flexible use of leave time (of particular importance during *unplanned* change). • Increase compensation or monetary incentives to signal appreciation of employee and increase motivation and adaptability to change. • Seek out employees to volunteer as change agents to communicate importance of change and answer questions about the change; compensate them for their extra efforts. • Decide whether to exhibit the *equality* distribution rule or the *equity* distribution rule (pertaining to signaling *fairness* in these HR practices).
Fairness		

Category	Purpose	Recommendations
Via Job-Focused Support	Improve perceptions of procedural justice and informational justice by showing job-focused support.	• Reduce uncertainty and ambiguity by providing tangible resources to help employees carry out their tasks. • Ensure tangible resources are distributed fairly and without any bias (signals procedural justice). • Heighten *transparent* communication among employees about the decision-making process (signals informational justice). • Create a two-way feedback system via focus groups, outreach efforts, or employee surveys to help employees feel they are part of the decision-making process (enhances voice). For example, focus groups could allow for direct communication and probing of issues rather than relying on survey items that might not fully capture employee's thoughts.
Supervisor Support		
Via Job-Focused Support	Given supervisors' bidirectional connection to both upper management and direct reports, throughout change process and provide employees necessary resources and information to fulfill their tasks.	• Bottom-up to upper management: relay employee performance levels, push for necessary resources, submit employee feedback (during change). • Top-down to direct reports: translate vague organizational changes to concrete, action plans; increase communication about development and expected outcomes to reduce uncertainty.

Category	Purpose	Recommendations
Via Employee-Focused Support	Supervisors can improve productivity and perceptions of support by offering emotional support to their employees given their close contact with them.	• Consistently check-in with employees' work and personal lives. • Encourage communication among coworkers and with the supervisors (a space/time to express concern or anxiety about change implementations). • Implement an open-door policy. • Advocate for employee health and benefits. • Offer to help complete tasks. • Reassure and reaffirm employee work performance through job security or recognition.
Discretionary Treatment		
	Showing positive actions performed by the organization are voluntary and any negative actions are out of the organization's control can improve employee perceptions of support, especially during change when employees' focus on treatment is heightened.	• Communicate about change clearly, honestly, and frequently (also supports fairness recommendation). • Explain the reasoning behind decisions (also supports fairness recommendation). • When unfavorable changes are required, communicate with employees why the changes are necessary, highlighting what is under the organization's control and what is not (e.g., why organizations must downsize, lay off employees, switch to work from home, etc.). • Provide recognition of employee commitment to and hard work during change.

7.7 Future research agenda

We close with some thoughts on future research that could integrate our practical and theoretical insights into the organizational change literature. While our chapter is backed by theoretical principles in organizational support theory, the organizational change literature, and what little recent empirical work there is on organizational support during change (e.g., →Chen & Wang, 2014; →Dunn et al., 2020), future research should empirically test our ideas. This empirical evidence will help us understand whether the commonly accepted antecedents of POS and the role of discretionary supportive treatment contribute to POS during change. In one of the few studies on POS and organizational change to date, some initial evidence supports the idea of using discretionary treatment as high-commitment HR practices (i.e., practices intended to enhance employee well-being and work quality) were more related to increased POS than practices intended to cut costs or exploit employees (→Chen & Wang, 2014). We also have preliminary qualitative, employee-experienced evidence from the mixed-methods study by →Dunn and colleagues (2020) of what represents perceived organizational support from organizations and supervisors during unplanned change. These qualitative findings combined with quantitative ratings of important job conditions necessary for supporting employees during the early stages of unplanned change help us understand how to react during external shocks like the COVID-19 pandemic. However, we need to continue this line of research to learn more about how the level of support and types of support needed change over the course of a long-term unplanned change.

Researchers should also consider how we can take what organizations have learned about supporting employees in a virtual working world during the pandemic and carry that forward to support employees who work remotely during planned changes. In the case of planned change, future research should examine how far in advance of the change organizations should start demonstrating the types of support we recommend (e.g., when should they start

communicating about it and implementing high-commitment HR practices).

In addition, longitudinal studies that offer comparisons of POS before, during, and after change in response to combinations of support interventions (e.g., fair procedures for allocating or removing resources or layoffs, clear, transparent, and frequent communication from supervisors, voluntarily choosing to protect workers from losing benefits despite an economic downturn, etc.) would be useful. When more studies on POS and organizational change have been amassed, the type of change could be examined as a moderator of the relationships between antecedents of POS and POS and outcomes. For example, is POS more beneficial in keeping employees from leaving the organization if the change was due to unplanned, external forces rather than due to a planned, internal decision which may not align with employee values, no matter how much they are supported? We hope that our chapter will spark more ideas and an increase in both research and practical understanding of the role POS can play in the organizational change process.

Seeing the Positive in Change. In this chapter, we discuss the importance of signaling POS during times of change through supportive HR practices, fairly distributing rewards and resources, communicating supervisor support, and bringing awareness to discretionary treatment. These supportive actions can positively influence important job attitudes and employee behaviors. Like theorizing about predictors of POS, the nascent field of positive organizational scholarship uses a positive lens to help explain how some strategies and practices can be more beneficial to employees and the organization than others (→Cameron & McNaughtan, 2014, p. 458). For instance, positive organizational scholarship offers strategies to improve and create more positive leadership and relationships. These ideas seem to be related to the same important outcomes as POS. Given some of the parallel ideas between perceived organizational support and positive organizational scholarship, we suggest that future research explore how these bodies of literature can inform one another. Perhaps both constructs

work together to create an overall positive environment for employees. Since positive organizational scholarship is still in its nascent stages in the literature, we suggest expanding the literature to explore how it relates to POS and change.

For example, positive organizational scholarship literature has found that leaders who display positive emotions generate a persona of charisma, fostering well-being, commitment, and fulfilling the need for support among their employees (→Cameron & McNaughtan, 2014; →Fry et al., 2005). The role of displaying positive emotions has not yet been integrated into organizational support theory as a potential way to increase POS through enhanced perceptions of supervisor support. Future research could integrate that idea from positive organizational scholarship into studies about ways to demonstrate supportiveness as a supervisor, particularly during uncertain times such as unplanned changes.

Secondly, the positive organizational scholarship literature argues that creating an environment of positive communication and interpersonal communication creates high performing teams and positive relationships (→Cameron & McNaughtan, 2014; →Losada & Heaphy, 2004). With a few exceptions (e.g., transparency, explanations, respect), the role of positive communication and interpersonal communication has been underexplored within the POS literature. Yet, communication is often cited as an important aspect of getting through organizational change and would be likely be considered discretionary treatment by the organization. Thus, integrating ideas about the role of communication from positive organizational scholarship into the literature on POS and organizational change would be another fruitful avenue for future research.

Lastly, job crafting has been mentioned in the positive organizational scholarship literature as a way for employees to find meaning in their work (→Cameron & McNaughtan, 2014). Job crafting occurs when employees have the autonomy to redesign their jobs to fit both organizational strategic objectives and employee's personal goals. Job crafting could also enhance POS during change if

employees have the chance to implement new responsibilities that are aligned with the shifting structure of the work itself.

7.8 Conclusion

Organizational change, whether planned or unplanned, is a stressful event that creates uncertainty and has serious consequences for both an employee's well-being and the organization (→Smollan & Morrison, 2019). We argue that offering a supportive environment can help employees cope with change and, in turn, increase organizational commitment, performance and OCBs, and decrease turnover intentions, withdrawal behaviors, and turnover. For support to make a difference, it is important for organizations to provide the appropriate type of support throughout the change process, so employees feel their socioemotional needs are being met. In turn, the organization can get through the change process as smoothly as possible. Future research on the potential relationship between positive organizational scholarship and POS, the longitudinal effects of POS during change, and other concepts explored in this chapter is paramount in advancing our understanding of how organizations can enhance POS during change and to reap the positive outcomes.

References

Adams, J. S. (1965). Inequity in social exchange. *Advances in Experimental Social Psychology*, *2*, 267–299. →https://doi.org/10.1016/S0065-2601(08)60108-2 →

Alakent, E., & Lee, S. (2010). Do institutionalized traditions matter during crisis? Employee downsizing in Korean manufacturing organizations. *Journal of Management*, *47*, 509–532. https://doi.org/10.1111/j.1467-6486.2009.00863.x a, b

Allen, N. J., & Meyer, J. P. (1996). Affective continuance and normative commitment to the organization: An examination of construct validity. *Journal of Vocational Behavior*, *49*, 252–276. https://doi.org/10.1006/jvbe.1996.0043 →

Allen, D. G., & Shanock, L. R. (2012). Perceived organizational support and embeddedness as key mechanisms connecting socialization tactics to commitment and turnover among new employees. *Journal of Organizational Behavior*, *34*, 350–369. →https://doi.org/10.1002/job.1805

American Psychological Association. (2017, Mar XX). *2017 work and well-being survey* [PowerPoint]. American Psychological Association, Center for Organizational Excellence. →https://www.apaexcellence.org/assets/general/2017-work-and-wellbeing-survey-results.pdf a, b, c, d, e

Austin, J. (2015). Leading Effective Change: A Primer for the HR Professional. *SHRM Foundation's Effective Practice Guideline Series*. →https://www.shrm.org/ResourcesAndTools/hr-topics/organizational-and-employee-development/Documents/8-15%20Leading%20Change%20EPG-Final.pdf a, b, c

Baran, B. E., Shanock, L.R., & Miller, L. R. (2012). Advancing organizational support theory into the twenty-first century world of work. *Journal of Business Psychology*, *27*, 123–147. →https://doi.org/10.1007/s10869-011-9236-3 →

Bartunek, J. M., & Woodman, R. W. (2015). Beyond Lewin: Toward a temporal approximation of organization development and change. *Annual Review of Organizational Psychology and Organizational Behavior*, *2*, 157–182. https://doi.org/10.1146/annurev-orgpsych-032414-111353 →

Belschak, F. D., Jacobs, G., Giessner, S. R., Horton, K. E., & Beyeri, P. S. (2020). When the going gets tough: Employee reaction to large-scale organizational change and the role of employee Machiavellianism. *Journal of Organizational Behavior*, *41*, 830–850. →https://doi.org/10.1002/job.2478 a, b

Blau, P. M. (1964). Exchange and power in social life Wiley New York. →

Buckingham, M., & Goodall, A. (2015). Reinventing performance management. Harvard Business Review, 93, 40–50. →

Business Insider. (2020, Mar 7). Satya Nadella employed a ‘growth mindset’ to overhaul Microsoft’s cutthroat culture and turn it into a trillion-dollar company – here’s how he did it. *Business Insider*. →https://www.businessinsider.com/microsoft-ceo-satya-nadella-company-culture-shift-growth-mindset-2020-3 →

Cameron, K., & Dutton, J. (Eds.). (2003). *Positive organizational scholarship: Foundations of a new discipline*. Berrett-Koehler Publishers. →

Cameron, K., & McNaughtan, J. (2014). Positive organizational change. *The Journal of Applied Behavioral Science*, *50*, 445–462. a, b, c, d, e, f, g, h, i, j, k

Chen, D., & Wang, Z. (2014). The effects of human resource attributions on employee outcomes during organizational change. *Social Behavior and Personality*, *42*, 1431–1444. →http://dx.doi.org/10.2224/sbp.2014.42.9.1431 a, b, c, d, e, f, g, h, i

Cullen, K. L., Edwards, B. D., Casper, W. C., & Gue, K. R. (2014). Employees’ adaptability and perceptions of change-related uncertainty: Implications for perceived organizational support, job satisfaction, and performance. *Journal of Business and Psychology*, *29*, 269–280. https://doi.org/10.1007/s10869-013-9312-y a, b, c

Dahl, M. S. (2011). Organizational change and employee stress. *Management Science*, *57*, 240–256. https://doi.org/10.1287/mnsc.1100.1273 a, b

Dent, E. B., & Goldberg, S. G. (1999). Challenging “resistance to change”. *The Journal of Applied Behavioral Science*, 35, 25–41. →https://doi.org/10.1177%2F0021886399351003 a, b, c

Dieleman, M. (2010). Shock-imprinting: External shocks and ethnic Chinese business groups in Indonesia. *Asia Pacific Journal of Management*, 27, 481–502. →https://doi.org/10.1007/s10490-009-9154-3 →

Dunn, A., Woznyj, H., & Shanock, L. (2020). Perceived organizational support during the COVID-19 pandemic. *Paper presented at the Southern Management Association Virtual Conference*. a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s

Eisenberger, R., Huntington, R., Hutchinson, S., & Sowa, D. (1986). Perceived organizational support. *Journal of Applied Psychology*, *71*, 500–507. https://doi.org/10.1037/0021-9010.71.3.500 a, b, c, d, e, f

Eisenberger, R., Malone, G. P., & Presson, W. (2016). Optimizing perceived organizational support to enhance employee engagement. *Society for Human Resource Management and Society for Industrial and Organizational Psychology, 2*.

Eisenberger, R., Shanock, L. R., & Wen, X. (2020). Perceived organizational support: Why caring about employees counts. *Annual Review of Organizational Psychology and Organizational Behavior*, *7*, 101–124. https://doi.org/10.1146/annurev-orgpsych-012119-044917 a, b, c, d

Eisenberger, R., Stinglhamber, F., Vandenberghe, C., Sucharski, I. L., & Rhoades, L. (2002). Perceived supervisor support: Contributions to perceived organizational support and employee retention. *Journal of Applied Psychology*, *87*, 565–573. DOI: 10.1037//0021-9010.87.3.565

Flovik, L., Knardahl, S., & Cristensen, J. O. (2019). The effect of organizational changes on the psychosocial work environment: Changes in psychological and social working conditions following organizational changes. *Frontiers in Psychology*, *10*, 1–18. →https://doi.org/10.3389/fpsyg.2019.02845 a, b

Fry, L. W., Vitucci, S., & Cedillo, M. (2005). Spiritual leadership and arm transformation: Theory, measurement, and establishing a baseline. *Leadership Quarterly*, *16*, 835–862. a, b

Furxhi, G., Stillo, S., & Teneqexhi, M. (2016). Organizational change: Employee reaction towards it. European Journal of Multidisciplinary Studies, 1, 303–308. →http://dx.doi.org/10.26417/ejms.v1i1.p303-308 →

Gruberg, S. (2020, Aug 26). Beyond *Bostock:* The future of LGBTQ civil rights. *Center for American Progress*. →https://www.americanprogress.org/issues/lgbtq-rights/reports/2020/08/26/489772/beyond-bostock-future-lgbtq-civil-rights/ →

Heyden, M. L. M., Fourne, S. P. L., Koene, B. A. S., Werkman, R., Ansari, S. (2017). Rethinking 'top-down' and 'bottom-up' roles of top and middle managers in organizational change: Implications for employee support. *Journal of Management Studies*, *54*, 961–985. →https://doi.org/10.1111/joms.12258 a, b, c

Homans, G.C. (1958). Social behavior as exchange. *American Journal of Sociology*, *63*, 597–606.

House, J.S. (1981). Work stress and social support. Reading, MA: Addison-Wesley.

Jaroensutiyotin, J., Wang, Z., Ling, B., & Chen, Y. (2019). Change leadership and individual innovative behavior in crisis contexts: An attentional perspective. *Social Behavior and Personality: An International Journal*, *47*, 1–12. https://doi.org/10.2224/sbp.7773

Jones, J., Firth, J., Hannibal, C., & Ogunseyin, M. (2019). Factors contributing to organizational change success or failure: A qualitative meta-analysis of 200 reflective case studies. In *Evidence-Based Initiatives for Organizational Change and Development* (pp. 155–178). IGI Global. DOI: 10.4018/978-1-5225-6155-2.ch008 a, b, c

Kalleberg, A. (2009). Precarious work, insecure workers: Employment relations in transition. *American Sociological Review*, *74*, 1–22. →https://doi.org/10.1177%2F000312240907400101 →

Knowles, H. P., & Saxberg, B. O. (1988). Organizational leadership of planned and unplanned change: A systems approach to organizational visibility. *Future*, *20*, 252–265. →https://doi.org/10.1016/0016-3287(88)90081-X

Kurtessis, J. N., Eisenberger, R., Ford, M.T., Buffardi, L. C., Stewart, K. A., & Adis, C. S. (2017). Perceived organizational support: A meta-

analytic evaluation of organizational support theory. *Journal of Management*, *43*, 1854–1884. →https://doi.org/10.1177%2F0149206315575554 a, b, c, d, e, f, g, h, i, j, k

Leifer, R. (1989). Understanding organizational transformation using a dissipative structure model. *Human relations*, *42*, 899–916. →https://doi.org/10.1177%2F001872678904201003 →

Leventhal, G. S., Karuza, J., & Fry,W. R. 1980. Beyond fairness: A theory of allocation preference. In G. Mikula (Ed.). *Justice and social interaction:*167–218. New York: Springer-Verlag. →

Losada, M., & Heaphy, E. (2004). The role of positivity and connectivity in the performance of business teams: A nonlinear dynamics model. *American Behavioral Scientist*, *47*, 740–765. a, b

Maertz, C. P., Griffeth, R. W., Campbell, N. S., & Allen, D. G. (2007). The effects of perceived organizational support and perceived supervisor support on employee turnover. *Journal of Organizational Behavior*, *28*, 1059–1075. https://doi.org/10.1002/job.472

Ming-Chu, Y., & Meng-Hsiu, L. (2015). The black box: Exploring the link between perceived organizational support and resistance to change. *Asia Pacific Management Review*, *20*, 177–183. http://dx.doi.org/10.1016/j.apmrv.2014.10.003 a, b, c, d, e, f

Mullen, T. R., Kroustalis, C., Meade, A. W., & Surface, E. A. (2006, April). Assessing change in perceived organizational support due to training. In *21st Annual Conference of the Society for Industrial and Organizational Psychology*, *Dallas, TX*. →

Newcomb, A. (2018, Nov 13). HQ2: Amazon picks New York City and Washington, D.C., for its new headquarters. *ABC News*. →https://www.nbcnews.com/tech/tech-news/hq2-amazon-picks-new-york-washington-d-c-it-new-n871761. a, b

Ng, T. W. H., & Sorenson, K. L. (2008). Toward a further understanding of the relationships between perceptions of support and work

attitudes. *Group and Organizational Management*, *33*, 243–268. →https://doi.org/10.1177%2F1059601107313307

Oreg, S., Vakola, M., and Armenakis, A. (2011). Change recipients' reactions to organizational change A 60-year review of quantitative studies. *Journal of Applied Behavioral Science*, *47*, 461–524. →https://doi.org/10.1177%2F0021886310396550 a, b

Pfeffer, J. (2007). Human resources from an organizational behavior perspective: Some paradoxes explained. *Journal of Economic Perspectives*, *21*, 115–134. DOI: 10.1257/jep.21.4.115 →

Rhoades, L., & Eisenberger, R. (2002). Perceived organizational support: A review of the literature. *Journal of Applied Psychology*, *87*, 698–714. →https://psycnet.apa.org/doi/10.1037/0021-9010.87.4.698 a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r

Rodriguez, A., & Rodriguez, Y. (2015). Metaphors for today's leadership: VUCA world, millennial, and "cloud leaders". *Journal of Management Development*, *34*, 854–866. →https://doi.org/10.1108/JMD-09-2013-0110 →

Shanock, L. R., Eisenberger, R., Heggestad, E. D., Malone, G., Clark, L., Dunn, A. M., Kirkland, J., & Woznyj, H. (2019). Treating employees well: The value of organizational support theory in human resource management. *American Psychological Association, Society of Psychologists in Management*, *22*, 168–191. http://dx.doi.org/10.1037/mgr0000088 →

Shin, J., Taylor, M. S., & Seo, M. G. (2012). Resource for change: The relationships of organizational inducements and psychological resilience to employees' attitudes and behaviors toward organizational change. *Academy of Management Journal*, *55*, 727–748. →https://doi.org/10.5465/amj.2010.0325 a, b, c

Smith, R. (2020). How CEOs Can Support Employee Mental Health in a Crisis. *Harvard Business Review*. →https://hbr.org/2020/05/how-ceos-can-support-employee-mental-health-in-a-crisis →

Smollan, R. K., & Morrison, R. L. (2019). Supporting others through stressful organizational change. *The Journal of Applied Behavioral Science*, *55*, 327–351. →https://doi.org/10.1177%2F0021886319832518 a, b, c, d, e, f, g, h, i

Society for Human Resources Management. (2020). *Navigating COVID-19: A toolbox to build a new world of work*. →https://pages.shrm.org/futurework_ga=2.213577046.358990225.1590753000-1049395257.1588592458 a, b

Stavros, D., Nicolaos, B., George, A., & Apostolos, V. (2016). Organizational change management: Delineating employee reaction to change in SMEs located in Magnesia. *Academic Journal of Interdisciplinary Studies*, *5*, 309–318. DOI: 10.5901/ajis.2016.v5n1p309 a, b, c

Stouten, J., Rousseau, D. M., & de Cremer, D. (2018). Successful organizational change: Integrating the management practice and scholarly literatures. *Academy of Management Annals*, *12*, 752–788. https://doi.org/10.5465/annals.2016.0095 a, b, c, d, e

The Guardian. (2019, Mar 11). Google paid former executive $35m after sexual assault allegation. *The Guardian*. →https://www.theguardian.com/technology/2019/mar/11/google-executive-payout-harassment-amit-singhal a, b

Tziner, A., & Birati, A. (1996). Assessing employee turnover costs: A revised approach. *Human Resource Management Review*, *6*, 113–122 →

van Dierendonck, D., & Jacobs, G. (2012). Survivors and victims, a meta-analytical review of fairness and organizational commitment after downsizing. *British Journal of Management*, *23*, 96–109. https://doi.org/10.1111/j.1467-8551.2010.00724.x a, b, c, d, e, f

Vakola, M., & Nikolaou, I. (2005). Attitudes toward organizational change: What is the role of employees' stress and commitment? *Employee Relations*, *27*, 160–174. →https://doi.org/10.1108/01425450510572685 a, b

Wang, A., & Kebede, S. (2020). Assessing employees' reactions to organizational change. *Journal of Human Resource and Sustainability Studies*, *8*, 274–293. →https://www.scirp.org/journal/jhrss a, b, c, d, e, f

Zagelmeyer, S., & Gollan, P. J. (2012). Exploring terra incognita: Preliminary reflections on the impact of the global financial crisis upon human resources management. *The International Journal of Human Resource Management*, *23*, 3287–3294. →https://doi.org/10.1080/09585192.2012.689158 a, b

8 Understanding risk in high reliability organizations: How healthcare built environments shape communication, patient care, and staff wellbeing

Kevin Real

William Howe

8.1 Introduction

Despite the increasing focus on risk in society and organizations, there is limited research available to practitioners and researchers on how the built environment can amplify or mitigate risk in high reliability organizations, particularly healthcare (→Harolds, 2020; →Harrison et al., 2020). The built environment in organizations refers to their physical design and layouts. These include buildings, the configuration of floors, corridors/hallways, offices/rooms, as well as window designs/locations, furniture, acoustics, wayfinding (signage), and environmental factors such as temperature, ventilation, and lighting. Built environments are the physical and spatial elements that surround communication in organizations. The physical design of healthcare organizations has been shown to affect staff wellbeing (→Trzpuc et al., 2016; →Zook et al., 2020), which is an important organizational risk management concern. Due to the nature of their work, particularly in the Covid-19 pandemic, healthcare clinicians are vulnerable to burnout, depression, physical/mental distress, job dissatisfaction, and more, all of which have been shown to put patients at risk for care quality and safety issues (→Bodenheimer & Sinsky, 2014). As such, there is a need for theory-driven approaches to better understand the influence of built environments on communication, risk management, and staff wellbeing in healthcare organizations.

Perceived risk, which combines susceptibility to and evaluation of the severity of a threat, is an important factor in how people respond to situations. According to the Risk Perception Attitude framework (→Rimal & Real, 2003), efficacy beliefs are an important moderator between risk perception and behavior. Efficacy is the belief in one's capacity to effectively produce a desired result. As healthcare organizations manage risk, it is critical to understand how messages can be designed and tailored to effectively motivate behavior. The RPA framework can be effective because it focuses on how efficacy-related messages are useful in times of risk, uncertainty, and ambiguity. Significantly, there is little extant research examining the interrelated nature of healthcare built environments, risk perception, and efficacy beliefs.

The aim of this chapter is to pull together seemingly disparate areas of research to illustrate and discuss how built environments and communication interact with and affect risk perceptions, efficacy beliefs and staff wellbeing within healthcare and organizations. To accomplish this, we review distinct literatures focused on communication and healthcare built environments, high reliability organizations/teams, risk perceptions, efficacy beliefs, and staff wellbeing. In this chapter, use of the term "staff" refers to all individuals working in healthcare organizations, from nursing to housekeeping to physicians to administrators. Communication scholars can contribute to understanding organizational risk management by highlighting the role of built environments on organizational norms, processes, and outcomes. Our approach underscores the significance of built environments to understanding communication and organizational risk within the context of healthcare staff wellbeing, an approach that is even more relevant considering the Covid-19 pandemic. In the first section, we review literature on communication and the physical environments in healthcare organizations.

8.2 Communication and healthcare built environments

Classic architecture research illustrates how healthcare built environments (HCBEs) both facilitate and inhibit communication among individuals and groups working in a physical space (→Hillier, 1996). Evidence-based research from architecture, design, and social psychology illustrates how physical layout influences t who communicates with whom, the distance people travel, technology needed, team construction, and more (→Cama, 2009; →Festinger, Schachter & Back, 1950). →Ulrich and colleagues' (2008) review of over 600 healthcare design studies found robust evidence for the relationship between physical layout and communication in healthcare. The National Academy of Medicine (formerly known as the Institute of Medicine) and the Joint Commission, both recognize the crucial value of communication to healthcare quality and delivery (→Kohn et al., 2000; →Institute of Medicine, 2011; →Joint Commission, 2008). The increased institutional attention given to communication processes in healthcare settings underscore the importance of understanding how physical space and structures affect communication in healthcare organizing.

Recent communication research highlights the role of physical environments in shaping communication in healthcare organizational settings. →Guinther and colleagues' (2014) multi-methodological post-occupancy evaluation of an emergency department reported staff concerns about communication involving patient privacy and confidentiality due to the proximity of patient rooms to newly-designed nurse stations. Barbour et al. (2016) examined discursive patterns within an emergency department and found that physical and organizational logics that place nurses in fixed stations while providing physicians with freedom of movement led to patterns of gendered discourse. →Dean and colleagues (2016) examined how hospital layouts offer varying opportunities for interaction and found communication in the form of "case talk" and "comfort talk" were linked to physical space, profession, and gender. These authors reported that physicians were inclined to engage in technical communication about patients and their cases while nurses tended to communicate compassion with patients privately.

→Real and colleagues (2017) examined how different nursing station designs (centralized or decentralized) affected nursing communication and care patterns. They found that working in decentralized stations reduced nurse-to-nurse communication while increasing nurse interactions on other health care occupations. →Bardach et al. (2017) examined how new technologies, instituted along with physical design changes, resulted in reduced in-person communication and decreased confidence in electronic charting. →Fay and colleagues (2017) used mixed methods to compare staff perceptions of centralized and decentralized unit designs. They found staff perceived centralized designs as significantly higher in teamwork and efficient patient care (due to shorter walking distances) while decentralized units enabled greater proximity to patients with increased visits to, and time spent in, patient rooms.

Using →Ulrich's (1991) theory of supportive design, →Real and colleagues (2018a) examined patients and nurse's perceptions of communication and design in both centralized and decentralized nurse station units. Patients preferred the decentralized units because of larger single-occupancy rooms and greater privacy. Nurses liked the new patient rooms and overall environment in decentralized units. However, nurses reported lower levels of team and mentoring communication than in centralized units due to greater distance from other nurses. →Fay et al. (2018) found that physical design was significantly associated with perceptions of efficiency, teamwork processes, and staff satisfaction. In a pre–post multi-method study, →Real and colleagues (2018b) discovered that nurses in centralized units characterized communication in in terms of proximity, teamwork, and relationships while nurses in decentralized units described communication in connection with greater distance, fragmentation, and information exchange. A systematic review of decentralized units by →Fay and colleagues (2019) reported patients generally have better experiences in decentralized units, nursing staff indicate that teamwork had declined; findings related to communication were generally

inconsistent due to the various ways it was conceptualized and measured across studies.

This recent body of communication and design research suggests renewed interest in understanding the social logics of building design, where use of the physical layout is governed by social knowledge that constitutes and sustains healthcare status and relationships (→Hillier, 1996; →Pachilova & Sailer, 2020). These logics reinforce social norms about who has access to which spaces and who may communicate with specific individuals or groups (→Dean et al., 2016; →Hillier, 1996; →Real et al., 2018a). These insights are useful for understanding organizational risk management. How healthcare organizations are designed and built, from location of rooms, sanitizer stations, and needle disposal bins to the design and placement of ventilation systems play a role in organizational risk mitigation. For example, negative pressure rooms in hospitals are designed to reduce the spread of airborne infections. In negative pressure rooms, air stays in the occupied space rather than escaping or mixing with air outside the room when the door opens into a designed anteroom (→ASHRAE, 2019), a phenomenon of great importance in the Covid-19 pandemic. This is an important concern because 21st century U.S. hospitals have become more oriented to hospitality, with comfortable private rooms and hotel-like amenities that enhance the patient experience, as rooms are built to be private and relaxing for patients and families (→Wu et al., 2013). Although hotel-style designs improve patient-centered care (and patient satisfaction scores), there are organizational risk factors with these designs that can increase the risk of infection of airborne disease. That is why a focus on high reliability care is of paramount importance to understanding how to address physical design and organizational risk management. In the following section, high reliability organizing is considered essential for the delivery of safe and effective patient care at both the organizational and team level (→Baker et al., 2006; →Harrison et al., 2020).

8.3 High reliability organizations

High reliability organizing (HRO) theory explains how organizations which “regularly operate in unforgiving circumstances for long periods of time while facing emerging environmental conditions and/or technological complexity” manage “to consistently avoid large accidents and fatalities even though the conditions they face make such events likely” (→Jahn, 2017, p. 1097). Healthcare organizations are HROs due to their established cultures, professional identities, and distinct built environments (e.g., hospitals, emergency departments; →Harrison et al., 2020). Communication scholars have illustrated the importance of high-quality communication within HRO/Ts (→Barbour & Gill, 2017; →Ishak & Williams, 2017; →Roeder et al., 2021). →Weick and Sutcliffe (2015) examined the practices and procedures of multiple high reliability organizations and teams (HRO/Ts) in their development of an HRO framework and found that HRO/Ts adhere to five principles of organizing.

The first HRO principle is preoccupation with failure, which should not be confused with pessimism or doubting the organization, but as an organizational mindset that seeks out and recognizes failure. Such a principle may seem counterintuitive, as most humans look to elevate success and mitigate failures. An HRO perspective, however, realizes that each failure is a chance to learn, improve the system, and reduce the likelihood that a similar failure will happen again. Furthermore, recognizing small, seeming inconsequential, failures could reveal overall trends that may potentially lead to an organizational crisis (→Bisel, 2017). Therefore, recognizing and correcting failures, while they are relatively small, can aid organizations in achieving long-term success. Hospitals, for example, are preoccupied with avoiding system failure for the health and safety of their patients; redundant built environment systems e.g., backup power systems) are designed into critical healthcare facilities (e.g., hospitals).

The second HRO principle is reluctance to simplify. HRO/Ts are constantly working in complex and everchanging environments and, therefore, the simplest answer may not be the correct one. Many of

these organizations develop specific communication patterns to help bolster rapid, clear, and correct information exchange (→Howe & Hinderaker, 2018). The phonetic alphabet is one well-known example of this practice. It is undoubtedly easier and simpler to say “B”, “C”, or “E” over a radio than “Bravo”, “Charlie”, or “Echo”. Yet, it is also easier to misinterpret these letters and therefore communicate incorrect information. HRO/Ts look to create language systems which are as specific as possible, hence why acronyms are commonly found in these organizations. Healthcare organizations utilize such language systems as they prioritize long-term reliability over short-term efficiency (→Harrison et al., 2020).

The third HRO principle is sensitivity to operations. Leaders of HRO/Ts realize that the individuals who have the best picture of what is happening within the organization are those working in the action every day. Leaders of these organizations often walk among workers to receive immediate feedback, which diminishes the chances of information needed for improvement being lost in organizational bureaucracy (→Jahn, 2017). Hospitals, for example, routinely employ daily huddles on patient care floors. These short (typically standing) meetings involve regular communication to improve situational awareness and pay attention to everyday processes, important HRO elements. The use of daily huddles has led to the development of physical huddle stations in healthcare facilities, which preliminary research has found to be primary sites for interprofessional communication (→Fay et al., 2021).

HRO/Ts are committed to a fourth principle, resilience. This does not mean these members are solely trained to bounce back after a failure occurs, but they are also trained to anticipate, account for, and act on the possibility of such failures (→Shpeer & Howe, 2020). If a system begins to deteriorate, workers may enact redundancy plans, shift resources, and move personnel to either avoid or mitigate the damage of small failures to the overall system. Healthcare organizations can be designed with spaces (e.g., small conference rooms, huddle stations) for collaborative critical thinking about patient care solutions.

The final HRO principle is deference to expertise. Although most HRO/Ts have strict hierarchical structures (→Howe & Hinderaker, 2018; →Shpeer & Howe, 2020), many of them also have caveats for who takes charge in various situations. For example, if there were a medical emergency, the most highly-trained medical practitioner would take charge, but if that patient is admitted to the hospital, it may be the bedside nurse who has the greatest amount of knowledge of the patient's condition. Therefore, deference to expertise does not mean deference to seniority, although workers sometimes mistakenly interpret it that way (Bisel & Zanin, 2015), but rather who has the most training and knowledge in a specific area in a situation to provide the best possible solution in the shortest amount of time. Healthcare architects and designers can demonstrate this principle by bringing in nurses and other healthcare staff when they begin to plan and design healthcare facilities.

Healthcare organizations continue to learn and adopt HRO principles (→Harolds, 2020). In fact, the United States Department of Veteran Affairs (VA), the largest integrated healthcare system in the United States, formulated its strategic plan around these principles. The Secretary (director) of the VA indicated this move was made because: "Adopting high reliability principles more formally represents the next step for delivering the best health care to Veterans. Our culture is changing VHA's HRO journey officially begins and pursuing HRO principles nationwide is our pledge to empower staff and keep Veterans the safest they can be on our watch" (→VA.gov, 2019, para 3). This shift in healthcare to accepting HRO principles cannot happen overnight but must be established through organizational culturing at every level (→Bisel, 2017). HRO principles are important in healthcare as these organizations have been found to suppress employee communication even if it that communication leads to better patient care (→Bisel & Keyton, 2012; Bisel & Zanin, 2015).

A recent article by →Roeder and colleagues (2021) highlights one of the ways that an HRO/T has found success implementing HRO principles, *floating*. It is often difficult for all members of an

organization or team to feel like they share the same power or voice as other members of the team. These researchers noticed, after months of observing a severe weather forecast team, these team members almost always announced a decision to the group before distributing information to stakeholders (e.g., news stations, public). Through an informal act of *floating* the idea of a weather watch or warning to team members the lead forecaster was able to enact all five HRO principles. If the decision had a mistake another forecaster could catch it, it made the process slower but more specific, if someone had new information in their research space they could provide it, all members were informed of the danger and ready to enact any secondary plans, and the leader could access the distributed expertise of the team quickly.

During follow-up interviews team members revealed that they did not have a word for this practice, but that it did exist as an informal group norm. One of the senior forecasters recalled how after a major storm hit in 2013 the team realized they could improve communication by restructuring the forecast room from cubicles to a horseshoe or U format, so that all team members could see and interact with each other. →Roeder and colleagues (2021) conclude:

> [T]hese findings suggest communication facilitates the opportunity to capitalize on members' pattern recognition or unshared information from technological inputs. Presumably, benefits of *floating* can be capitalized on by having the right experts together. These situations can be accomplished by configuring workspace locations, orientations, and technology in ways that promote rapid exchanges.
>
> (p. 27, emphasis added)

These findings parallel findings from healthcare where veteran nurses often suggest options to newer physicians in ways that do not threaten the traditional hierarchies of medicine (→Burford et al., 2013).

Healthcare organizations can create better communication and information flow through the design of their built environments to enable high reliability organizing and risk management. A built

environment aligned with HRO principles could increase the ability of employees to raise issues while they are small and manageable and before these issues become large crises (see →Bisel & Zanin, 2015). For example, →Real et al. (2017) reported how one hospital had created interdisciplinary team spaces for multiple professions to gather and work so they could more effectively collaborate. Such approaches can enable healthcare organizations to better facilitate risk management through understanding how physical layouts influence risk. To illuminate this, the next section describes a theory-driven approach to communication, risk perceptions, efficacy beliefs and the potential linkage with the healthcare built environment.

8.4 Risk perception attitude framework

The Risk Perception Attitude (RPA) framework (→Rimal & Real, 2003) is designed to segment message audiences into one of four groups based on their risk and efficacy beliefs: responsive (high risk, high efficacy), avoidance (high risk, low efficacy), proactive (low risk, high efficacy), and indifference (low risk, low efficacy). This theoretical model has been extensively tested with health and risk behaviors, including skin cancer prevention (→Rimal & Real 2003) workplace safety (→Real, 2008), HIV prevention (→Rimal et al., 2009), vaccine uptake (→Real et al., 2013), social media health information seeking (→Deng & Liu, 2017) and household chemical product risks (→Lee & You, 2020). In *responsive* groups (high risk, high efficacy), individuals perceive themselves to both be at risk and know how to respond. The *proactive* groups (low risk, high efficacy) include individuals who are confident in their ability to address the risk, even when they do not perceive themselves to be vulnerable. The two groups that experience poor outcomes in most studies are the low efficacy groups. Individuals in *avoidance* groups (high risk, low efficacy) perceive a risk yet are incapable or unmotivated to engage in self-protective behaviors. Members of *indifference* groups (low risk, low efficacy) are least likely to do anything. They do not perceive any risks nor have confidence in their ability to respond properly to the threat.

Each of the four RPA groups could be used to supply differential physical design responses to a given risk or threat. Design decisions can include noise levels, temperature, lighting, space for meeting areas, break areas, storage, access to sinks and hand sanitizers, patient-clinician interaction areas, staff work areas and more. Design elements related to RPA groups can range from providing improved hallways with clear sightlines and wayfinding so people know where they are going. Wayfinding, the process of ascertaining a route from one location to another and traversing that route (→Jamshidi et al., 2020) is an important element in design decisions. Formally, it can be considered as "information systems that guide people through a physical environment and enhance their understanding and experience of the space" (→SEGD, 2014, "Wayfinding" section). Wayfinding is especially crucial in complex built environments such as healthcare and can be designed for individuals with low efficacy (e.g., visitors, patients, volunteers) with elements such as marked pathways with clear destinations.

As seen in →Table 8.1, physical design decisions aimed at staff wellbeing can be made for each of the four RPA groups with respect to HRO principles. Responsive groups may be well-served by designs that provide suitable space for staff meetings and patient-clinician interactions, with each area having appropriate levels of environmental factors such as lighting, temperature, and noise. Designs for proactive groups may feature attention to provider/patient needs that include wayfinding, artwork for positive wellbeing, adequate storage, and appropriate environmental factors. Communication for both groups would focus on efficacy-reinforcing messages using multiple communication modes while highlighting risks. For the low-efficacy (avoidance and indifference) groups, design decisions could focus more on visibility, clear sight lines, signs that draw attention, wayfinding in multiple places (including signs/symbols on floors), and obvious paths of travel to enter and exit spaces. Communication for these groups may feature efficacy-enhancing messages using multiple communication modes including visual cues, signs on pathways, and risk-highlighting messages for

the indifferent groups. As noted in prior RPA research (→Rimal & Real, 2003; →Real, 2008; →Rimal et al., 2009; →Real et al., 2013), when resources are scarce, low-efficacy groups may be the best groups to target with messages aimed at supporting efficacy beliefs while highlighting risks.

Table 8.1: Application of RPA framework to Design Decisions and Wellbeing.

Perceived Risk & Efficacy Beliefs	Design Elements & Decisions	Communication & Wellbeing	Organization/ Team Approach	HRO Principles
Responsive group (high risk, high efficacy) Example: health professionals in high-risk clinical situations	Adequate space for meeting areas, patient-clinician interaction, work areas. Each area has ample lighting, staff access to privacy for interaction and respite.	Efficacy and risk-reinforcing messages, multiple communication modes (f2f, text, signage, landmarks, etc.)	Culture that facilitates, rewards "rich thinking and capacity for action" is attentive to both the process and the outcome	Likely enacts all HRO principles even if unaware (e.g., RN with declining patient seeks available structures such as rapid-response team)
Proactive group (low risk, high efficacy) Example: health professionals in non-clinical situations	Design decisions include wayfinding, artwork, storage, lighting, temperature. Staff access to privacy for interaction and respite.	Efficacy-reinforcing messages using multiple communication modes to enhance reception	Culture that promotes autonomy re guidelines and procedures and is attentive to structures, processes, and outcomes	Likely enacts the HRO principles of reluctance to simplify and deference to expertise (e.g., a lab technician reporting results/ MD seeking input from RNs)

Perceived Risk & Efficacy Beliefs	Design Elements & Decisions	Communication & Wellbeing	Organization/ Team Approach	HRO Principles
Avoidance group (high risk, low efficacy) Example: Patients, patients/visitors with language barriers, ancillary staff; visitors to high risk areas	Design decisions for hallways with clear sight lines, signage, wayfinding, barriers to entry to high-risk areas, increase clarity on entrance/exits. Staff access to privacy for interaction and respite.	Efficacy-enhancing messages using multiple communication modes including visual cues, simple pathways with clear destinations	Culture that encourages following scripted guidelines and procedures and is attentive more on structures and outcomes than process	May enact some HRO principles such as preoccupation with failure (e.g., detailed signage, checklists, daily reviews)
Indifferent group (low risk, low efficacy) Example: visitors to low risk settings, vendors	Hallways with clear sight lines, signage, wayfinding, clarity on paths of travel. Staff access to privacy for interaction and respite.	Risk-highlighting and efficacy-enhancing messages, visual cues, pathways with clear destinations	Culture focused on task completion, efficiency and may be hyper-attentive to process	Unlikely to enact HRO principles

→Table 8.1 highlights organizational/team responses along with likely HRO principles. Responsive groups may be supported in organizations with a culture that rewards “rich thinking and capacity for action” (Vogus & Sutcliffe, p. 724); such a culture is attentive to how things get done (processes) and the outcomes of individual and team work. Hospitals often have rapid-response teams designed to bring emergency critical care to patients when needed. Design decisions may include facilitating immediate communication between providers and these teams. Proactive groups may emerge in cultures that encourage autonomy (and remain suppressed in authoritarian cultures). Physicians who seek nurses’ opinions as they treat patients

exhibit deference to expertise, a characteristic that can be supported organization-wide. Avoidance groups may thrive better in organizational cultures with less individual autonomy and adherence to HRO principles such as preoccupation with failure by using detailed signage for wayfinding. Efficiency oriented cultures that do not focus on HRO principles may foster indifference groups of employees. Certainly, low efficacy groups would not fare well in cultures of uncertainty or ambiguity. Communication and design scholars are challenged to creates designs that can address the sometimes competing needs of their varied workforce groups.

For all groups, messages could be tested that focus on efficacy for wellbeing, noting how wellbeing is an integral component and necessary pre-requisite of patient care (→Bodenheimer & Sinsky, 2014). The importance of efficacy for wellbeing cannot be understated. This is a principal component of →Bandura's (1986) social cognitive theory. Communication scholars understand that enhancing efficacy can be brought about through verbal persuasion or message-based campaigns. Yet other forms of learning are robust as well, such as modeling and social learning (→Bisel & Zanin, 2015), where people see similar others do salient behaviors. Design decisions for wellbeing could include staff access to private spaces reserved for talking with other providers, consulting with patients and families, and dedicated spaces for respite from significant stress (→Fay et al., 2021). For example, researchers have found that in some healthcare facilities, bathrooms were the only private space for staff to escape, rest or grieve (T. Zborowsky, personal communication, August 19, 2021). Yet important team communication research by →Ellingson (2003) has noted the importance of the "backstage" for healthcare staff to discuss patient care, share information, learn about patient care, build relationships, and vent to each other. These backstage interactions build staff confidence and help them in their work, which contribute to their wellbeing. In the following section, we turn our attention to how communication, built environment, and organizational processes contribute to staff wellbeing.

8.5 Healthcare staff wellbeing

Staff well-being is an element of the quadruple aim of healthcare (→Berwick et al., 2008; →Bodenheimer & Sinsky, 2014). These four goals are: 1) enhancing patient experience, 2) improving population health, 3) reducing costs, and more recently. 4) improving the quality of healthcare work. Although this fourth aim initially focused on improving work processes such as enhanced teamwork, it has evolved to include staff well-being through engagement, meaning, and safety of staff members designed to reduce risk factors related to high stress, burnout, and work dissatisfaction (→Sikka et al., 2015). Although there is no consensus definition of well-being, there is general agreement that well-being is comprised of physical, emotional, social, spiritual, and professional elements linked to satisfaction with life, work, fulfillment, and positive functioning (→Bogue & Carter, 2019; →CDC, 2020; →Myers et al., 2000). The complexity of well-being suggests that it is affected by built environments, communication, organizing processes, risk perceptions, efficacy beliefs, and more. Physical design can influence wellbeing through access to affordances such as comfort (e.g., noise, temperature, lighting), privacy, safety, and communication (→Bosch & Lorusso, 2019; →Guinther et al., 2014; →Ulrich, 1991; →Ulrich et al., 2008).

Physical design contributes to healthcare staff wellbeing in many ways, from workflow design to visibility to proximity to adequate spaces for breaks, storage, and respite (→Zborowsky & Kreitzer, 2008). Studies show that visibility is linked to communication and teamwork in healthcare (→Nanda et al., 2015; →Peavey & Cai, 2020). When people with lower wellbeing efficacy see co-workers actively engage in wellbeing (e.g., use respite space; social interaction in private spaces), they are more likely to learn and develop self-efficacy for these behaviors. Design decisions can create works spaces where people have access to others and can see and interact with them. Research has shown that one drawback to purely decentralized nursing stations is the isolation that nurses experience (→Fay et al.,

2019; →Real et al., 2017). Alternatives to these stations that capture some of the interactions available at central nurse stations with the proximity to patients afforded by decentralized are hybrid models (→Cai & Zimring, 2012; →Fay et al., 2019). When these nurses can see how others cope with the stress of patient care and interact with them, they are more likely to enact wellbeing behaviors. This is the essence of →Ulrich's (1991) theory of supportive design, where the built environment can support staff wellbeing through the creation of spaces for social support, private communication, respite, and more (→Cai & Zimring, 2012, →Real et al., 2018a).

Compared to other factors, staff wellbeing is often considered tangential to patient care success. Although there is plenty of evidence supporting staff wellbeing as a key factor in healthcare quality and safety (→Bodenheimer & Sinsky, 2014; →Hall et al., 2016), more emphasis is typically placed on the original "triple aim" factors of patient experience, population health, and cost (→Berwick et al., 2008). While these three are crucial factors, researchers have more recently suggested that staff wellbeing is a critical prerequisite to care quality and patient experience (→Bodenheimer & Sinsky, 2014). Research by →Chung et al. (2020) indicates that increased physician burnout is linked to decreased patient-provider communication experience. The built environment has a role as well. →Trzpuc et al. (2016) found that HCBE elements were positively linked to patient/staff satisfaction and providers' efficacy beliefs for patients' mental and behavioral health outcomes. →Zook and colleagues (2020) examined physical layouts in ambulatory care and noted that certain designs can create opportunities for connections, awareness, copresence, and communication that positively affect healthcare staff wellbeing. These authors suggested localized design strategies to create private spaces for staff wellbeing without physically separating patients from staff.

→Zook and colleagues (2020) further note that spatial integration of patients with various staff (e.g., nurses, physicians) can be patient centered and facilitative of different types of teamwork. Organizational structures, such as teamwork, and organizational

practices can have a significant impact on staff wellbeing. For example, individuals working in healthcare often work in multiple teams (→Poole & Real, 2003; →Real & Poole, 2011) shaped to some degree by physical design. Teams in healthcare are complex because of varying professional/occupational identities, cultures (e.g., professional, unit, team, organization), silos, and built environments (e.g., locations, temperatures, ventilation, visibility, and much more). Issues of wellbeing in healthcare such as stress, overwork, and burnout are widely known and stem from a variety of causes, including cultural, occupational, and organizational factors (→Bisel & Keyton, 2012; →Bodenheimer & Sinsky, 2014). These issues clarify why addressing wellbeing at a system level is likely the key to improvement. Healthcare teams are crucial system factors shown to be an effective element of improved care and staff wellbeing (→Smith et al., 2018).

Healthcare teams are also essential components of achieving high reliability (Baker et al., 2006; →Smith et al., 2018) that can influence wellbeing. →Poole & Real's (2003) review found that teams that were able to negotiate conflicts also built stronger relationships, engaged in better communication, and had better outcomes for long-term teamwork. A systematic review of 98 studies (→Welp & Manser, 2016) found linkages between teamwork, clinician occupational wellbeing and patient safety. A recent review of 47 studies by →Real et al. (2021) found clear evidence that team leadership can facilitate team psychological safety, promote team member voice, and improve relationship quality, all characteristics of teams that foster wellbeing. →Peavey & Cai's (2020) systematic review highlights the role of physical design in healthcare teams by examining 33 studies that connect physical environments to communication and teamwork. The researchers highlighted two physical design factors, proximity and visibility, for their importance in teamwork and supporting impromptu interactions, informal relationships, supportive environments, and mutual support, key ingredients in wellbeing. Developing relationships with patients is important for patient-centered care. In a study of interdisciplinary rounding teams based

on more than 150 hours of observations across two hospitals, →Real et al. (2020) found that specific communication behaviors, such as rapport building, soliciting questions from patients/families, seeking input from other team members, team voice, and physicians sitting at eye level with patients were more likely to occur in geographically cohorted teams (where physicians are co-located with teams). Each of these studies illustrate the value of teams as system components for wellbeing. The interactions and ongoing behaviors in these teams lay the groundwork for mindful organizing that benefits staff wellbeing.

→Weick and colleagues (1999) describe organizational mindfulness as the organizational/collective capacity to realize the significance of developing events and information and act swiftly in response to them. →Vogus and Sutcliffe's (2012) description of mindful organizing places the locus on the processes in communication, noting that it "relies on extensive and continuous real-time communication and interactions that occur in briefings, meetings, updates, and ongoing work" (pp. 724–725). These perspectives highlight the role of communication for understanding staff wellbeing, organization structures. and mindful organizing. If a hospital has experienced high nurse turnover, for example, it may form structures (working groups) to address this potential threat to reliability (preoccupation with failure). The groups will engage in ongoing communication and sensemaking to understand why nurses leave, which could be due to stress, workload, and lack of wellbeing. Seasoned hospital administrators would know that the best source of information would be nurses themselves (deference to expertise). They would know that the created nursing work groups contribute to organizational learning that can develop a nuanced and current understanding of the context (reluctance to simplify). As the organization discovers information from these groups, it would learn how to respond and adapt (commitment to resilience) and it would begin implementing processes into day-to-day practices (sensitivity to operations; →Vogus & Sutcliffe, 2012; →Weick et al., 1999). An authentic desire to mindfully organize around these processes can

prevent barriers to success (e.g., message fatigue) that can limit development of collective mindful processes (→Ford, 2018).

Traditionally strong cultures in healthcare can be an additional barrier to wellbeing. Physician cultures of overwork, nursing cultures linked to nurse-on-nurse hostility, and siloed cultures associated with greater and greater specialization can inhibit organizational processes designed to improve wellbeing. Medical resident training is a good example of how it establishes a culture of overwork among physicians. Prior to 2003, residents typically worked 100 hours each week, with little restrictions on the length of their shift. This was changed in 2003, capping resident work hours at 80 hours per week, with no shift exceeding 30 hours. One study reported this change was associated with reduced patient mortality rates (→Shetty & Bhattacharya, 2007). Here is an anecdote from one of the author's associates (a medical resident post-2003). They recounted a conversation they had with a senior physician. The senior doctor told the resident, "The only problem with the changes (limiting hours) is you miss half the good cases." The resident interpreted this to mean they were viewed as not as well-trained as previous generations of physicians. These cultures of extreme workloads can act to counter any healthcare organizational structures in place to support wellbeing. This is not limited to physicians. One of the authors was in a meeting with nursing leaders to provide evidence designed to reduce workplace injuries, particularly back injuries from lifting heavy patients. The response from the administrators, all longtime nurses, was that these were "expected", "part of nursing", and that nurses had always been "pushing, pulling, and tugging patients."

In response to these cultures of overwork and safety risks, healthcare organization have created structures for healthcare professionals to have a voice in their work. For example, →Real and Pilny (2017) reported how one healthcare organization created a multi-level system of nursing review teams within each specialty area (e.g., trauma, neurology). A cardiovascular department created nursing review teams at the hospital, department, work unit, and work area levels. These teams were nested within other teams to

review and examine nursing-related issues that arose within their respective areas. In the case of back injuries, the teams were more open to solutions aimed at teaching nurses to use equipment, including slings, that could raise patients, and to also wait for help before lifting a heavy patient by themselves. Research by →Renecle et al. (2020) found that staff voice (safety-related communication) moderated the relationship between participation and mindful organizing. Scholars have noted HRO/Ts must constantly look for ways their systems may potentially fail and be comfortable creating structures for members to voice those opinions to other members of the organization (→Bisel & Keyton, 2012; →Harrison et al., 2020).

In addition to voice, built environments are important for creating specific opportunities for communication. The stressful and demanding work of healthcare can be ameliorated by having designated work spaces for collaboration (team spaces) and individual work that often requires focus (charting). This “social logic” of space, as →Hillier (1996) notes, guides the location and nature of communication that occurs in healthcare organizations (e.g., private conversations in private spaces). It further creates spaces for staff well-being, whether aimed to improve the quality of work or provide places to recover from stressful healthcare situations.

8.6 Implications and future directions

There are three primary implications to draw on for staff wellbeing in healthcare organizations. First, healthcare organizations are HRO/Ts with systems in place designed to achieve goals and prevent major problems at multiple levels. Second, built environments within healthcare HROs can affect communication, operations, risk perceptions, efficacy beliefs, and staff wellbeing. Third, communication can improve wellbeing in these contexts, creating efficacy-related messages for specific groups working within strategically designed physical layouts. Accomplishing wellbeing at the organizational level is difficult. Yet in HRO/Ts, where the potential for catastrophic error is serious (at the individual as well as societal

level), the wellbeing of staff is paramount. This is particularly the case in healthcare, where the quadruple aim includes staff wellbeing as a prerequisite for care quality, patient health and economics. Implications of this chapter suggest that staff wellbeing in healthcare organizations can be found in the "extensive and continuous real-time communication and interactions" (→Vogus & Sutcliffe, 2012, p. 724) that comprise mindful organizing within physical spaces. A challenge remains for communication and organizational researchers to explore how specific communication practices and operational conditions can foster mindful organizing (→Ford, 2018) as shaped by physical and organizational structures.

Future research may examine how healthcare built environments facilitate communication, efficacy, and staff wellbeing. Design researchers use innovative observational methods to understand how people use space in healthcare organizations (→Ulrich et al. 2008). Pilot research for →Real and colleagues' (2020) study of interdisciplinary hospital rounding teams used observations to understand how teams positioned themselves as they interacted in their team before, during and after patient room visits as well as the teams' communication with patients. Researchers could examine staff wellbeing by observing communication where employees do specific types of activities, such as collaboration, focused work, care treatment, and social interactions. Further, researchers can examine the extent that design features such as access to parking, natural light, access to co-workers, respite areas for hard days, open areas outside to sit and relax, and easy access to their vehicles (and public transportation) facilitate communication and staff wellbeing.

Future research can examine communication and staff wellbeing through the theoretical lens of HRO, organizational learning, and mindful organizing. →Ford (2018) points out tensions (e.g., information access, generational differences) within each of the five elements of HRO/Ts and suggests they can be resolved through mindfulness. As →Harrison et al. (2020), →Jahn (2019), and →Vogus and Sutcliffe (2012) note, this enactment can be manifested through a culture of ongoing communication across levels of hierarchies,

teams, units, and professions, all of which are identified as barriers to communication in healthcare (→Poole & Real, 2003; →Real & Poole, 2011).

Communication scholarship has investigated how risk and identity are socially constructed and performed (→Scott & Tretheway, 2008). →Jahn (2019) illustrates how voice is essential in HROS because it compels members to speak without fear of retaliation, express agreement or disagreement, suggest ideas, and exchange information. Bisel and Zanin (2015) further bridge the understanding of mindfulness and organizational learning as they show how some lower ranking staff cannot speak out against unethical or improper patient treatment. An organizational learning approach could help hospital administrators understand how built environments can be designed to reduce the power dynamics in healthcare organizations and increase the ability of staff members to freely communicate, a vital element of successful HRO/Ts.

8.7 Conclusion

Although risk has typically been construed in terms of individual, organizational and workplace activities, this chapter suggests that these orientations are better understood when examining how built environments affect risk in high reliability healthcare teams and organizations. The complexity of risk suggests that built environments are important to how individuals, teams, and organizations respond to factors that generate stress and facilitate wellbeing. When healthcare staff are doing well, they are better positioned to communicate effectively and care for patients. This chapter has gathered seemingly disparate strands of knowledge to underscore the importance of physical design for understanding risk in high reliability organizations. This is an important contribution to understanding risk in organizational communication research and scholarship.

References

ASHRAE. (2019). *Standard 90.1-2019 – Energy standard for buildings except low-rise residential buildings*. American Society of Heating, Refrigerating and Air-Conditioning Engineers: Atlanta, GA. →

Baker, D. P., Day, R., & Salas, E. (2006). Teamwork as an essential component of high-reliability organizations. *Health services research*, *41*(4p2),1576–1598. doi.org/10.1111/j.1475-6773.2006.00566.x →

Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, N.J.: Prentice-Hall. →

Barbour, J. B., Gill, R., & Dean, M. (2015). Work space, gendered occupations, and the organization of health. In T. R. Harrison & E. A. Williams (Eds.) *Organizations, Communication, and Health*, (pp. 101–118). New York: Routledge.

Barbour, J. B., & Gill, R. (2017). Questioning as regulatory work practice: The communicative accomplishment of reliability and safety in the oversight of nuclear power plants. *Communication Monographs*, *84*, 466–487. →

Bardach, S. H., Real, K., & Bardach, D. R. (2017). Perspectives of healthcare practitioners: An exploration of interprofessional communication using electronic medical records. *Journal of Interprofessional Care*, *31*(3), 300–306. https://doi.org/10.1080/13561820.2016.1269312 →

Berwick, D. M., Nolan, T. W., & Whittington, J. (2008). The triple aim: care, health, and cost. *Health Affairs*, *27*(3), 759–769. https://doi.org/10.1377/hlthaff.27.3.759 a, b

Bisel, R. S. (2017). *Organizational moral learning: A communication approach*. Routledge. a, b

Bisel, R. S., & Keyton, J. (2012). Speaking up is not an easy choice. In S. May (Ed.) Case Studies in Organizational Communication: Ethical Perspectives and Practices, (pp. 295–314.) Sage. a, b, c

Bisel, R. S., & Zanin, A. C. (2015). Moral dissent in health care organizations. In T. Harrison & E. Williams (Eds.), *Organizations, Communication, and Health* (pp. 119–133). Routledge. a, b

Bodenheimer, T. & Sinsky, C. (2014). From Triple to Quadruple Aim: Care of the Patient Requires Care of the Provider. Annals of Family Medicine, 12(6),573–576. doi.org/10.1370/afm.1713 a, b, c, d, e, f

Bogue, R. J., & Carter, K. F. (2019). A model for advancing nurse wellbeing:: fFuture directions for nurse leaders. *Nurse Leader*, *17*(6), 526–530. doi.org/10.1016/j.mnl.2019.09.011 →

Bosch, S. J., & Lorusso, L. N. (2019). Promoting patient and family engagement through healthcare facility design: A systematic literature review. *Journal of Environmental Psychology*, *62*, 74–83. doi.org/10.1016/j.jenvp.2019.02.002 →

Burford, B., Morrow, G., Morrison, J., Baldauf, B., Spencer, J., Johnson, N., Rothwell C., Peile E., Davies C., Allen M., & Illing, J. (2013). Newly qualified doctors' perceptions of informal learning from nurses: implications for interprofessional education and practice. *Journal of Interprofessional Care*, *27*(5), 394–400. doi.org/10.3109/13561820.2013.783558 →

Cai, H., & Zimring, C. (2012, January). Out of sight, out of reach: Correlating spatial metrics of nurse station typology with nurses' communication and co-awareness in an intensive care unit. In *Proceedings of the 8th International Space Syntax Symposium, Santiago, Chile* (Vol. 36, pp. 381–391). a, b

Cama, R. (2009). Evidence-based healthcare design. Hoboken, NJ: John Wiley. →

CDC (Centers for Disease Control) (2020). Wellbeing concepts. →https://www.cdc.gov/hrqol/wellbeing.htm →

Chung, S., Dillon, E. C., Meehan, A. E., Nordgren, R., & Frosch, D. L. (2020). The Relationship Between Primary Care Physician Burnout and Patient-Reported Care Experiences: A Cross-sectional Study. *JGIM: Journal of General Internal Medicine*, *35* (8).→www.doi-org.ezproxy.uky.edu/10.1007/s11606-020-05770-w →

Dean, M., Gill, R., & Barbour, J. B. (2016). "Let's sit forward": Investigating interprofessional communication, collaboration,

professional roles, and physical space at EmergiCare. *Health Communication*, *31*(12), 1506–1516. doi: 10.1080/10410236.2012.743869 a, b

Deng, Z., & Liu, S. (2017). Understanding consumer health information-seeking behavior from the perspective of the risk perception attitude framework and social support in mobile social media websites. *International Journal of Medical Informatics*, *105*, 98–109. doi.org/10.1016/j.ijmedinf.2017.05.014 →

Ellingson, L. L. (2003). Interdisciplinary health care teamwork in the clinic backstage. *Journal of Applied Communication Research*, *31*(2), 93–117. doi.org/10.1080/0090988032000064579 →

Fay, L., Carll-White, A., Schadler, A., Isaacs, K. B., & Real, K. (2017). Shifting landscapes: The impact of centralized and decentralized nursing station models on the efficiency of care. *Health Environments Research & Design Journal*, *10*(5), 80–94. doi.org/10.1177/1937586717698812 →

Fay L. Carll-White, A., & Real, K, (2018). Emergency nurses' perceptions of efficiency and design: Examining ED structure, process, and outcomes. *Journal of Emergency Nursing, 44*, 274–279. →https://doi.org/10.1016/j.jen.2017.09.001 →

Fay, L., Cai, H., & Real, K. (2019). A systematic literature review of empirical studies on decentralized nursing stations. *HERD: Health Environments Research & Design Journal*, *12*(1), 44–68. doi.org/10.1177/1937586718805222 a, b, c

Fay, L., Santiago, J. E., Haynes, S. & Real, K. (2021, May) The NICU evolution: Assessing design factors of open bay and single-family room designs in the neonatal intensive care unit. Presented at the Environmental Design Research Association (EDRA) Conference, Detroit, MI, USA. a, b

Festinger, L., Schachter, S., & Back, K. (1950). *Social pressures in informal groups: A study of a housing community*. Palo Alto, CA: Stanford University Press. →

Ford, J. L. (2018). Revisiting high-reliability organizing: Obstacles to safety and resilience. *Corporate Communications: An International Journal*. doi.10.1108/CCIJ-04-2017-0034 a, b, c

Guinther, L., Carll-White, A., & Real, K. (2014). One size does not fit all: A diagnostic post-occupancy evaluation model for an emergency department. *Health Environments Research & Design Journal*, *7*(3), 15–37. https://doi.org/10.1177/193758671400700303 a, b

Hall, L. H., Johnson, J., Watt, I., Tsipa, A., & O'Connor, D. B. (2016). Healthcare staff wellbeing, burnout, and patient safety: a systematic review. *PloS one*, *11*(7), e0159015. →https://doi.org/10.1371/journal.pone.0159015 →

Harolds, J. A. (2020). Quality and safety in health care, part LXXXII: Introduction to high reliability organizations. *Clinical Nuclear Medicine*. advanced online publication. doi:10.1097/rlu.0000000000003079 a, b

Harrison, T. R., Williams, E. A., & Reynolds, A. R. (2020). The intersections of organizations, health, and safety. In H. D. O'Hair and M. J. O'Hair (Eds.), *The Handbook of Applied Communication Research*. (pp. 279–296). Wiley. a, b, c, d, e, f

Hillier, B. (1996). *Space is the machine*. London: Cambridge Univ. Press. a, b, c, d

Howe, W. T., & Hinderaker, A. (2018). "The rule was the rule": New member socialization in rigidly structured totalistic organizations. *Atlantic Journal of Communication*, *26*(3), 180–195. doi:10.1080/15456870.2018.1472093 a, b

Institute of Medicine (IOM), Committee on the Robert Wood Johnson Foundation Initiative on the Future of Nursing. (2011). *The future of nursing: Leading change, advancing health*. Washington, DC: National Academies Press. →

Ishak, A. W., & Williams, E. A. (2017). Slides in the tray: How fire crews enable members to borrow experiences. *Small Group Research*, *48*, 336–364. →https://doi.org/10.1177/1046496417697148 →

Jahn, J. L. S. (2017). High reliability organizations. In C. Scott & L. Lewis (Eds.) The international encyclopedia of organizational communication, (pp. 1097–1105). Wiley. a, b

Jahn, J. L. (2019). Voice enactment: linking voice with experience in high reliability organizing. *Journal of Applied Communication Research*, *47*(3), 283–302. doi.org/10.1080/00909882.2019.1613555 a, b

Jamshidi, S., Ensafi, M., & Pati, D. (2020). Wayfinding in interior environments: An integrative review. *Frontiers in Psychology*, *11*. https://doi.org/10.3389/fpsyg.2020.549628 →

Joint Commission. (2008). *Medical team training: Strategies for improving patient care and communication*. Oak Brook, IL: Joint Commission Resources. →

Kohn, L. T., Corrigan, J. M., & Donaldson, M. S. (2000). *To err is human: Building a safer health system*. Washington, DC: National Academy Press. →

Myers, J. E., Sweeney, T. J., & Witmer, J. M. (2000). The wheel of wellness counseling for wellness: A holistic model for treatment planning. Journal of Counseling and Development. 78(3), 251–266. https://doi.org/10.1002/j.1556-6676.2000.tb01906.x →

Nanda, U., Pati, S., & Nejati, A. (2015). Field research and parametric analysis in a medical–surgical unit. *HERD: Health Environments Research & Design Journal*, *8*(4), 41–57. →https://doi.org/10.1177/1937586715577370 →

Pachilova, R., & Sailer, K. (2020). Providing care quality by design: a new measure to assess hospital ward layouts. *The Journal of Architecture*, *25*(2), 186–202. →https://doi.org/10.1080/13602365.2020.1733802 →

Peavey, E., & Cai, H. (2020). A systems framework for understanding the environment's relation to clinical teamwork: A systematic literature review of empirical studies. *Environment and Behavior*, *52*(7), 726–760. https://doi.org/10.1177/0013916518815535 a, b

Poole, M.S., & Real, K. (2003). Groups and teams in health care: Communication and effectiveness. In T. L. Thompson, A. M. Dorsey, K. I. Miller, & R. Parrott (Eds.), *Handbook of Health Communication* (pp. 369–402). Mahwah, N.J.: Lawrence Erlbaum Publishers. a, b, c

Real, K. (2008). Information seeking and workplace safety: A field application of the risk perception attitude framework. *Journal of Applied Communication Research*, *36*, 338–358. https://doi.org/10.1080/00909880802101763 a, b

Real, K., & Poole, M. S. (2011). Health care teams: Communication and effectiveness. In T. L. Thompson, R. Parrott, & J. Nussbaum (Eds.) *Handbook of Health Communication, 2nd Ed*. (pp. 100–116). New York: Routledge. a, b

Real, K., Kim, S., & Conigliaro, J. (2013). Using a validated health promotion tool to improve patient safety and increase health care personnel influenza vaccination rates. *American Journal of Infection Control*, *41*(8), 691–696. https://doi.org/10.1016/j.ajic.2012.09.027 a, b

Real, K., Bardach, S. H., & Bardach, D. R. (2017). The role of the built environment: How decentralized nurse stations shape communication, patient care processes, and patient outcomes. *Health Communication*, *32*(12), 1557–1570. →https://doi.org/10.1080/10410236.2016.1239302 a, b, c

Real, K., & Pilny, A. (2017). Health care teams as agents for change in health and risk messaging. In R. Parrott (Ed.), *The Oxford encyclopedia of health and risk message design and processing*. Oxford University Press, Online publication. →

Real, K., Santiago, J., Fay, L., Isaacs, K., & Carll-White, A. (2018a). The social logic of nursing communication and team processes in centralized and decentralized work spaces. *Health Communication*, *34*(14), 1751–1763. https://doi.org/10.1080/10410236.2018.1536940 a, b, c

Real, K, Fay L., Isaacs, K., Carll-White, A., & Schadler, A. (2018b). Using systems theory to examine patient and nurse structures, processes,

and outcomes in centralized and decentralized units. *Health Environments Research and Design Journal*, *11*, 22–37. →https://doi.org/10.1177/1937586718763794 →

Real, K., Bell, S., Williams, M., Latham, B., Talari, P., & Li, J. (2020) Patient perceptions and observation of real-time communication and teamwork: The Interprofessional Teamwork Innovation Model (ITIM). *The Joint Commission Journal on Quality and Patient Safety*, *46(7)*, 400–409. doi.org/10.1016/j.jcjq.2020.04.005 a, b

Real, K, Hartsough, L., Huddleston, L. (2021) Communicating in medical teams and groups: Examining psychological safety and simulation training. In S. Beck, J. Keyton, and M. S. Poole (Eds.), *The Emerald Handbook of Group and Team Communication Research*. (pp. 475–492). Emerald. →

Renecle, M., Gracia, F. J., Tomas, I., & Peiró, J. M. (2020). Developing mindful organizing in teams: A participation climate is not enough, teams need to feel safe to challenge their leaders. *Journal of Work and Organizational Psychology*, *36*(3), 181–193. →

Rimal, R. N., & Real, K. (2003). Perceived risk and efficacy beliefs as motivators of change: Use of the risk perception attitude (RPA) framework to understand health behaviors. *Human Communication Research*, *29*(3), 370–399. →https://doi.org/10.1111/j.1468-2958.2003.tb00844.x a, b, c, d

Rimal, R. N., Brown, J., Mkandawire, G., Folda, L., Böse, K., & Creel, A. H. (2009). Audience segmentation as a social-marketing tool in health promotion: use of the risk perception attitude framework in HIV prevention in Malawi. *American Journal of Public Health*, *99*(12), 2224–2229. doi.org/10.2105/AJPH.2008.155234 a, b

Roeder, A. M., Bisel, R. S., & Howe, W. T. (2021). High reliability organizing and communication during naturalistic decision making: National Weather Service (NWS) forecasting teams' use of "floating". *Journal of Applied Communication Research*, *49*(4) 1–19. →https://doi.org/10.1080/00909882.2021.1907855 a, b, c

Scott, C. W., & Trethewey, A. (2008). Organizational discourse and the appraisal of occupational hazards: Interpretive repertoires, heedful interrelating, and identity at work. *Journal of Applied Communication Research*, *36*(3), 298–317. doi.org/10.1080/00909880802172137 →

Shetty, K. D., & Bhattacharya, J. (2007). Changes in hospital mortality associated with residency work-hour regulations. *Annals of Internal Medicine*, *147*(2), 73–80. →https://doi.org/10.1016/s0090-3671(08)79009-8 →

Shpeer, M. & Howe, W. T. (2020). Socialization, face negotiation, identity, and the United States Military. International Journal of Communication. 14, 726–744. Online publication. →http://ijoc.org/index.php/ijoc/article/view/11885/2951 a, b

Sikka, R., Morath, J., & Leape, L. (2015). The quadruple aim: Care, health, cost and meaning in work. *BMJ Quality and Safety*, 24, 608–610. doi:10.1136/bmjqs-2015-004160 →

Smith, C.D., Balatbat, C., Corbridge, S., Dopp, A.L., Fried, J., Harter, R., Landefeld, S., Martin, C.Y., Opelka, F., Sandy, L. and Sato, L. (2018). Implementing optimal team-based care to reduce clinician burnout. *NAM Perspectives*. Online Article, National Academy of Medicine, Washington, DC. →https://nam.edu/implementing-optimal-team-based-care-to-reduce-clinician-burnout/. https://doi.org/10.31478/201809c a, b

SEGD (Society of Experiential Graphic Design), (2014). What is wayfinding? →https://segd.org/what-wayfinding. →

Trzpuc, S. J., Wendt, K. A., Heitzman, S. C., Skemp, S., Thomas, D., & Dahl, R. (2016). Does space matter? An exploratory study for a child–adolescent mental health inpatient unit. *Health Environments Research & Design Journal*, *10*(1), 23–44. →https://doi.org/10.1177/1937586716634017 a, b

Ulrich, R. S. (1991). Effects of interior design on wellness: Theory and recent scientific research. *Journal of Health Care Interior Design, 3:* 97–109. a, b, c

Ulrich, R. S., Zimring, C., Zhu, X., DuBose, J., Seo, H.B., Choi, Y.S., Quan, X,. & Joseph, A. (2008). A review of the research literature on evidence-based healthcare design. *Health Environments Research and Design Journal*, *1*, 101–165. doi: 10.1177/193758670800100306 a, b, c

VA.gov (Veterans Affairs). (2019, March 29). VHA's HRO journey officially begins. VA.gov →https://www.patientsafety.va.gov/features/VHA_s_HRO_journey_officially_begins.asp →

Vogus, T. J., & Sutcliffe, K. M. (2012). Organizational mindfulness and mindful organizing: A reconciliation and path forward. *Academy of Management Learning & Education*, *11*(4), 722–735. https://doi.org/10.5465/amle.2011.0002c a, b, c, d

Weick, K. E., Sutcliffe, K. M., & Obstfeld, D. 1999. Organizing for high reliability: Processes of collective mindfulness. In B. M. Staw & L. L. Cummings, (Eds.), Research in organizational behavior, 21: 81–123. Greenwich, CT: JAI Press. a, b

Weick, K. E., & Sutcliffe, K. M. (2015). *Managing the unexpected: sustained performance in a complex world*. John Wiley & Sons. →

Welp, A., & Manser, T. (2016). Integrating teamwork, clinician occupational wellbeing and patient safety–development of a conceptual framework based on a systematic review. *BMC Health Services Research*, *16*(1), 281. https://doi.org/10.1186/s12913-016-1535-y →

Wu, Z., Robson, S., & Hollis, B. (2013). The application of hospitality elements in hospitals. *Journal of Healthcare Management*, *58*, 47–62. https://doi.org/10.1097/00115514-201301000-00009 →

Lee, M., & You, M. (2020). Safety Behaviors to reduce risk of using chemical household products: An application of the risk perception attitude framework. *International journal of environmental research and public health*, *17*(5), 1528–1541. →https://doi.org/10.3390/ijerph17051528 →

Zborowsky, T., & Kreitzer, M. J. (2008). Creating optimal healing environments in a health care setting. *Minnesota Medicine*, *91*(3), 35–38. →

Zook, J., Spence, T. J., & Joy, T. (2020). Balancing support for staff and patient centeredness through the design of immediate and relational space: A case study of ambulatory care center layouts. *Health Environments Research & Design Journal*, *14*(1), 224–236. →https://doi.org/10.1177/1937586720961554 a, b, c

9 Exploring coworker online sexual harassment and risk: Factors of uncertainty and ambiguity for employees and organizations

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9.1 Introduction

Organizational risk impacts the lives and decisions of employees when they are both inside and outside of the walls of the physical organization. Organizations can experience risk to the actual company and other risks perpetuated by the business through "management, operational, or maintenance deficiencies" (→Gould, 2021, p. 457). Furthermore, one form of organizational risk that is perpetuated through online communication includes employee experiences of online sexual harassment from coworkers (see →Scarduzio et al., 2020b; →Scarduzio et al., 2019). More specifically, online sexual harassment, also called cybersexual harassment, is the use of an online medium to threaten, intimidate, or make someone feel uncomfortable through messages that are sexual in nature (see →Ritter, 2012, →2014; →Schenk, 2008). Online sexual harassment can occur for extended or short periods of time and frequently happens on social networking sites, such as Facebook, Twitter, and Instagram (→Herovic et al., 2019; →Scarduzio et al., 2018a, →2018b; →Van Royen et al., 2015, →2016).

Online sexual harassment between coworkers is an important topic to consider because it can imbue a significant degree of risk for employees and organizations. Indeed, organizational risk in relation to online sexual harassment is typically related to either uncertainty or ambiguity that survivors have surrounding their experiences. The

purpose of this chapter is to examine various factors that are related to uncertainty and online sexual harassment as well as factors that are related to ambiguity and online sexual harassment. Uncertainty is defined as the result of a lack of information that can be used to develop interpretations (→Weick, 1995, →2001). On the other hand, ambiguity results from an excess of information or plausible interpretations (→Weick, 1995, →2001).

Recently organizational scholars have been particularly interested in how employees who work face-to-face with their harasser may experience sexual harassment online (see →Herovic et al., 2019; →Scardzuio et al., 2020a; →Scarduzio et al., 2019; →Scarduzio et al., →2018a, 2018b). In other words, how do employees experience online sexual harassment from harassers whom they work with in face-to-face organizational contexts? Collectively, this research has examined coping behaviors of survivors (→Scarduzio et al., 2018a), how survivors manage the public/private divide (→Scarduzio et al., 2019), male survivors' experiences and hegemonic masculinity (→Scarduzio et al., 2018b), reporting decisions (→Scarduzio et al., 2020a), and how younger survivors manage uncertainty (→Herovic et al., 2019).

To reduce feelings of uncertainty and ambiguity, organizations must be cognizant of the factors that could cause these feelings to increase and/or linger. For example, a common issue in relation to coworker online sexual harassment is spillover, or when face-to-face sexual harassment spills over to online contexts (or vice versa; see →Herovic et al., 2019). This chapter conceptually explores spillover and other issues that can manifest when sexual harassment occurs outside the physical walls of the organization by offering specific propositions. Regarding the relationship between uncertainty and coworker online sexual harassment, we explore: 1) characteristics of survivors, 2) the public/private divide and spillover, and 3) reporting decisions. Additionally, concerning the relationship between ambiguity and coworker online sexual harassment, we discuss: 1) characteristics of the harasser and 2) coping and social support. In each section we rely on past research to review how factors impact

coworker online sexual harassment and how those factors relate to either uncertainty and risk or ambiguity and risk in organizations. Throughout the chapter we provide propositions for future research that explicate the relationships among online coworker sexual harassment, risk, uncertainty, and ambiguity.

9.2 Factors related to uncertainty and online coworker sexual harassment

Employees who experience online sexual harassment from a face-to-face coworker harasser typically experience a high degree of uncertainty (→Herovic et al., 2019). Past research has determined that employees want to manage this uncertainty in various ways and at multiple levels (i.e., individual, dyadic/group, organizational). In this section of the chapter, we explore three factors related to uncertainty – or a lack of information – and online sexual harassment: 1) characteristics of survivors, 2) public/private divide, and 3) reporting behaviors of survivors. We organize this section from individual level factors, then dyadic/group, and finally organizational. Thus, we begin with an exploration of how the characteristics of survivors are related to uncertainty.

9.2.1 Characteristics of survivors

Face-to-face sexual harassment and online sexual harassment have different implications for uncertainty in organizations. However, survivors of both types of sexual harassment share common characteristics. For example, women, younger employees, and temporary workers are the most common targets of face-to-face sexual harassment (→Chamberlain et al., 2008; →Idås et al., 2020), and women, younger employees, and temporary workers are common targets of online sexual harassment (→Herovic et al., 2019; →Scarduzio et al., 2018a). Because of these shared characteristics, it is reasonable to examine how the characteristics of face-to-face sexual harassment survivors can create uncertainty and then

examine how the online environment complicates and adds to this uncertainty.

Even though employees of any age can experience sexual harassment, younger employees may experience unique challenges with sexual harassment. Indeed, age may be a fundamental characteristic that shapes employees' perceptions of sexual harassment (→Blackstone et al., 2014). Due to the fact that younger employees have less work experience and experiences with workplace interactions, many younger employees may not even realize they are experiencing sexual harassment or label their experiences as sexual harassment. For example, younger employees may conceptualize sexualized workplace interactions as flirtations or as "normal" behaviors for their age group. However, as employees mature and gain more work experience, these employees may reflect back upon their experiences and reconceptualize those interactions as sexual harassment (→Blackstone et al., 2014).

Even though younger employees may grapple with conceptualizing their experiences as "normal", the online environment further complicates this uncertainty because of the repetition of sexual solicitation. For instance, in one study on online workplace sexual harassment, a survivor was not sure they qualified to participate in the study (→Herovic et al., 2019). They hesitated to participate because they were uncertain if what they experienced was even sexual harassment because "it literally happens every day" (→Herovic et al., 2019, p. 46). This prevalence and normalization of online sexual harassment may not be surprising given that 43% of college students report experiencing online sexual harassment (→Lindsay & Krysik, 2012). Furthermore, some research suggests sexual harassment may be perceived as more acceptable in the online environment (→Ritter, 2014). The ubiquity of sexualized online experiences can then add to an employee's uncertainty about if what they are experiencing is indeed sexual harassment or just "normal" online behavior. In other words, because younger employees lack work experience and extensive workplace socialization, they may experience uncertainty around deciding if what they are experiencing

online is indeed sexual harassment or just “normal,” everyday interactions.

In addition to challenges regarding age, an employee’s employment status can create uncertainty. Part-time, seasonal, and new employees often experience sexual harassment (→McDonald, 2012). Due to their unique employment status, these employees may be uncertain about their role in the organization and about their ability to affect change (→Kramer, 2013), and experiencing sexual harassment only adds to that uncertainty. For instance, part-time, seasonal, or new employment statuses place survivors in positions that lack power when compared to harassers, who are typically more long-term, higher-status employees (→Conrad & Taylor, 1994). As a result of the uncertainty regarding their employment status, these employees may opt to remain silent about the harassment (→Clair, 1994; →Herovic et al., 2019).

The online environment then adds to the uncertainty about an employee’s employment status by creating a discreet space for harassment to occur. If the harassment occurs in a private setting on social media, such as in a direct message, the harassment is then invisible to most other coworkers. This added invisibility can then “[create] an overwhelming sense of uncertainty” and further silence employees with part-time, seasonal, or newer employment statuses (→Herovic et al., 2019, p. 52).

Lastly, an employee’s race, gender, and sexual orientation may influence their harassment experience and levels of uncertainty. While the majority of sexual harassment research focuses on the experiences of White cisgender women (→Quick & McFadyen, 2017), they are not the only targets of sexual harassment. Men experience sexual harassment (e.g., →Clair, 1994; →Holland et al., 2016; →Scarduzio & Geist-Martin, 2008, →2010; →Scarduzio et al., 2018b), and nearly 70% of LGBTQ+ individuals report experiencing sexual harassment at work (→Trades Union Congress, 2019). Furthermore, even though the Equal Employment Opportunity Commission (EEOC) has seen a decrease in sexual harassment complaints over the past 20 years, the rate of harassment among African-American women

and males has increased (→Cassino & Besen-Cassino, 2019; →Quick & McFadyen, 2017).

Employees in these underrepresented populations may experience higher levels of uncertainty surrounding their harassment experiences because of the complexities of simultaneously managing discrimination and sexual harassment (see →Buchanan et al., 2018). Additionally, LGBTQ+ individuals experience uncertainty surrounding their experiences because they fear being "outed" at work (→Trades Union Congress, 2019). Black Asian and Minority Ethnic (BAME) women perceive their harassment experiences to be significantly different than White women because they feel White women would receive more organizational support for their claims (→Fielden et al., 2010). In other words, BAME women experience uncertainty around their harassment experience in regard to how valid others would perceive their claim.

Even though this research focuses on the experiences of face-to-face harassment, because the online environment complicates and adds to an employee's uncertainty surrounding their age and employment status, it is reasonable to speculate the online environment would heighten an employee's uncertainty surrounding their intersecting identities of race, gender, and sexual orientation. With all of this in mind, we offer the following proposition:

Proposition 1:

The combination of a survivor's age, employment status, and intersectionality contribute to higher levels of uncertainty surrounding experiences of online workplace sexual harassment.

9.2.2 Public/private divide and spillover

The second factor related to uncertainty is how sexual harassment can impact the divide between an employee's public and private lives. Although online sexual harassment refers to any unwanted or unwelcome sexual behavior through electronic means, such as email,

text, phone calls, or posts in online contexts (→Powell & Henry, 2016), online sexual harassment is more common in chatrooms or on social networking sites such as Facebook, Twitter, Instagram, or Snapchat (→Chawki & el Shazly, 2013). Because the harassment on these social networking sites occurs on employees' personal accounts, uncertainty can occur when employees and organizations are unsure if online sexual harassment is a private matter that survivors should handle themselves or a public issue that should involve the organization.

Organizations may encourage employees to connect with other coworkers on social media as an impression management technique and as a way to build social capital because of its prevalence and usefulness (→Kramer et al., 2019; →Lee et al., 2019). Other organizations may encourage employees to connect online in order to increase productivity and allow employees to collaborate outside of the physical workplace, and some organizations may use their social media pages to communicate and coordinate activities with employees (→Mainero & Jones, 2013). Despite these advantages, these online workplace connections blur the line between an employee's private and public lives, and could create spillover (→Lee et al., 2019; →Quick & McFadyen, 2017). Spillover is when sexual harassment type behaviors and experience start in one setting, such as face-to-face, and then bleed or spillover to another setting, such as on social media (see →Herovic et al., 2019, →Scarduzio et al., 2019).

These blurred lines and spillover can cause uncertainty and tension for employees. For example, employees may experience tension about adding coworkers and supervisors as connections on Facebook because it blurs the workplace boundaries of status, hierarchy, and power in addition to blurring personal and work boundaries (→Skeels & Grudin, 2009). Furthermore, other employees may manage the uncertainty surrounding the private/public divide and spillover by connecting with coworkers on the professional social networking site, LinkedIn, but not connecting with coworkers on more personal social media sites, such as Facebook (→Kramer et al., 2019).

Connecting on social media with coworkers already blurs the boundaries between an employee's personal and private lives and engenders uncertainty, and experiencing online coworker sexual harassment merely heightens this uncertainty. For example, one study asked survivors what they thought organizations could do to handle online sexual harassment on Facebook, and participant responses clearly indicated survivors experience uncertainty surrounding the public/private divide (→Scarduzio et al., 2019). Some survivors indicated that Facebook was a part of one's personal life and thus a personal problem while others said organizations should monitor employee's private Facebook accounts. Some advocated for monthly trainings while others recommended not connecting with coworkers on their private social media pages. The variations in these survivors' responses illustrate how survivors grapple differently with the public/private divide, and whether the organization should be made aware of their situations or if survivors should handle it themselves.

Moreover, because online sexual harassment occurs outside of the physical walls of an organization, many employees are uncertain about whether online sexual harassment is a private issue they should manage on their own or a public issue that is of concern to the organization (→Scarduzio et al., 2019). This issue becomes especially problematic when people are harassed on social media and then they have to come face-to-face with their harassers in the actual organization (see →Scarduzio et al., 2020a). Online sexual harassment differs from traditional face-to-face harassment because harassers have access to survivors outside of the walls of the physical organization (→Henry & Powell, 2015). Indeed, some survivors may only feel like it is necessary to involve the organization if the online harassment occurred during work hours (→Scarduzio et al., 2019). However, this is troubling because an employee's online behavior can spillover to the work environment (→Herovic et al., 2019; →Mainiero & Jones, 2013; →Ritter, 2014). Thus, like face-to-face sexual harassment, online coworker sexual harassment creates a hostile work environment that can impact both survivors and other

employees, which in turn impacts the organization's productivity (→Jacobson & Eaton, 2018).

Ultimately, online sexual harassment blurs boundaries between face-to-face and online communication, and it also distorts the distinctions between what is private and what is public, as well as what is the purview of employers. These blurred lines between an employee's personal/public life and the fact that online harassment occurs outside the physical walls of an organization produces a great deal of uncertainty for employees. Thus, we pose the following proposition:

Proposition 2:

The strain on the public/private divide and the occurrence of spillover increase uncertainty for employees who experience online sexual harassment.

Furthermore, as more and more employees work from home and telecommute, employees may solely connect online and the physical organization may become obsolete. This increase in telework both increases the risk of online sexual harassment and further blurs the line between an employee's personal/private life. With this in mind, we offer an additional proposition regarding uncertainty and the public/private divide:

Proposition 3

As the reliance on telework increases, the tension between an employee's public/private life will increase. This increased tension will create higher levels of uncertainty for survivors of online sexual harassment.

9.2.3 Reporting behaviors

Most cases of both face-to-face sexual harassment and online sexual harassment from a coworker are underreported (→Bergman et al., 2002; →Jacobson & Eaton, 2018). Due to this underreporting, employees can develop increased uncertainty about the actual risk levels of sexual harassment in various types of jobs and can lead to increased levels of employee turnover (→Hersch, 2018). For example, the mining industry is notorious for extremely high rates of sexual harassments towards women (i.e., 71 claims per 100,000 female workers). And, as mentioned, men and women experience sexual harassment at different rates. Specifically, 8.61 per 100,000 female workers and 1.35 per 100,000 male employees experience sexual harassment (→Hersch, 2018).

Uncertainty can occur when employees are faced with decisions about whether they should formally report their experiences to the organization or not. Reporting is defined as "the act of telling an organizational authority (e.g., supervisor, equal employment representative) about unwanted or offensive sex-related behavior" (→Bergman et al., 2002, p. 231). Past research has found that women who have reported face-to-face sexual harassment have viewed the organization as less fair or more unjust (→Adams-Roy & Barling, 1998) and that in some situations the most "reasonable" action for the survivor is to avoid reporting (→Bergman et al., 2002).

For face-to-face sexual harassment situations, the mechanisms in place to handle and deter harassment include training, education, reporting, and mediation (→Hersch, 2018). Some survivors also file charges with the equal employment opportunity commission (EEOC) when these other options do not ameliorate their situation. Furthermore, although the EEOC gathers charge information, it is uncommon for them to litigate the cases – thus, leaving survivors with potentially more uncertainty and organizations with more risk (→Hersch, 2018).

In regard to online coworker sexual harassment, there is the likelihood for even more uncertainty and organizational risk. These increased risks are because there are few policies that address online sexual harassment and many employees do not know how to

properly respond. Employees wonder who to speak to about their experience, what the consequences will be for the harasser (if any), and what will happen as a result of them reporting to the organization.

While organizations in the United States (U.S.), typically have a zero-tolerance policy regarding sexual harassment, this policy usually does not include guidance regarding online coworker sexual harassment. Some organizations do have policies regarding online behavior for their employees, such as what to post on social networking sites (see →Mainiero & Jones 2013). For example, →Mainiero and Jones (2013) explored company policies regarding behavior on social media and categorized the policies as restrictive, moderately restrictive, and least restrictive. These classifications organize the types of policies by how much restriction they place on employee's online behavior, but they do not restrict unwelcome sexual behavior online (→Mainiero & Jones, 2013).

In more recent research, scholars have determined that some companies do have policies regarding online coworker sexual harassment but they vary widely in their approach (→Scarduzio & Walker, 2020). For example, McDonald's policy is not applicable to all employees regardless of their position. A policy not applicable to everyone could increase uncertainty and potentially silence employees who may have experienced online sexual harassment. Organizations such as Target, TJX Companies, Inc., and Google were found to have exemplar policies (see →Scarduzio & Walker, 2020). For example, Target's policy specifically discusses online sexual harassment and explains what behaviors would constitute as appropriate and inappropriate (→TargetCW, 2019). While having a policy about online sexual harassment is important to encourage reporting behaviors, there are other issues that also relate to uncertainty surrounding reporting.

Employees who experience online coworker sexual harassment frequently choose to report and not report for a number of reasons. In a study of over two hundred survivors who had experienced online sexual harassment on Facebook from a face-to-face coworker,

survivors provided a variety of reasons for reporting and not reporting (→Scarduzio et al., 2020a). The top three reasons that survivors provided for reporting included: 1) feeling uncomfortable, 2) seeking social support, and 3) feeling fed up. First, people who were uncomfortable felt awkward and wanted to reduce those feelings by coming forward. Second, people came forward to get advice and/or vent about their experience, which is a way that they gathered more information about whether to report. Third, people reported because they were frustrated and they wanted the experience to stop (→Scarduzio et al., 2020a).

In the same study of sexual harassment survivors, participants provided reasons for not reporting. The top three reasons included: 1) maintaining independence, 2) feeling uncomfortable, and 3) downplaying severity. First, maintaining independence occurred when participants wanted to handle the sexual harassment situation themselves (→Scarduzio et al., 2020a). Second, participants who did not report felt uncomfortable and felt that coming forward would make them feel more embarrassed. Third, some survivors said that the harassment was not that bad or severe enough for them to report (→Scarduzio et al., 2020a).

Collectively, the reasons why people reported and did not report reveal that both survivors who reported and did not report felt uncomfortable and/or awkward. In the research, the authors relate the uncomfortable feelings to a personal threshold level – which they define as the level of online sexual harassment that a survivor will tolerate before they report (see →Scarduzio et al., 2020a). Importantly, a person's threshold level may also be related to the amount of uncertainty that a person is willing to tolerate. As mentioned, survivors experience uncertainty for a variety of reasons and try to manage their uncertainty in a multitude of ways (→Herovic et al., 2019). With all of this research in mind, we offer the following proposition:

Proposition 4:

There is a reciprocal relationship between uncertainty levels and reporting behavior. Once uncertainty reaches a certain level (i.e., the survivor's personal threshold level) they may report their experience to the organization.

9.3 Factors related to ambiguity and online sexual harassment

Although employees who experience online sexual harassment from a face-to-face coworker typically experience a high degree of uncertainty, they may also experience ambiguity. As previously mentioned, ambiguity results from an excess of potential responses and plausible interpretations (→Weick, 1995, →2001). Even though we explore factors related to ambiguity and online sexual harassment in this section, it should be noted that the conceptualization of sexual harassment is by its very nature ambiguous (→Fitzgerald et al., 1995). That is, sexual harassment is a subjective concept meaning what one individual interprets as harassment, another individual may not, and what one organization defines as sexual harassment, another organization may not (→Fitzgerald et al., 1995; →Fusilier & Penrod, 2015; →Reese & Lindenberg, 2002; →Scarduzio & Walker, 2020). The online environment merely complicates and heightens this ambiguity. Thus, any ambiguity related to the factors we discuss in this section may be compounded by an already ambiguous conceptualization of sexual harassment. With this in mind, we explore two factors related to ambiguity and online sexual harassment: 1) characteristics of the harasser and 2) coping and social support.

9.3.1 Characteristics of harasser

There are specific features that have been identified as characteristics of people who are likely to sexually harass coworkers in past research that could potentially increase ambiguity. Most of this research has been centered on characteristics of people who are likely to engage in face-to-face sexual harassment. People who demonstrated low

levels of honesty and humility in a study using self and peer-reported data were more likely to sexually harass coworkers (→Lee et al., 2003). Additionally, low levels of openness are related to higher likelihood of engaging in sexual harassment for both male and female harassers (→Hardies, 2019). Recent research found that people who possess these low levels of openness are also more easily influenced by social norms (→Hardies, 2019). Men were also more likely to harass if they were older, believed in sexual myth acceptance, and had lower levels of conscientiousness (→Hardies, 2019). On the other hand, women who sexually harass were more likely to demonstrate high levels of extraversion and neuroticism (→Hardies, 2019).

Other research on harasser characteristics has examined the connection between the Dark Triad (i.e., narcissism, psychopathy, and Machiavellianism) personality traits and likeliness to sexually harass face-to-face (→Zeigler-Hill et al., 2016). The Dark Triad personality traits are characterized by "a willingness to exploit and manipulate others, callousness, disagreeableness, deceitfulness, ego-centrism, lack of honesty-humility, empathy deficits, and a focus on agentic goals" (→Zeigler-Hill et al., 2016, p. 47). Specifically, this study determined a positive association between psychopathy and Machiavellianism and the likeliness for males to engage in sexual harassment. The findings indicate that sexual harassment may be an additional "manipulative mating strategy" that people who possess the Dark Triad personality traits employ to sexually coerce others (→Zeigler-Hill et al., 2016, p. 53). This research aligns with past research that highlights how narcissistic men may utilize sexually coercive behaviors when they feel rejected (→Baumeister et al., 2002).

The specific characteristics of harassers and the likelihood to engage in online organizational sexual harassment are understudied. However, it would make sense that individuals who engage in sexually coercive behaviors face-to-face may also engage in those behaviors online (→McLaughlin et al., 2012). In fact, it might seem like sexual harassment situations involving technology would be less

threatening, but, in fact, this form of research may be even more upsetting and distressing for survivors (→McDonald et al., 2008). Additionally, individuals who harass face-to-face may be more likely to harass online because sexual harassment is perceived as more acceptable in online environments (→Ritter, 2014). Also, online the harassers have additional time to craft messages that are invisible to the rest of the organization and are inescapable outside the hours of the workday. Thus, based on past research suggesting lack of openness, the Dark Triad personality traits, and a lack of honesty and humility are characteristics of people who engage face-to-face harassment, we suggest that these may also be characteristics of employees who sexually harass others online. Given this, we propose that these characteristics increase ambiguity for survivors.

Proposition 5:

Employees who demonstrate low levels of openness, the Dark Triad personality traits, and a lack of honesty and humility are likely to sexually harass a face-to-face coworker on an online medium.

Proposition 6:

Employees who experience online harassment from coworkers who possess some of these characteristics experience higher levels of ambiguity about their sexual harassment experiences.

9.3.2 Coping and social support

Coping is a process that refers any attempt to assuage stress or as any action that protects one from being harmed, either psychologically or emotionally (→Girdano et al., 1990; →Lazarus & Folkman, 1984; →Pearlin & Schooler, 1978). As experiencing online sexual harassment is a stressful situation, survivors of sexual harassment cope in order to make sense of their experiences and

manage the stress of the situation. How a survivor copes with sexual harassment – either face-to-face harassment, online harassment, or both – is a complex, dynamic, and cyclical process (→Magley, 2002; →Scarduzio et al., 2018a). For example, survivors who experience harassment use multiple coping strategies over the course of their experience, often shifting back and forth between different strategies (→Cortina & Wasti, 2005; →Scarduzio et al., 2018a).

Even though they are similar, coping with online harassment differs from coping with face-to-face harassment, and these differences can lead to ambiguity for employees. For example, when employees experience face-to-face harassment and online harassment, they may first cope by ignoring and avoiding the harasser (→Magley, 2002; →Scarduzio et al., 2018a). As the harassment continues, employees may continue to avoid the harasser while also downplaying the harassment, normalizing the harassment, blaming themselves, confronting the harasser, seeking social support, reporting to the organization, or leaving the organization (→Idås et al., 2020; →Magley 2002; →Cortina & Wasti, 2005; →Scarduzio et al., 2018a).

However, unlike employees who experience face-to-face harassment, employees who experience online harassment have additional options to help them cope. For example, they could block or unfriend the harasser online, they could change their privacy settings, they could delete their social media account, or they could report the harassment to the social networking site (→Scarduzio et al., 2018a). An employee in this situation might then experience ambiguity when attempting to decide which strategy to use. Even if an employee decides to use one strategy at first, such as ignoring the harassing messages, the harassment may continue, increase in severity, or spillover into a new medium. The employee would then have to make another decision about what to do – keep utilizing the first strategy or resolve to use a different strategy. With multiple plausible options, an employee may continue to experience ambiguity about what to do next and seek advice from social support.

When employees seek out social support, if they do at all, they often seek the advice of individuals outside of the workplace, such as personal friends and/or family (→Cortina & Wasti, 2005; →Kirkner et al., 2020; →Scarduzio et al., 2018a). This social support and advice can be beneficial in helping a survivor cope with online sexual harassment, yet this support can also create ambiguity. Because of the existing uncertainties around the characteristics of survivors, the public/private divide, and reporting behaviors we previously discussed, support providers may offer conflicting pieces of advice. For example, one friend may encourage an employee to report, while another may advise the employee to not report because of the tension between the public/private divide, and another may tell them what they are experiencing is not that serious.

Additionally, social support can create ambiguity for employees by either validating or invalidating their experiences. Even though employees who experience online harassment have evidence of the harassment, some may still invalidate their experience. Indeed, in one study on online workplace harassment, one survivor disclosed the harassment to other coworkers. In response, the coworkers suggested the harassment was not a serious issue. In that same study, another survivor disclosed the harassment to a coworker by showing them the harassing messages and images. In response, the coworker validated the survivor's experience (→Scarduzio et al., 2018a). These conflicting messages could create ambiguity for the survivor, generating further confusion and frustration to the already confusing and frustrating situation of experiencing harassment.

Considering the complex coping process, conflicting pieces of advice, and invalidation from coworkers, we offer the following proposition:

Proposition 7:

The ambiguity from the complex coping process, conflicting advice messages from their network of social support, and invalidation from

coworkers engenders further confusion, stress, and frustration for employees who experience online sexual harassment.

9.4 Conclusion

In this chapter we explored several factors related to online sexual harassment, ambiguity, and uncertainty. We also offered seven specific propositions related to the various factors. Specifically in relation to uncertainty we explored: 1) the characteristics of the survivor, 2) the public/private divide and spillover, and 3) reporting decisions. In relation to ambiguity we described the factors of: 1) characteristics of harasser and 2) coping and social support. The propositions we offered are suggestions for future research based on past scholarly literature and findings.

Proposition one suggests that the combination of a survivor's age, employment status, and intersectionality could contribute to higher levels of uncertainty surrounding experiences of online workplace sexual harassment. Future research should explore how the combination of these survivor characteristics potentially increases uncertainty. Specifically, it will be very important to understand the ways intersecting identities (i.e., race, ethnicity, sexuality, among others) may also further exacerbate uncertainty because most research on sexual harassment examines White, cisgender female survivors.

Proposition two describes that the strain on the public/private divide and the occurrence of spillover may increase uncertainty for employees who experience online sexual harassment. Even though past research has started to explore this phenomenon (see →Herovic et al., 2019), there is still an additional need to explore and validate this proposition through experimental and survey research. Moreover, there is a need to contextualize and provide more detail related to the literature on spillover and the public/private divide. In what types of industries is spillover more problematic? How do employees cope with spillover? How do different coping strategies for spillover and/or challenges with the public/private divide impact

the uncertainty of employees? How do they increase risk for organizations? Furthemore, related to proposition two, we offered proposition three which discusses telework. Proposition three is especially relevant given the increase of employees working from home due to COVID-19. We propose that future research examines how as the reliance on telework increases, the tension between an employee's public/private life could potentially increase uncertainty for survivors of online sexual harassment.

Proposition four relates to specific theorizing in regard to reporting decisions and threshold levels of survivors. We proposed that there is a reciprocal relationship between uncertainty levels and reporting behavior. Moreover, once uncertainty reaches a certain level (i.e., the survivor's personal threshold level) they may report their experience to the organization. This proposition is based on past research (→Scarduzio et al., 2020a), but still needs further extension to apply to more diverse groups of survivors. Additionally, the specific factors that influence threshold levels have not been fleshed out, which provides another avenue for future research.

Proposition five and six relate to the characteristics of harassers and ambiguity. Since there is a dearth of research on the characteristics of people who are likely to engage in online sexual harassment, we propose that employees who demonstrate low levels of openness, the Dark Triad personality traits, and a lack of honesty and humility are likely to sexually harass a face-to-face coworker on an online medium. Future research needs to validate this proposition by conducting studies to examine characteristics of online sexual harassers and these studies could include self-report data, but they may be more potentially insightful if peer-report data could also be collected. The use of both self-report and peer-report data collection has been used in other studies of people who are likely to harass face-to-face. Proposition six is also related to the characteristics of the harasser. We proposed that employees who experience online harassment from coworkers who possess characteristics such as low openness, Dark Triad personality traits, and a lack of honesty and/or humility may experience higher levels of ambiguity about their sexual

harassment experiences. Future research could conduct studies that ask survivors more questions about the characteristics of the person who has harassed them online in addition to how those characteristics impacted their experiences of ambiguity.

Finally, proposition seven addressed coping and social support. We explained that the ambiguity from the complex coping process, conflicting advice messages from their network of social support, and invalidation from coworkers engenders further confusion, stress, and frustration for employees who experience online coworker sexual harassment. While this claim is based on past research, there is still more to understand about ambiguity and online sexual harassment. For example, how do employees cope with the plethora of choices regarding how to cope with online sexual harassment? Do they engage in special strategies or communicative behaviors to help manage this ambiguity and make decisions about how to cope? These questions and others could be explored in future research.

In summary, this chapter offers several fruitful directions for future research in the areas of risk, uncertainty, ambiguity, and online coworker sexual harassment. Employees and organizations should continue to research online sexual harassment because even though the behavior (i.e., sexual harassment) occurs outside the walls of the physical organization there could be significant individual, dyadic/group, and organizational risk and consequences if these situations are not effectively managed.

References

Adams-Roy, J., & Barling, J. (1998). Predicting the decision to confront or report sexual harassment. *Journal of Organizational Behavior*, *19*(4), 329–336. →https://doi.org/10.1002/(SICI)1099-1379(199807)19:4≤329::AID-JOB857≥3.0.CO;2-S →

Baumeister, R. D., Catanese, K. R., & Wallace, H. M. (2002). Conquest by force: A narcissistic reactance theory of rape and sexual coercion. *Review of General Psychology*, *68*(1), 768–781. https://doi.org/10.1037/1089-2680.6.1.92 →

Bergman, M. E., Langhout, R. D., Palmieri, P. A., Cortina, L. M., & Fitzgerald, L. F. (2002). The (un)reasonableness of reporting: Antecedents and consequences of reporting sexual harassment. *Journal of Applied Psychology*, *87*(2), 230–242. https://doi.org/10.1037//0021-9010.87.2.230 a, b, c

Blackstone, A., Houle, J., & Uggen, C. (2014). "I didn't recognize it as a bad experience until I was much older": Age, experience, and workers' perceptions of sexual harassment. *Sociological Spectrum*, *34*(4), 314–337. https://doi.org/10.1080/02732173.2014.917247 a, b

Buchanan, N. T., Settles, I. H., Wu, I. H., & Hayashino, D. S. (2018). Sexual harassment, racial harassment, and well-being among Asian American women: An intersectional approach. *Women & Therapy*, *41*(3–4), 261–280. https://doi.org/10.1080/02703149.2018.1425030 →

Cassino, D., & Besen-Cassino, Y. (2019). Race, threat and workplace sexual harassment: The dynamics of harassment in the United States, 1997–2016. *Gender, Work & Organization*, *26*(9), 1221–1240. https://doi.org/10.1111/gwao.12394 →

Chamberlain, L., Crowley, M., Tope, D., & Hodson, R. (2008). Sexual harassment in organizational context. *Work and Occupations*, *35*(3), 262–295. https://doi.org/10.1177/0730888408322008 →

Chawki, M., & el Shazly, Y. (2013). Online sexual harassment: Issues & solutions. *Journal of Intellectual Property, Information Technology and E-Commerce Law*, *4*, 71–86. →https://www.jipitec.eu/issues/jipitec-4-2-2013/3742 →

Clair, R. P. (1994). Resistance and oppression as a self-contained opposite: An organizational communication analysis of one man's story of sexual harassment. *Western Journal of Communication*, *58*(4), 235–262. https://doi.org/10.1080/10570319409374499 a, b

Conrad, C., & Taylor, B. (1994). The contest(s) of sexual harassment: Power, silences, and academe. In S. G. Bingham (Ed.), *Conceptualizing sexual harassment as discursive practice* (pp. 45–58). Praeger. →

Cortina, L. M., & Wasti, S. A. (2005). Profiles in coping: Responses to sexual harassment across persons, organizations, and cultures. *Journal of Applied Psychology*, *90*(1), 182–192. https://doi.org/10.1037/0021-9010.90.1.182 a, b, c

Fielden, S. L., Davidson, M. J., Woolough, H., & Hunt, C. (2010). A model of racialized sexual harassment of women in the UK workplace. *Sex Roles*, *62*(1), 20–34. →https://doi.org/10.1007/s11199-009-9715-4 →

Fitzgerald, L. F., Gelfand, M. J., & Drasgow, F. (1995). Measuring sexual harassment: Theoretical and psychometric advances. *Basic and Applied Social Psychology*, *17*(4), 425–445. https://doi.org/10.1207/s15324834basp1704_2 a, b

Fusilier, M., & Penrod, C. (2015). University employee sexual harassment policies. *Employee Responsibilities and Rights Journal*, *27*(1), 47–60. https://doi.org/10.1007/s10672-014-9255-0 →

Girdano, D. A., Everly, G. S., & Dusek, D. E. (1990). *Controlling stress and tension: A holistic approach*. Prentice-Hall. →

Gould, K. P. (2021). Organizational risk: “Muddling through” 40 years of research. *Risk Analysis*, *41*(3), 456–465. https://doi.org/10.1111/risa.13460 →

Hardies, K. (2019). Personality, social norms, and sexual harassment in the workplace. *Personality & Individual Differences, 151*, 109496. →https://doi.org/10.1016/j.paid.2019.07.006 a, b, c, d

Henry, N., & Powell, A. (2015). Embodied harms: Gender, shame, and technology-facilitated sexual violence. *Violence Against Women*, *21*(6), 758–779. →https://doi.org/10.1177/1077801215576581 →

Herovic, E., Scarduzio, J. A., & Lueken, S. (2019). “It literally happens every day”: The multiple settings, multi-level considerations, and uncertainty management of modern-day sexual harassment. *Western Journal of Communication*, *83*(1), 39–57. →https://doi.org/10.1080/10570314.2018.1485052 a, b, c, d, e, f, g, h, i, j, k, l, m, n

Hersch, J. (2018). Valuing the risk of workplace sexual harassment. *Journal of Risk and Uncertainty*, *57*, 111–131. https://doi.org/10.1007/s11166-018-9288-0 a, b, c, d

Holland, K. J., Rabelo, V. C., Gustafson, A. M., Seabrook, R. C., & Cortina, L. M. (2016). Sexual harassment against men: Examining the roles of feminist activism, sexuality, and organizational context. *Psychology of Men & Masculinity*, *17*(1), 17. https://doi.org/10.1037/a0039151 →

Idås, T., Orgeret, K. S., & Backholm, K. (2020). #MeToo, sexual harassment and coping strategies in Norwegian newsrooms. *Media and Communication*, *8*(1), 57–67. →https://doi.org/10.17645/mac.v8i1.2529 a, b

Jacobson, R. K., & Eaton, A. A. (2018). How organizational policies influence bystander likelihood of reporting moderate and severe sexual harassment at work. *Employee Responsibilities and Rights Journal*, *30*(1), 37–62. https://doi.org/10.1007//s10672-017-9309-1 a, b

Kirkner, A. C, Lorenz, K., & Mazar, L. (2020). Faculty and staff reporting & disclosure of sexual harassment in higher education. *Gender and Education*, 1–17. →https://doi.org/10.1080/09540253.2020.1763923 →

Kramer, M. W. (2013). *Managing uncertainty in organizational communication*. Routledge. →

Kramer, M. W., Lee, S. K., & Guo, Y. (2019). Using communication technology to manage uncertainty during organizational assimilation: Information-seeking and information-giving. *Western Journal of Communication*, *83*(3), 304–325. →https://doi.org/10.1080/10570314.2018.1518538 a, b

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer. →

Lee, K., Gizzarone, M., & Ashton, M. C. (2003). Personality and the likelihood to sexually harass. *Sex Roles*, *49*(1), 59–69. →https://doi.org/10.1023/A:1023961603479 →

Lee, S. K., Kramer, M. W., & Guo, Y. (2019). Social media affordances in entry-level employees' socialization: Employee agency in the management of their professional impressions and vulnerability during early stages of socialization. *New Technology, Work, and Employment*, *34*(3), 244–261. https://doi.org/10.1111/ntwe.12147 a, b

Lindsay, M., & Krysik, J. (2012). Online harassment among college students: A replication incorporating new Internet trends. *Information, Communication, & Society*, *15*(5), 703–719. https://doi.org/10.1080/1369118X.2012.674959 →

Magley, V. J. (2002). Coping with sexual harassment: Reconceptualizing women's resistance. *Journal of Personality and Social Psychology*, *83*(4), 930–946. https://doi.org/10.1037//0022-3514.83.4.930 a, b, c

Mainiero, L. A., & Jones, K. J. (2013). Sexual harassment versus workplace romance: Social media spillover and textual harassment in the workplace. *Academy of Management Perspectives*, *27*(3), 187–203. https://doi.org/10.5465/amp.2012.0031 a, b, c, d, e

McDonald, P. (2012). Workplace sexual harassment 30 years on: A review of the literature. *International Journal of Management Reviews*, *14*(1), 1–17. https://doi.org/10.1111/j.1468-2370.2011.00300.x →

McDonald, P., Backstrom, S., & Dear, K. (2008). Reporting sexual harassment: Claims and remedies. *Asia Pacific Journal of Human Resources*, *46*(2), 173–196. →https://doi.org/10.1177/1038411108091757 →

McLaughlin, H., Uggen, C., & Blackstone, A. (2012). Sexual harassment, workplace authority, and the paradox of power. *American Sociological Review*, *77*(4), 625–647. →https://doi.org/10.1177/0003122412451728 →

Pearlin, L. I., & Schooler, C. (1978). The structure of coping. *Journal of Health and Social Behavior*, *19*(1), 2–21. https://doi.org/10.2307/2136319 →

Powell, A., & Henry, N. (2016). Technology-facilitated sexual violence victimization: Results from an online survey of Australian adults. *Journal of Interpersonal Violence*, *34*(17), 3637–3665. https://doi.org/10.1177/0886260516672055 →

Quick, J. C., & McFadyen, M. A. (2017). Sexual harassment: Have we made any progress? *Journal of Occupational Health Psychology*, *22*(3), 286–298. https://doi.org/10.1037/ocp0000054 a, b, c

Reese, L. A., & Lindenberg, K. E. (2002). Assessing local government sexual harassment policies. *The American Review of Public Administration*, *32*(3), 295–311. →https://doi.org/10.1177/0275074002323002 →

Ritter, B. A. (2012). Say that to my face: Factors inherent to the online environment that increase the likelihood of harassing and prejudicial behavior. In L. A. Wankel & C. Wankel (Eds.), *Misbehavior online in higher education: Cutting-edge technologies in higher education* (Vol. 5, pp. 25–42). Emerald Group Publishing Limited. →

Ritter, B. A. (2014). Deviant behavior in computer-mediated communication: Development and validation of a measure of cybersexual harassment. *Journal of Computer-Mediated Communication*, *19*(2), 197–214. https://doi.org/10.1111/jcc4.12039 a, b, c, d

Scarduzio, J. A., & Geist-Martin, P. (2008). Making sense of fractured identities: Male professors' narratives of sexual harassment. *Communication Monographs*, *75*(4), 369–395. →https://doi.org/10.1080/03637750802512363 →

Scarduzio, J. A., & Geist-Martin, P. (2010). Accounting for victimization: Male professors' ideological positioning in stories of sexual harassment. *Management Communication Quarterly*, *24*(3), 419–445. https://doi.org/10.1177/0893318909358746 →

Scarduzio, J. A., & Walker, C. S. (2020). Navigating disruptions to workplace relationships: Exploring the policies, legal ramifications, and consequences of online sexual harassment. In L. Ramos Salazar

(Ed.), *Handbook of workplace cyberbullying and online sexual harassment* (pp. 403–424). IGI Global. a, b, c

Scarduzio, J. A., Malvini Redden, S., & Fletcher, J. (2020a). Everyone's "uncomfortable" but only some people report: An exploration of emotional discomfort and thresholds in reporting decisions. *Journal of Applied Communication Research*, *49*(1), 66–85. →https://doi.org/10.1080/00909882.2020.1849771 a, b, c, d, e, f, g, h, i

Scarduzio, J. A., Ford J. L., Ivancic S. (2020b). Sexual harassment communication across the context and the lifespan: An interdisciplinary perspective. In R. Geffner, V. Vieth, V. Vaughan-Eden, A. Rosenbaum, L. Hamberger, J. White (Eds.), *Handbook of interpersonal violence across the lifespan*: *A project of the National Partnership to End Interpersonal Violence Across the Lifespan (NPEIV)*. Springer. https://doi.org/10.1007/978-3-319-62122-7_326-1 →

Scarduzio, J. A., Malvini Redden, S., Fletcher, J., & Wilson, K. (2019). "There's a fine line between one's personal life and one's private life": Handling employee sexual harassment on Facebook from the victim's perspective. *Qualitative Research Reports in Communication*, *20*(1), 42–49. https://doi.org/10.1080/17459435.2019.1606849 a, b, c, d, e, f, g

Scarduzio, J. A., Sheff, S. E., & Smith, M. (2018a). Coping and sexual harassment: How victims cope across multiple settings. *Archives of Sexual Behavior*, *47*(2), 327–340. →https://doi.org/10.1007/s10508-017-1065-7 a, b, c, d, e, f, g, h, i, j, k

Scarduzio, J. A., Wehlage, S. J., & Lueken, S. (2018b). "It's like taking your man card away": Male victims' narratives of male-to-male sexual harassment. *Communication Quarterly*, *66*(5), 481–500. https://doi.org/10.1080/01463373.2018.1447978 a, b, c, d

Schenk, S. (2008). Cyber-sexual harassment: The development of the cyber-sexual experiences questionnaire. *McNairs Scholars Journal*, *12*, 82–91. →

Skeels, M. & Grudin, J. (2009). When social networks cross boundaries: A case study of workplace use of Facebook and LinkedIn. In *Proceedings of the ACM 2009 International Conference on Supporting Group Work* (pp. 95–104). ACM. →https://doi.org/10.1145/1531674.1531689 →

Target, C. W. (2019). *Employee Handbook. Target Contingent Workforce*. Retrieved from →https://www.targetcw.com/wp-content/uploads/2019-EE-Handbook-TargetCW.pdf →

Trades Union Congress. (2019, May 17). Sexual harassment of LGBT people in the workplace. Retrieved from →https://www.tuc.org.uk/research-analysis/reports/sexual-harassment-lgbt-people-workplace?single=1 a, b

Van Royen, K. V., Vandebosch, H., & Poels, K. (2015). Severe sexual harassment on social networking sites: Belgian adolescents' views. *Journal of Media and Children*, *9*(4), 472–291. https://doi.org/10.1080/17482798.2015.1089.301 →

Van Royen, K., Poels, K., & Vandebosch, H. (2016). Help, I am losing control! Examining the reporting of sexual harassment by adolescents to social networking sites. *Cyberpsychology, Behavior, and Social Networking*, *19*(1), 16–22. https://doi.org/10.1089/cyber.2015.0168 →

Weick, K. E. (1995). *Sensemaking in organizations*. Sage. a, b, c

Weick, K. E. (2001). *Making sense of the organization*. Blackwell. a, b, c

Zeigler-Hill, V., Besser, A., Morag, J., & Campbell, W. K. (2016). The Dark Triad and sexual harassment proclivity. *Personality and Individual Differences*, *89*, 47–54. →https://doi.org/10.1016/j.paid.2015.09.048 a, b, c

10 The risk of being too generous

Shahar Gur

10.1 Introduction

Kindness and generosity are important now more than ever, with kind leadership as a core value that helps organizations pull through crises (→Hall & Partners, 2020). As more practices are focusing on the *Humans* in Human Resources (→LinkedIn, 2020), leaders within companies are seeking to understand what it means to create a human-centered employer brand and employee experience with empathy at its core. In order to focus on the long-term future as opposed to short-term gains, companies are investing more in their employees' health and well-being and ensuring that they are equipped to thrive and thus contribute to the companies' long-term success (→Chenoweth, 2011). Such human-centered practices include corporate social responsibility initiatives that enable employees to give back to their communities and robust benefits offerings that allow employees to take care of their physical, emotional, and financial well-being. Additionally, companies aim to foster a culture of inclusiveness and belonging so that employees can bring their whole selves to work (e.g., →Snap Inc. Diversity Annual Report, 2021). Through kindness and generosity, personal social connections are formed, and empathy heightened, thus helping employees feel that they belong at their jobs and workplaces. That is how teamwork, kindness, and empathy have become important values to live by within organizations.

There is always a catch. It is possible for organizations to over-message the notion that they want their employees to be kind and generous (→Johnstone & Johnson, 2005), thus unintentionally creating a toxic environment where people feel forced to engage in these behaviors even though it might not align with their personal

goals or values. When people engage in these behaviors inauthentically, their colleagues could perceive their generosity as a political move to gain social capital or a promotion. Due to these suspicions, the receiver of the generous act might be less inclined to receive it or feel like they are entering a competition, and thus the generous act could create more harm than good. Therefore, generosity at work is a fine balancing act.

This chapter will provide context for how generosity and kindness at work have been conceptualized in the organizational science literature. Additionally, it will offer examples from research on the benefits and conflicts associated with engaging in generous behaviors at work. Finally, this chapter will illustrate observations from personal experience and solutions for how to best create an environment where people can both be their productive selves while supporting and helping their colleagues a healthy amount.

10.2 Organizational citizenship behaviors

In order for organizations to succeed in their missions, their members must engage in behaviors that are beyond what is written in their job descriptions (→Katz, 1964). There are activities within organizations that cannot be formally articulated and captured when setting expectations for what employees will be doing in their roles. Hence, there is a split between in-role behaviors (what is within someone's job duties) and extra-role behaviors (anything beyond someone's job duties). Extra-role behaviors are also known as Organizational Citizenship Behaviors (OCBs), defined as "individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization" (→Organ, 1988). For example, an employee staying late to help their colleague finish an investors presentation is not part of that employee's formal job description but is ultimately helping the company succeed by closing the deal and securing funds.

Researchers have delineated two types of OCBs: OCBIs, that focus on Interpersonal-targeted behaviors, and OCBOs, that focus on Organizational-targeted behaviors (→Williams & Anderson, 1991). Examples of OCBIs include helping a coworker with their work project on a weekend or bringing lunch to a coworker who is working through their break. OCBIs are most commonly engaged by people who are high on the agreeableness personality trait, which is related to being good-natured, cooperative, and trusting (→Barrick & Mount, 1991; →Grant & Berg, 2012). On the other hand, OCBOs are not directed at a person but rather at the organization. Examples of OCBOs are printing on double-sided paper to conserve resources, and maintaining a positive, cheerful attitude while at work. People who tend to engage more in OCBOs are high on the conscientiousness personality trait, which is related to being responsible, dependable, persistent, and achievement oriented (→Barrick & Mount, 1991; →Grant & Berg, 2012).

The emphasis on OCBs is that they are a choice people make as opposed to expected behaviors that are a part of their job or role within the organization. People engage in prosocial behaviors because they are more intrinsically motivated to do so (→Grant, 2008), but the environment might play a role as well. Research has shown that employees who are more satisfied with their jobs, supervisors, and organizations are also more likely to engage in OCBs (→Chen. 2008; →Williams & Anderson, 1991). Additionally, OCBs tend to be driven more by cognitions than by affect (→Organ & Konovsky, 1989), meaning that employees are calculative, rather than leading with emotions, when engaging in prosocial behaviors. They do so by considering how much they trust their organizations or perceive that their organizations support them whenever they decide to engage in OCBs. To illustrate, if an employee perceives their organizations to be unfair or untrustworthy, they might seek justice by working less or not helping others as much. Because they are more driven by cognition, it is possible that people could engage in OCBs for the purposes of managing their reputation, especially if supervisors are observing the prosocial behavior (→Bolino & Turnley, 1999). If a

colleague is struggling with a task for which another employee has already found the solution, that employee might volunteer to help in front of their supervisor with the hopes that the supervisor will see that that employee is more competent than their colleague. The colleague receiving the help might fully understand the motives of the helper, and thus be less likely to want to receive the help or not view the help as something that was meant to benefit the colleague directly. Hence, a rift between the two colleagues may occur as a result of a seemingly generous act.

→Grant (2013) shows that people could engage in prosocial behaviors that benefit both others and themselves, so win-win scenarios are attainable (and encouraged). At times, helping someone else can also help the helper, such as when a colleague is working on finding a new vendor, helping that person could mean that the helper would have a say in the final decision, and thus find a solution that they themselves would find more favorable. Additionally, people who receive help might be more likely to offer to help next time they are in a position to do so, whether it is directly to the person who helped them in the first place or to someone else, thus paying it forward. Plus, altruism is positively correlated with well-being, health, and longevity (→Post, 2005), so there are benefits to those who help others, and the positive benefits and mood may be contagious to the people nearby (which is how an OCBI can turn into an OCBO).

Employees who engage in OCBs tend to have better overall performance evaluations (→Podsakoff et al., 2000). However, there is a debate in the literature on whether that finding contradicts the conceptualization of OCBs, which are extra-role behaviors and voluntary by definition, occurring outside the formal rewards system. Performance evaluations, on the other hand, are meant to focus on in-role performance, and therefore any extra-role behaviors should not be included in those considerations. However, managers consider their employees holistically when making performance evaluation ratings and decisions (→Woehr & Roch, 2012), and thus it is difficult to disentangle the in-role expected behaviors from the extra-role

discretionary ones, especially when the results of an extra-role behavior can sometimes be contributing to the bottom-line success of the team or organization (consider the discretionary actions of the employee who chooses to help a colleague with an investors presentation).

Not performing an OCB can be seen as anti-organizational behavior, and something that may warrant a negative performance review (→Podsakoff et al., 2000). In these cases, OCBs are an expected behavior and employees who do not engage in them receive penalties. But there is a limit to how many OCBs employees can perform in a given time period. There could be situations where employees prioritize helping others over doing their own tasks first, and that can be risky to the organization that requires everyone to perform their in-role tasks in order to survive. If a person from the compensation team begins helping the recruiting team by sourcing candidates for roles, that takes away time from them to fulfill compensation packages requests from the same members of the recruiting team. Ideally, employees should prioritize their own work over helping others, but sometimes deadlines or pressures from a leader or a stressed colleague might lead them to do the opposite.

The organizational context plays a role in how OCBs are perceived and enacted upon. In an organization with a more collectivist cultural orientation (→Schein, 2010), people are more likely to engage in OCBs to help support the common goals (→Moorman & Blakely, 1995), and receiving the help would be viewed as a positive experience. On the other hand, if an organization has a more individualistic cultural orientation, the engagement of prosocial behaviors might seem more like a political move to get ahead of the competition, and receiving the help would be viewed as an interruption from others (→Perlow & Weeks, 2002). A person who received help in an individualistic culture might be made to feel weak to be worthy of extra assistance, which could damage their morale and self-esteem. Thus, depending on the culture of the organization, OCBs may be perceived as stemming from different sources with different motives.

A person's identity also plays a role in how likely they are to engage in OCBs. According to sociological theory, one's identity shapes their attitudes (→Stets & Biga, 2003), and attitudes are closely linked to behaviors (→Kim & Hunter, 1993). Thus, if a person identifies as someone who is generous and kind, they are more likely to have the attitude that generosity and kindness are important and valuable, and hence engage in more generous and kind behaviors to support their attitudes and identity beliefs. When an environment has a strong power to dictate over how people will act, cognitive dissonance may arise between one's identity and one's environmental requirements. Unresolved, this may have mental health implications, such as distress and anger (→Burke & Stets, 2009), that could in the long-term lead to physical diseases. The potential solutions are either changing one's beliefs or finding a new environment.

In a scenario where an organization has a more individualist culture that promotes more competition among employees, such as a law firm with limited opportunities for promotion, someone who identifies as a generous person might have a tough time reconciling their environment with their inner beliefs. They might want to help a fellow colleague with work on a case, but realize that if that colleague is successful, they would be getting a promotion instead. In situations where the environment has a more collectivist culture, such as a hospital, and the employee might not define themselves as generous, someone might feel pressured to always help others and get tired of not being able to do things on their own or rest whenever they have breaks. Thus, there is a high probability for internal conflict for people with identities and attitudes that do not fit their organization's culture (→Burke & Stets, 2009).

10.3 Generosity at work study findings

So, what is at risk from being too generous? This section will describe a research study that involved interviewing people about generosity at the workplace to gain a better understanding of what it looks like

and what are some of its potential benefits and downfalls (→Gur, 2017). As part of the study, the researcher asked specific questions about situations involving generosity, asking them to provide examples both from when they were the givers and receivers of the generous acts. The goal of the study was to gain a better understanding of why people behave (or may choose not to behave) in generous ways at work. This chapter focuses primarily on the conflicts associated with generosity at work, but there were many benefits described by participants as well.

10.3.1 Methodology

The researcher interviewed 12 people from two different sites in the Southeast region of the United States. Participants from Site A (n=3) were students from all levels (undergraduates, master's students, and doctoral students) who worked in research labs. Participants from Site B (n=9) were all from the corporate office within the human resources or corporate communications functions. Site A's culture would be considered individualistic and Side B's culture would be considered collectivist. Therefore, this provided an opportunity to study two contrasting settings and evaluate how generosity at work occurs in either one.

To counter potential sample bias, the researcher offered $15 in Target gift cards to participants. The study reached a point of saturation after 10 interviews and used the last 2 interviews to confirm the overall thematic structure that emerged from the data. The sample was evenly distributed among men (n=6) and women (n=6). The average age of the participants was 37 years (SD=12) and range was 21 to 59 years.

Interviews were conducted over the phone and lasted on average 36.2 minutes (SD=11). The researcher transcribed all the interviews within 24 hours of conducting them so that they will remain fresh in memory. On average, the number of words per interview were 3,535.9 (SD=1,146), with a total of 42,431 words in all 12 interviews. To

do the thematic analysis, the researcher followed the six phases outlined by →Braun and Clarke (2006) to derive common themes.

10.3.2 Benefits of generosity at work

One of the most common benefits associated with engaging in generous behaviors at work is feeling closer to one's colleagues and the organization as a whole. Participants described how they can feel comfortable approaching each other, laughing together, and counting on each other to help should the need come up. This feeling of inclusion and teamwork is crucial for creating and maintaining positive work environments where people can be their authentic selves. Thus, helping each other does promote social connectedness and feelings of belonging.

Another benefit of generosity at work is that there are many commodities that can be exchanged. Participants talked about time, knowledge, skills, ideas, a listening ear, meals, advice, and humor. The most common commodities for generosity at work are knowledge and time. People help their colleagues by giving them their time or by sharing with them what they know about a particular task or activity. And participants greatly valued receiving helpful advice or having someone to whom they could vent.

The benefits of generosity at work go both ways for the givers and the receivers. Participants talked about how helping others now is an investment for the self in the long run. For example, when a new colleague joins the team, the quicker they are up-to-speed, the quicker they can contribute. Hence, spending time with them while they are still new and setting them up for success early on will reap positive outcomes for everyone involved. Additionally, participants mentioned how every time they help someone else, they feel good and competent, and sometimes even learn something new along the way. So like →Grant (2013) posited, it is possible for a generous act to come from a place of wanting to help the self and others at the same time. One participant described:

> “I think we rub off on each other that way, or we both enjoy each others’ humor and once you can get laughing at something you’re like, yeah this isn’t as big a deal as I thought. And the same with, I am thinking of another teammate in particular, just love his sense of humor and we, I think we can pull each other up.”

Generosity at work does not have to be work-related. Some study participants described an optional, generous activity involving coordinating and preparing meals for colleagues who were diagnosed with illnesses that forced them to take time off work. Their team would volunteer to help them and their family on days when they had chemotherapy or had to be on bedrest. This example shows that colleagues can choose to help each other outside of the work setting as well, with the receivers being rewarded with food and care, and the givers being rewarded with gratitude and recognition.

10.3.3 Conflicts associated with generosity at work

Generosity at work can at times have its downsides. While people want to behave in generous and kind ways, whether it is due to their natural inclination as kind people or whether they feel pressured to do so from the environment they are in, they also recognize that they need to focus on what they were hired to do within their organization. When discussing the conflicts associated with generosity at work, participants talked about appropriateness, balancing tasks, energy, selfishness, and timing.

When it comes to appropriateness of helping another colleague at work, some participants said that sometimes people may find themselves in situations that could actually help make them stronger, and thus intervening could stifle their growth opportunity. If you always jump in to help someone, they will never end up learning how to do something on their own. Therefore, people almost saw it as the right thing to do when they realize that someone has the potential to overcome the challenging position that they are in. One of the participants said that it is tough to know from the outside whether someone is capable of pulling through or not. The best that someone

can do is offer to be a mentor to that person, and teach them from the beginning how to handle certain situations that may arise so that they are capable to solve future problems on their own. “Teach them how to fish” is how one participant put it.

Additionally, sometimes there are clear legal boundaries that stop people from helping others, especially if they are tasked with a project related to mergers and acquisitions, or something with sensitive personally identifiable information about employees. A participant provided the example of working on a merger and not being able to legally share with others why they are so overburdened with work all of a sudden. Also, not everyone wants to accept the help from others. A participant explained:

> “I can’t just constantly assert my ideas, um, if it’s something that’s not in my lane because that person whose lane it is might feel like you are too up in their business … There’s a way, there’s such a thing as being too generous if it’s not asked for. If it’s not welcomed, I would say. I guess that’s not, you can think you’re being generous, but if it’s not welcomed you are not being generous. It has to be welcomed, I guess.”

Whether it is due to wanting to learn on their own or the embarrassment of having someone else help, participants explained that people who want to help need to understand that sometimes their help is not wanted. Knowing when it is appropriate (and welcomed) to help is important in a workplace setting so that others are enabled to experience growth opportunities and maintain the confidentiality of their work. Open communications and psychological safety are key components in creating and maintaining an environment where employees are comfortable to admit if and when they feel overwhelmed with their amounts of responsibilities and tasks. A manager might start or end every meeting by asking the team what support they might need from others or what support they can provide to others, thus keeping the dialog open and normalizing the topic.

Another conflict-related theme that emerged from the data involves the balancing act that people need to perform in order to fit

in both the tasks within the scope of their roles and the tasks that have been piled onto their plates for the sake of helping their teammates. The overloaded employee may feel stressed and unsure what to prioritize (typically, if a teammate is in trouble, they need to help them first). However, their main concern is that they should focus on their own tasks and responsibilities because that is what they were hired to do in that company in the first place. A participant said:

> "Now, you have to be careful though because everyone is supposed to get their jobs done so if someone is being so generous that they are not getting their part of a project finished where they are a critical component of it, it is an imbalance of time effectiveness, of them as a resource. You have to be careful to some degree because you can go overboard."

Participants also talked about energy being another deterrent of generous behaviors, specifically the lack of preserving their own energy leading to negative consequences in the future. First, it takes extra energy to even notice others' needs in the first place. In other words, if an employee is inundated with tasks and has a lot on their plate, they hardly ever bother to stop and ask colleagues how they are doing or notice whether their colleagues are drowning with work, too. Second, when someone does have the bandwidth to take on extra tasks to help out colleagues or the organization as a whole, others, like their managers or program coordinators, might ask them to help in a manner such that declining to help is not an option. Some people call it "voluntold" in the sense that someone else volunteered you to do something. The main risk in these scenarios is that by the time employees finish all the extra tasks and start working on their own, they simply do not have the energy to do so.

Another conflict that arises when thinking about generosity at work is the notion of selfishness. Participants viewed selfishness as the opposite of generosity. They described selfish people as people who are only out for themselves and do not care about anyone else around them. According to a participant, what these selfish people do not realize, however, is that the success of the company depends on

how successful everyone at that company is collectively, and hence when they do not help a fellow colleague, they are really shooting themselves in the foot. If someone chooses to leave the office early instead of helping their colleague finish an important investors presentation, that person will be affected if their colleague ends up being unsuccessful in securing funds.

A couple of participants, on the other hand, admired the selfish people at work because they are more focused on personally developing themselves and they do succeed in getting ahead for doing that. For example, someone who only focuses on their own work and ensures that their projects get recognized by supervisors is also more likely to receive promotions or other opportunities within the company. The participants who said they admired selfish people like that said it in the sense that these people had more time and energy to focus on their own work, as opposed to agreeing to help their colleagues and do extra work (that might not always get recognized).

Finally, time is one of the top commodities of generosity at work, and participants often described how the biggest deterrent to them engaging in generous behaviors is lack of time. They might be in a situation where they are capable of helping and really do want to help, but genuinely do not have the time to do it because they themselves have a big deadline coming up. When cognitive dissonance cases like this one arise, participants say that the intent to help is enough. In other words, telling the person who needs the help that you wished you could help but cannot right now typically solves that internal and external conflict. People typically understand when others explain why they are unable to help when the mere desire to help is there.

10.3.4 Conclusion

In order to better understand what generosity at work looks like, this study interviewed participants from two sites. The participants provided examples of generous behaviors at work and explained its

benefits, such as bringing people closer together and supporting each other during tough times. Additionally, some conflicts were raised when it comes to knowing the appropriateness and the ability to help (whether it is a clear boundary or a timing issue). In addition to this study, the next section further provides observations on additional conflicts associated with generous behaviors at work, such as the phenomenon of the “go-to” people.

10.4 The “go-to” people

Most organizations have “go-to” people. They are considered to be the people everyone goes to whenever they need help because these people are knowledgeable, kind, and want others succeed as much as they can. Typically, they are the people with high tenure at the organization that led them to have more knowledge about the organization’s history and processes and stronger working relationships with colleague cross-functionally. Sometimes when these “go-to” people are overly generous with their time, it becomes an expected behavior out of them instead of discretionary effort on their part. In other words, they first offer to help with tasks outside of the scope of their work out of kindness because they noticed that someone else is struggling or out of felt obligation because the supervisor “voluntold” them to help. For example, they might offer to help enter notes from a long executive meeting for a colleague who needs to go pick up their kids from school. Since they offered to do it once, that colleague might begin to expect them to be the notetaker for future meetings as well.

Because “go-to” people offer to help as much as they do, others become dependent on them to the point that “no” is not an acceptable answer for the “go-to” person to say when the request for help comes up in the future. Thus, a toxic environment is created for the “go-to” person who now has a larger scope that requires more work hours to complete but is paid the same amount. There could be a clash between the heaviness of having to cater to all of the requests that come their way with the desire to be true to who they are and

help support their colleagues as much as they can. This clash may lead to resentment toward colleagues and even the organization itself.

And here is where it gets risky for organizations and the people in it. There are two possible paths that emerge from this scenario. Either the “go-to” person gets a much-deserved promotion and they get fairly compensated for the amount of work and dedication they put in, or they experience burnout and end up leaving the organization. The lucky people that do get promoted into roles that fit the scope of the behaviors they were already exhibiting are set up to succeed. This may happen in organizations that might formally reward discretionary behavior, and thus generous people get systematically rewarded for their generous behaviors.

Not every organization has a formal recognition and reward system for discretionary behaviors, however. Within such organizations, the “go-to” person might experience more burnout, and is more likely to leave the organization due to the negative environment they are experiencing. It might be harder for them to create new boundaries in old relationships, so hopefully once they leave and start a new role, the person can learn to sprinkle a few ‘no’s to requests for help in their new organizations.

In this regard, organizations should consider highly generous and supportive employees like they would butterflies – with delicacy and appreciation. Enable them to be the “go-to” people if that is what they want so they can live and work as their authentic, caring selves, but do not lean so heavily on them that they get crushed or fly away. This could mean that sometimes they will be overwhelmed but might not admit it. Learn the signs for burnout so that you will know when to define new boundaries. Additionally, showing appreciation and respect is important. Monetary rewards are not always what “go-to” people are looking for; sometimes, a heartfelt ‘thank you’ that shows you are noticing the positive impact of their actions is enough. No one wants to feel like they are being taken for granted or underappreciated. And no one wants to feel like someone is taking advantage of them. Thus, ensure that whenever someone

consistently goes above and beyond, they are recognized and celebrated for their contributions.

10.5 Finding balance

Generosity and kindness are important human values that employees want to experience at work. However, too much of it can cause distress and resentment. Showing appreciation for those who go above and beyond while reminding everyone to strike the right balance for them can help mitigate the potential that negative outcomes will occur.

It is posited that women are experiencing this burden more than men. A study found that women tend to engage in more OCBIs and men tend to engage in more OCBOs (→Kidder, 2002). Because women are perceived as more helpful, more soft-hearted, and kinder (→Williams & Best, 1990), it is possible that these perceptions are creating a positive feedback loop such as people approach women for their help because of this perception, and when women help, they perpetuate this perception further. Thus, the cycle continues and women might find themselves more burnt out than their male counterparts. To help counter this cycle, consider approaching both men and women equally when looking for help on projects.

10.6 Conclusion

This chapter is not the first to promote generosity and kindness. But it recognizes that too much of it puts people and the organizations they belong to at risk. Maintaining the right balance is key, and holding everyone accountable is the responsibility of all organizational members. Knowing when to not push employees too much, but also creating spaces for them to work together and feel helpful and supportive is key. It is important to encourage people to first be kind to themselves – no one can pour from an empty cup.

References

Barrick, M. R., & Mount, M. K. (1991). The Big Five personality dimension and job performance: A meta-analysis. Personnel Psychology, 44(1–26). a, b

Bolino, M. C., & Turnley, W. H. (1999). Measuring impression management in organizations: A scale development based on the Jones and Pittman taxonomy. Organizational Research Methods, 2(2), 187–206. →

Braun, V. & Clarke, V. (2006) Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77–101. →

Burke, P. J., & Stets, J. E. (2009). Identity theory. Oxford University Press. a, b

Chen, C. C., & Chiu, S. F. (2008). An integrative model linking supervisor support and organizational citizenship behavior. Journal of Business and Psychology, 23(1–2), 1–10. →

Chenoweth, D. (2011). Promoting employee well-being: Wellness strategies to improve health, performance and the bottom line. SHRM Foundation. →

Grant, A. (2013). Give and take: A revolutionary approach to success. New York, NY: Viking. a, b

Grant, A. M. (2008). Does intrinsic motivation fuel the prosocial fire? Motivational synergy in predicting persistence, performance, and productivity. Journal of Applied Psychology, 93(48–58). →

Grant, A. M., & Berg, J. M. (2012). Prosocial motivation at work: When, why, and how making a difference makes a difference. In K. Cameron and G. Spreitzer (Eds.), The Oxford Handbook of Positive Organizational Scholarship (pp. 28–44). New York: Oxford University Press. a, b

Gur, S. S. (2017). Generosity at work: Generous identity, organizational context, and organizational citizenship behaviors. (Unpublished doctoral dissertation). University of North Carolina at Charlotte. Charlotte, North Carolina. →

Hall & Partners (2020). Kind leadership during a crisis and beyond: The power of kindness. →

Johnstone, A., & Johnston, L. (2005). The Relationship between organizational climate, occupational type, and workaholism. New Zealand Journal of Psychology, 34(3), 181–188. →

Katz, D. (1964). The motivational basis of organizational behavior. Behavioral science, 9(2), 131–146. →

Kidder, D. L. (2002). The influence of gender on the performance of organizational citizenship behaviors. Journal of Management, 28(5), 629–648. →

Kim, M. S., & Hunter, J. E. (1993). Attitude-behavior relations: A meta-analysis of attitudinal relevance and topic. Journal of Communication, 43(1), 101–142. →

LinkedIn. (2020) Global talent trends: 4 trends changing the way you attract and retain talent. →

Moorman, R. H., & Blakely, G. L. (1995). Individualism-collectivism as an individual difference predictor of organizational citizenship behavior. Journal of Organizational Behavior, 16(2), 127–142. →

Organ, D. W. (1988). Organizational citizenship behavior: The good soldier syndrome. Lexington, MA, England: Lexington Books. →

Organ, D. W., & Konovsky, M. (1989). Cognitive versus affective determinants of organizational citizenship behavior. Journal of Applied Psychology, 74(1), 157–164. →

Perlow, L., & Weeks, J. (2002). Who’s helping whom? Layers of culture and workplace behavior. Journal of Organizational Behavior, 23(4), 345–361. →

Podsakoff, P. M., MacKenzie, S. B., Paine, J. B., & Bachrach, D. G. (2000). Organizational citizenship behaviors: A critical review of the theoretical and empirical literature and suggestions for future research. Journal of Management, 26(3), 513–563. a, b

Post, S. G. (2005). Altruism, happiness, and health: It’s good to be good. International Journal of Behavioral Medicine, 12(2), 66–77. →

Schein, E. H. (2010). Organizational culture and leadership (4th ed.). San Francisco, CA: Jossey-Bass. →

Snap Inc. Diversity Annual Report (2021, August 22). →https://citizen.snap.com/diversity →

Stets, J. E., & Biga, C. F. (2003). Bringing identity theory into environmental sociology. Sociological Theory, 21(4), 398–423. →

Williams, L. J., & Anderson, S. E. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. Journal of Management, 17(3), 601–617. a, b

Williams, J. E., & Best, D. L. (1990). Measuring sex stereotypes: A multination study. Newbury Park, CA: Sage. →

Woehr, D.J. & Roch, S. (2012). Supervisory performance ratings. In N. Schmitt (Ed.), The Oxford Handbook of Personnel Assessment and Selection. New York: Oxford University Press. →

11 The discursive construction of risk in gig work

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11.1 Introduction

Recently, the emerging gig economy and the sociotechnical factors that sustain it have disrupted dominant conceptualizations of work and employment, forcing workers, employers, and policy makers to make sense of novel economic trends, organizational structures, and related work experiences. The gig economy is an economic system that utilizes online platforms to digitally connect workers with consumers and employers (→Harris, 2017). Gig work is the labor derived from this relationship, which typically includes hyper-flexible, short-term, task-specific jobs that involve a low commitment relationship between workers and organizations (→Friedman, 2014; →Harris, 2017; →Harvey et al., 2017).

Although many stakeholders are forced into navigating the growing power of the gig economy, workers in particular are left making sense of this unfamiliar terrain without the benefit of traditional channels of communication with peers. When workers encounter shifts or novelty in the structure of arrangements between workers and management, they often rely on communication as a means of interpreting and coping with change via shared interpretations, norms, and work practices (→Watson & Bargiela-Chiappini, 1998). This may be particularly true when organizational policies and everyday work situations put employees at physical and/or economic risk (→Collinson, 1999; →Scott & Trethewey, 2008). Typically, much of this interaction occurs in traditional face to face

settings. However, given the distributed nature of gig work, workers are rarely co-located and have extremely limited opportunities for face to face interaction. As a result, virtual communities in which gig workers share experiences, opinions, and advice, often anonymously and beyond the purview of management, become critical sites of backstage interaction. Here, employees of gig work platforms may develop consensus regarding the hazards that comprise their work and the normative standards and practices for dealing with them. This chapter focuses on the novel risk-related dynamics of the gig economy, suggests an alternative theoretical framework for understanding them, and proposes an agenda for future research on the gig economy, occupational risk, and virtual communities. We begin by describing key characteristics of the gig economy and gig work before identifying emerging concepts in the study of occupational safety and risk that are particularly relevant to this novel context and proposing specific directions for future research.

11.2 Defining gig work

A common denominator across different forms of gig work today and a key distinguishing feature from other forms of labor is the digital platform that facilitates communication and mediates the relationship between workers and customers (→Gramano, 2019). Building from this distinguishing feature, →Duggan and colleagues (2020) proposed a broad classification system that presents a helpful refinement of all of the gig work opportunities. The first variant is capital platform work that involves individuals using a digital platform as an intermediary to sell or rent a product or service peer-to-peer, commonly referred to as the sharing economy. The second variant is crowd work that facilitates business or individuals posting tasks or projects to a digital platform and workers completing them (e.g., Amazon Mechanical Turk). The third variant is app-work that serves as an intermediary digital platform that connects workers with local paying customers, with the digital platform organization retaining a percentage of the exchange (→De Stefano, 2016). In this book

chapter, we focus primarily on app-work given the heightened risk that these jobs often entail.

As a novel phenomenon, relatively little research has been conducted on the nature, fairness, desirability, advantages, and disadvantages of this work, especially from the subjective views of gig workers themselves (→Ryan & Wessel, 2015). The research that has been done often focuses on gig workers' experiences with this new form of labor (for a review, see →Kaine & Josserand, 2019). Popular press accounts of the experiences of gig workers tend to characterize them in terms that are fairly positive or fairly negative. Work that highlights the positives typically references the autonomy and flexibility of the work, while descriptions of the negatives emphasize the erosion of employment standards, labor regulations, as well as individual dignity and status (→Friedman, 2014; →Hill, 2021; →Stewart & Stanford, 2017).

Although app-work platforms tend to emphasize the positives of this work such as "being your own boss" and "reliable earnings," research suggests the realities of gig work also include serious disadvantages that put employees at substantial physical and economic risk (→Christie & Ward, 2019; →Ravenelle, Kowalski, & Janko, 2021). Drivers for rideshare services like Lyft and Uber, for example, not only occupy vehicles alone with strangers but also encounter traffic hazards in their personal vehicles without the benefit of auto or health insurance from their employers. And during the COVID-19 pandemic, employees of food delivery platforms like Instacart and Grubhub exposed themselves to substantial health risks by entering retail spaces many of their customers would not (→Ravenelle, Kowalski, & Janko, 2021).

App-work platforms employ workers as independent contractors rather than full employees. In the United States, these contracts currently allow digital platform organizations to skirt standard employee labor regulations (→Howcroft et al., 2019). From there, gig workers often take on other risks such as inconsistent income (→Sun et al., 2019) and responsibility for providing capital such as tools and equipment that, outside of the gig economy, would be provided by

employers (→Stewart & Stanford, 2017). They do so without an economic safety net such as government oversight, health and liability insurance benefits, or workplace health and safety programs (→Chen, 2018; →Fox et al., 2018).

Work and organization scholars are beginning to explore the challenges and experiences of gig workers (Gandini, 2019; →Ravenelle, 2019). One interesting challenge that gig workers often face is the emotional tension between feeling both fulfilled as well as anxious due to the freedom and precarity of their work. Another common challenge that contributes to gig workers' insecurity is the absence of organizational or professional membership that would bestow legal rights, a sense of occupational identity, and professional development opportunities (→Petriglieri et al., 2019). Consequently, gig workers often try to create connections through online communities to make sense of and deal with these negative emotions and other sources of uncertainty (→Wood et al., 2019).

11.3 Risk, safety, and discourse

The management of safety in most organizations is governed by the idea that safety is a behavioral phenomenon resulting from management influence. Employees are safe to the extent that their individual behaviors, attitudes, and beliefs keep them free from harm. These outcomes are thought to result from management and normative cultural practices that encourage safe behavior. A better understanding of the dynamics of promoting safety among contemporary gig workers can be developed from emerging perspectives on occupational safety that attend to the role of peer communication and occupational and organizational discourse.

11.3.1 Traditional approaches

Traditional approaches to occupational safety emphasize bureaucratic rules and reward systems implemented and sustained via one-way, top-down communication between management and

the employees whose behavior it intends to shape (→Turner & Grey, 2009). Governing rules and rewards become a part of the formal structure of the organization in the form of process guidelines, standard operating procedures, compensation schemes, and compliance standards that specify and encourage safe behavior while mitigating and sanctioning unsafe behavior. The emphasis is on compliance and the prevention of safety breaches, and communication is only relevant to the process of communicating expectations, encouraging employees to follow rules, and publicly rewarding good safety related job performance.

Manufacturing, an industrial context far afield from gig workers, is the prototypical setting for which this approach was designed (→Zohar, 2010). Employees are co-located on an assembly line where they can be directly observed by supervisors. The work employees do is highly repetitive and predictable, and the work environment, including its boundaries, could hardly be more stable. Threats to safety emanate directly from the physical environment and employee attitudes and shared norms. Employees who are most at risk have little contact with organizational boundaries or the external environment.

The dominant framework generally does not attend to the interpretations employees co-construct that contribute to shared attitudes and safety norms. This may be because traditional approaches rarely attend to the impact of communication among employees or between employees and management (→Zoller, 2003). The objective work environment is assumed to be unrelated to communication about it, especially organizational discourse, situated language use that reflects, sustains, and potentially alters the organization's normative or cultural environment (→Fairhurst & Putnam, 2004). Traditional approaches assume communication is merely a means of sharing information within an "already organized organization" (→Hawes, 1974) codified in formal structures like rules, standardized processes, rewards, and so on.

11.3.2 Emerging approaches

Although traditional approaches have produced important contributions to the practice of occupational safety and remain alive and well in the conventional occupational safety literature, emerging approaches to occupational safety do more to attend to the symbolic environment of the organization and occupation. Further, they are more likely to account theoretically for work environments that are more dynamic, less predictable, and that include work that occurs more often at and across organizational boundaries (→Collinson, 1999; →Scott & Trethewey, 2008). Thus, emerging approaches are predicated on a set of assumptions more relevant to contemporary gig work than traditional approaches.

Symbolic environment. An emphasis on meaning making and the symbolic elements of the work environment, their impact on the intersubjective appraisal of risk, and their potential to enable safety relevant behavior is a distinguishing feature of emerging approaches (→Weick, Sutcliffe, & Obstfeld, 2005). The subjective symbolic environment is produced through an ongoing dynamic between organizational and occupational cultures and the discursive practices their members engage in during everyday encounters with internal and external environments. Under this conceptualization, safety is a product of interactions between employees and the symbolic environment of the organization and occupation (→Scott & Trethewey, 2008; →Zoller, 2003). For example, →Collinson's (1999) study of workers on off-shore oil rigs demonstrated how safety outcomes in this high risk environment were less a result of the organization's traditional, espoused emphasis on rules, rewards, and objective outcomes and more likely a consequence of employee's shared interpretations of what they deemed to be the values-in-use of the occupation, the organization, and their work groups. The organization espoused a value for occupational safety, but in practice, it seemed more interested in rewarding the appearance of safety rather than its substance–rewards for underreporting of accidents and provision of inferior safety gear that did not actually enhance safety.

Formal and informal communication. Emerging approaches operate from a distinct set of assumptions about the relationships among safety relevant behavior, perceived risk, and the organizational communication practices of management and employees, including the mundane discourse through which the meanings and norms of everyday work practices are sustained or transformed (→Fairhurst & Putnam, 2004). Traditional approaches ascribe a fairly limited and instrumental role to communication, assuming it is merely a tool management uses to formally convey information rather than reproduce or transform meaning. Alternatively, the idea that formal and informal communication influence what employees perceive is expected, rewarded, and supported with regard to safety is central to emerging approaches (→Scott et al., 2015). In this view, communication is a means of deriving, refining, and transforming understandings of what is actually expected, rewarded, and supported with regard to safety in organizational and occupational communities. Here, communication is more than another tool for informing and influencing employees. It is also a means of organizing and coordinating what is considered to be natural, normal, and good safety relevant behavior in a given cultural context.

Reliability seeking organizations. Within emerging approaches, research on reliability seeking organizations, organizations that regularly manage risk and safety in the face of low probability, high impact hazards, has highlighted the importance of communication and collective sensemaking processes in the maintenance of safety (→Weick, Sutcliffe, & Obstfeld, 2005). As “a dynamic, non-event” or the absence of harm or undue risk, safety is reliably maintained over time through employee interaction, which is often informal and mundane (→Weick & Sutcliffe, 2001). This interaction often takes the form of relatively spontaneous organizational discourse, everyday, culturally situated talk that makes communication and coordination possible (→Fairhurst & Putnam, 2004). For example, →Scott and Trethewey’s (2008) study of the discourse of municipal firefighters before and after emergency incidents demonstrated how everyday

talk enabled and constrained how first responders appraised occupational hazards. Efforts to secure a preferred sense of occupational self led firefighters to habitually downplay the risk associated with identity threatening hazards and to amplify and celebrate the risks associated with identity affirming hazards.

11.4 Occupational communities

The communities that exist between workers outside of the workplace shape lives, careers, and occupational outcomes. One of the first academic conceptualizations of an occupational community came from →Lipset, Trow, and Coleman's (1956) study of the workers in the International Typographical Union. Union printers' social activities outside of the workplace had a predictive impact on internal union voting matters. Although the authors of the study did not suggest the concept of an occupational community, they did suggest similar social dynamics might exist in other occupations – where discussion and decisions about work occurred in informal social settings.

The blurring of work-life and social life was further explored by sociologists in the 1960s and 1970s. →Salaman (1971) argued that the blending of work and out-of-work relationships resulted in a different orientation toward work than the separation of work and leisure relationships previously. In this way an occupational community was seen as a group of workers who identify with their occupation and share social relationships, values, and as a result develop a common self-image or identity.

11.4.1 Culture, identity, and knowledge sharing

As organizational research moved toward cultural explanations of phenomena, occupational communities became further integrated in explaining organizational life through identity processes. →Van Maanen and Barley's (1984) study of occupational communities found four key social processes in occupational communities. They

suggested that occupational communities shared common cultures and subcultures that were based around their work and offered community members a shared sense of solidarity, social identity, and a sense of group boundaries. Cultural interpretations of occupational communities were later expanded by →Trice and Beyer (1993) who outlined seven major social forces present in occupational communities, a popular framework for defining the intergroup processes that occur in occupational communities.

Work cultures, the everyday rituals, practices, and standards for behaviors among alike workers are sustained by occupational communities (→Van Maanen, 2010). These practices shape individual senses of identity (→Barley, 1983; →Anteby et al. 2016) and serve functional purposes in workplaces, including the management of risk and danger. For example, →Fitzpatrick's (1980) study of coal miners outlined the normative rules miners observed to deal with danger and protect one another. Ritualized social interaction in the form of banter or horseplay can also enact control over working environments, thus managing collective understandings of danger (→Haas, 1977).

Occupational communities also aid in the facilitation of knowledge production and knowledge sharing in job roles, including knowledge about work hazards and safety relevant best practices. As knowledge on the job is often situated and constructed by specialized roles and meaning making processes, members of occupational communities come to understand their work through a shared perspective (→Van Maanen & Barley, 1984; →Orr, 1990, →Beckhy 2003). As theory on "communities of practice" suggests, new community members learn unique occupational perspectives through participating in occupational communities (→Wenger, 2010).

11.4.2 Boundaryless occupations and communities

Research on occupational communities is also influenced heavily by the concept of boundaryless work and communities of professional knowledge workers. In the late 1990s and early 2000s, organizational

research began to coalesce around a concept of examining post-industrial, ‘boundaryless’ careers. The boundaryless concept was popularized by Arthur and Rousseau (2001), who argued that shifting macroeconomic conditions would drastically change the competencies of professional workers, suggesting firms should change strategic management practices to shift toward ‘knowledge’ work.

In the boundaryless framework, knowledge workers were conceptualized as free agents–individuals who had the autonomy and skill to engage in a wide range of projects beyond the scope of any single organization. Professional contracting work, which relied on social networks, professional organizations, and interpersonal ties to secure jobs, was exemplary of the boundaryless career (→Barley & Kunda 2006). Communities of freelance consultants and software developers became of interest to organizational researchers interested in occupational communities (→Marschall 2012; →Weststar 2015).

The study of knowledge work and boundaryless workers also represented a conceptual shift for theorizing occupational communities. Previous research focused on communities of workers among a specific locale or organization, but the emergence of the internet made the notion of a community at the occupational level, above any particular organization or job arrangement, central in theorizing occupational communities. Furthermore, the specific attributes of jobs or organizations became ancillary to impacts of social networks and knowledge embedded in the occupational community. Although the boundaryless concept has given way to more inquiry into the precarious conditions of contracting work (→Kalleberg 2009), the role of occupational communities has not changed. Occupational communities became central in understanding how new members are socialized into freelance and distributed work (→Schwartz 2018; →Skaggs 2019).

11.4.3 Virtual occupational communities

Virtual communities are especially common among gig workers. Online forums and social media groups provide an asynchronous gathering space for those with common interests (→Blanchard et. al, 2011). These virtual communities can be a resource base for workers to draw on the knowledge of the crowd to interpret and share information on their experiences. Although virtual communities do not afford the same level of immediacy in interaction as face to face groups, members can share a similarly deep sense of virtual community as they do in face to face settings (→Blanchard, 2008; →Blanchard et. al, 2011).

Individuals engage in information sharing and construct occupational identities through their interaction in virtual occupational communities (→Gibbs et al., 2019), communication with the potential to lead participants to identify with the occupation at a superordinate level, beyond any particular job or organization (→Blanchard et al., 2011). Thus, the talk in virtual occupational communities represents an occupational level discourse that is not bound to a particular organization, location, or job setting.

Virtual backstages. Of particular relevance to gig workers, virtual community discourse is considered highly relevant in emerging perspectives on occupational safety, particularly because these communities can function as an influential backstage. As with other workplace backstages (→Tracy, 2000), everyday talk among gig workers may emerge outside the presence of customers, clients, or supervisors. Although backstage communication has received limited attention in occupational risk and safety research, emerging approaches consider mundane backstage discourse as an activity that shapes how employees encounter, appraise, and respond to occupational hazards (→Waring & Bishop, 2010).

The potential influence of backstage communication in virtual communities is particularly strong for gig workers thanks to the unique structure of their occupations. Indeed, as gig work digital platforms expand and proliferate, a growing proportion of these workers perform their work exclusively in settings where regular, sustained face-to-face peer communication is not feasible. For these

employees, virtual communities may be their primary source of informal communication about their organization and jobs. Notably, informal communication is an information source that employees in a range of economic sectors tend to regard as more accurate, efficient, and useful than formal communication provided by employers (→Hellweg, 1987).

Preliminary observation of these virtual communities suggests that they are important and influential backstage settings in which employees use informal communication to develop shared understandings of how to realistically appraise and manage the hazards of their work. Backstage discourse often includes frank discussion of everyday work problems and dilemmas in which employees talk about how they actually deal with them (vs. what they should do in the ideal), and gig worker virtual communities are no exception.

These backstages include several unique characteristics as compared to other sites of employee interaction. Their content transcends traditional boundaries between organizational and occupational levels of analysis. For example, a rideshare driver may regularly interact on a discussion board with membership limited to fellow employees of the same rideshare service, one consisting of drivers representing multiple rideshare services, or one for gig workers in general. Thus, participation in these communities may occur at organizational and/or occupational levels of analysis. This increasingly common phenomenon of multi-level peer communication fits with a growing acknowledgement among organizational scholars that workplace behavior is influenced not only by attachment to organizations but the occupations in which these individuals are embedded (→Ashcraft, 2013).

Opportunities for anonymous participation constitute another unique characteristic of these communities. Discussion platforms that are not sponsored by employers and that allow seemingly consequence-free participation appear to be especially popular among gig workers. Anonymity in virtual interaction tends to involve a dramatic reduction in anticipated social costs, resulting in higher

levels of self disclosure and information considered more credible by users (→Nguyen, Bin, Campbell, 2012; →Qian & Scott, 2007), making them an especially potent source of backstage knowledge about how the risks encountered by gig workers may be realistically managed.

Finally, in contrast to backstage communication in many other contexts, these virtual communities feature communication with greater permanence. Although they are often moderated and allow participants to remove their own posts, the typical message is there to stay, meaning it can be read by countless community members across time and space, some of whom may in turn share it with others. Peer communication in other backstage settings is almost always impermanent, fleeting, and received by much smaller audiences.

11.5 An agenda for future research

In spite of the synergies among the dynamics of gig work, the salience of peer communication among gig workers, emerging discursive approaches to occupational safety, and virtual occupational communities, research has yet to take advantage of them. Spatially dislocated by algorithmically driven management systems, gig workers lack a consistent location that they can call a workplace. As a result, existing theories that document how co-located social interaction shapes the management of risk are not well suited to the gig work context. Dislocated workers turn to virtual communities for peer communication that hopefully assists them in managing the ambiguity and uncertainty about the hazards they face. In doing so, they engage with workers who may use different gig platforms, have different experiences, or deal with different kinds of hazards. It is in these virtual communities where informal knowledge sharing informs practices for the management of risk. Future research on risk management in this context could take a page from theorizing in other research on boundaryless careers regarding the role of knowledge, expertise, social network ties. Understanding how occupational discourses about risk emerge from

networks or communities of gig workers would be fruitful for the research agenda on risk in the gig economy. Drawing on the framework developed above, we propose several directions for future research with considerable promise to expand scholarly understandings of how the precarious occupational hazards of gig work are experienced by employees, and how virtual community discourse enables and constrains how employees manage them.

11.5.1 Risk appraisal

Emerging approaches to risk and safety consider the ways in which occupational and organizational discourse, especially that among peers, influence how risks are perceived and the likelihood they will be safely managed. Thus, existing research on gig workers that documents the precarity of their work should be complemented with analyses that examine how virtual peer communication among gig workers influences how hazards are appraised. What discursive patterns are likely to lead to amplified versus attenuated appraisals of risk? How does this virtual discourse help gig workers manage the ambiguity and uncertainty surrounding the economic and physical hazards of their work through collective sensemaking processes? And how does this sensemaking lead to the development of best practices gig workers use when they encounter risk and danger?

11.5.2 Professional identity

Virtual occupational communities are maintained through the messages members share about their work and the ongoing meaning making processes that result from this communication. Previous research on freelance work has established that online communities can play a critical role in socializing newcomers to freelance jobs and professions (→Schwartz, 2018). Newcomers turn to virtual communities to manage uncertainty about their work, make sense of their experiences, and to learn occupational norms and practices (→Ahuja & Galvin, 2003). Previous research on non-virtual

occupational communities has established that they influence identification by establishing appealing norms and a sense the work is meaningful. Although virtual communities are typically asynchronous and lack face to face interaction, participants can still share a strong sense of community and collective identity (→Blanchard, Askay, & Frear, 2011). For gig workers, virtual community discourse about work may be shaped by this identity work, however there is a dearth of empirical research on the relationships between occupational community discourse and identity among gig workers. Even less is available on how this symbolic work is accomplished in spite of, or in relation to, hazards that not only put workers at physical and economic risk but also stigmatize and threaten occupational esteem (e.g., drunk rideshare passengers who are identity threatening)? What discursive practices enable members to more or less successfully reframe the meanings of these threats (Ashforth & Kreiner, 1999; →Tracy & Scott, 2006)?

11.5.3 Novel and emerging hazards

If the COVID-19 pandemic was any indication, consumer dependence on gig workers will increase during public health crises, a pattern that further expands the riskiness of their work. Hazards that are novel, not well understood, or emerging or fluctuating are more likely to be feared by the general population, but discourse in occupations in whose members are paid to encounter them may provoke a different reaction. Research on off-shore oil rig workers (→Collinson, 1999), high steel construction workers (Haas, 1977), and municipal firefighters (→Scott & Trethewey, 2008) exemplifies how people in risky occupations may actually downplay the risks associated with occupational hazards, ignore or under report them, or even romanticize them in peer discourse, cultural practices that put them at additional risk. How does the novelty of hazards or fluctuations in the level of risk relate to the discursive practices that members use as they discuss their risky work in virtual communities? Are there alternative discursive practices that dampen or counter the impact of

risk amplifying virtual community discourse? And given the accessibility and opportunities for anonymity in these virtual communities, how can organizational management use virtual community content to better understand the hazards their employees face and develop improved risk communication strategies for encouraging safe work habits that are responsive to these dynamics?

11.5.4 Policy and collective action

Finally, a future research agenda should also work toward understanding the impact of occupational discourse around risk and safety in the gig economy on organizational and public policy. The role that virtual communities play in conveying and producing risk and safety discourses should also be examined from the perspective of their impact on the policies toward risk and safety that gig platform companies enact. To date, some gig platform companies have faced criticism for problems related to the physical safety of workers and a lack of transparency in reporting incidents. For example, the rideshare platform Lyft was in operation for nearly ten years before it released its first safety report, which indicated, among other outcomes, that it received over 4,000 reports of sexual assault in a three year period (→Siddiqui, 2021). Analyzing how gig work platforms respond to formal complaints and publicly available occupational safety discourse among their members may assist us in better understanding how relevant organizational policies can be improved in a highly 'fissured' economic sector (→Weil, 2014).

At a field level, a research agenda could also investigate the role of risk and safety discourses that stem from virtual communities of gig workers in shaping the regulatory environment around contract work. Given the substantial growth in contract working arrangements that has occurred due to gig economy jobs, gig workers have a role to play in influencing public policy and government regulations around their working conditions. In the United States, laws about contract worker rights are in a moment of flux. Ongoing efforts to organize

gig workers and state ballot initiatives like California's Proposition 22, which sought to expand protections, are representative of efforts to change the legal nature of the contracting arrangement that is at the center of gig work. Globally, efforts to increase the security and dignity of work such as the United Nations Sustainable Goals for Development are seemingly at odds with the evidence about the conditions of gig work, where workers precarity and the erosion of workplace dignity (→Hill, 2021; →Thomas & Lucas 2019). Currently, the role of occupational communities and discourses about safety in shaping these debates is unclear. Future research could investigate how communication in virtual occupational communities affect regulatory policies or organizing efforts.

11.6 Conclusion

In this chapter, we have defined a number of the unique features of gig work and established the significance of occupational risk in this domain. We have also described how alternative, discourse based approaches to occupational safety and health highlight the potential significance and utility of gig worker virtual communities for both understanding and improving health and safety practice in this domain. In spite of the danger and precarity of this work, the gig economy continues to expand. Research that exploits the intersections among gig economy dynamics, emerging approaches to safety, and the availability of virtual occupational communities has great potential to make a positive difference.

References

Ahuja, M. K., & Galvin, J. E. (2003). Socialization in virtual groups. *Journal of Management*, *29*(2), 161–185. https://doi.org/10.1177/014920630302900203 →

Anteby, M., Chan, C. K., & DiBenigno, J. (2016). Three lenses on occupations and professions in organizations: Becoming, doing, and

relating. *Academy of Management Annals*, 10(1),183–244. https://doi.org/10.5465/19416520.2016.1120962 →

Arthur, M. B., & Rousseau, D. M. (2001). *The boundaryless career: A new employment principle for a new organizational era*. Oxford University Press.

Ashcraft, K. L. (2013). The glass slipper: "Incorporating" occupational identity in management studies. *Academy of Management Review*, *38*(1), 6–31. →https://doi.org/10.5465/amr.2010.0219 →

Ashforth, B. E., & Kreiner, G. E. (1999). "How can you do it?": Dirty work and the challenge of constructing a positive identity. *Academy of management Review*, *24*(3), 413–434. https://doi.org/10.5465/amr.1999.2202129

Barley, S. R. (1983). Semiotics and the study of occupational and organizational cultures. *Administrative Science Quarterly*, *28*(3), 393. https://doi.org/10.2307/2392249 →

Barley, S. R., & Kunda, G. (2006). Contracting: A new form of professional practice. *Academy of Management Perspectives*, *20*(1), 45–66. https://doi.org/10.5465/amp.2006.19873409 →

Bechky, B. A. (2003). Sharing meaning across occupational communities: The transformation of understanding on a production floor. *Organization Science*, *14*(3), 312–330. →http://www.jstor.org/stable/4135139 →

Blanchard, A. L. (2008). Testing a model of sense of virtual community. *Computers in Human Behavior*, *24*(5), 2107–2123. https://doi.org/10.1016/j.chb.2007.10.002 →

Blanchard, A., Askay, D., & Frear, K. (2010). Sense of community in professional virtual communities. In *Virtual Communities: Concepts, Methodologies, Tools, and Applications*. IGI Global.

Blanchard, A. L., Welbourne, J. L., & Boughton, M. D. (2011). A model of online trust: The mediating role of norms and sense of virtual community. *Information, Communication & Society*, *14*(1), 76–106. https://doi.org/10.1080/13691181003739633 a, b, c, d

Chen, J. Y. (2018). Thrown under the bus and outrunning it! The logic of Didi and taxi drivers' labour and activism in the on-demand economy. *New Media & Society*, *20*(8), 2691–2711. →https://doi.org/10.1177/1461444817729149 →

Christie, N., & Ward, H. (2019). The health and safety risks for people who drive for work in the gig economy. *Journal of Transport & Health*, *13*, 115–127. →

Collinson, D. L. (1999). 'Surviving the rigs': Safety and surveillance on North Sea oil installations. *Organization Studies*, *20*(4), 579–600. a, b, c, d

De Stefano, V. (2016). The rise of the" just-in time workforce": on demand work, crowdwork, and labor protection in the" gig economy". *Comparative Labor Law and Policy Journal*, *37*(3), 461–471. →

Duggan, J., Sherman, U., Carbery, R., & McDonnell, A. (2020). Algorithmic management and app-work in the gig economy: A research agenda for employment relations and HRM. *Human Resource Management Journal*, *30*(1), 114–132. https://doi.org/10.1111/1748-8583.12258 →

Fairhurst, G. T., & Putnam, L. (2004). Organizations as discursive constructions. *Communication Theory*, *14*(1), 5–26. a, b, c

Fitzpatrick, J. S. (1980). Adapting to danger: A participant observation study of an underground mine. *Sociology of Work and Occupations*, *7*(2), 131–158. →https://doi.org/10.1177/073088848000700201 →

Fox, M. A., Spicer, K., Chosewood, L. C., Susi, P., Johns, D. O., & Dotson, G. S. (2018). Implications of applying cumulative risk assessment to the workplace. *Environment International*, *115*, 230–238. https://doi.org/10.1016/j.envint.2018.03.026 →

Friedman, G. (2014). Workers without employers: Shadow corporations and the rise of the gig economy. *Review of Keynesian Economics*, *2*(2), 171–188. →https://doi.org/10.4337/roke.2014.02.03 a, b

Gandini, A. (2019). Labour process theory and the gig economy. *Human Relations*, *72*(6), 1039–1056. https://doi.org/10.1177/0018726718790002

Gibbs, J. L., Kim, H., & Ki, S. (2019). Investigating the role of control and support mechanisms in members' sense of virtual community. *Communication Research*, *46*(1), 117–145. →https://doi.org/10.1177/0093650216644023 →

Gramano, E. (2020). Digitalisation and work: challenges from the platform-economy. *Contemporary Social Science*, *15*(4), 476–488. https://doi.org/10.1080/21582041.2019.1572919 →

Haas, J. (1977). Learning real feelings: A study of high steel ironworkers' reactions to fear and danger. *Sociology of Work and Occupations*, *4*(2), 147–170. →https://doi.org/10.1177/073088847700400202 →

Harris, B. (2017). Uber, Lyft, and regulating the sharing economy. *Seattle University Law Review*, 41(1), 269–285. a, b

Harvey, G., Rhodes, C., Vachhani, S. J., & Williams, K. (2017). Neo-villeiny and the service sector: The case of hyper flexible and precarious work in fitness centres. *Work, Employment and Society*, *31*(1), 19–35. https://doi.org/10.1177/0950017016638023 →

Hawes, L. C. (1974). Social collectivities as communication: Perspective on organizational behavior. *Quarterly Journal of Speech*, *60*(4), 497–502. →

Hellweg, S. (1987). Organizational grapevines. A state of the art review. In B. Dervin & M. Voight (Eds.), *Progress in the communication sciences* (Vol. 8). Norwood, NJ: Ablex. →

Hill, K. (2021). Constructions of Grievance and Dignity in the Gig Economy. *Available at SSRN*. a, b

Howcroft, D., Dundon, T., & Inversi, C. (2019). Fragmented demands: Platform and gig-working in the UK. In *Zero hours and on-call work in Anglo-Saxon countries* (pp. 215–232). Springer, Singapore. →

Kaine, S., & Josserand, E. (2019). The organisation and experience of work in the gig economy. *Journal of Industrial Relations*, *61*(4), 479–501. https://doi.org/10.1177/0022185619865480 →

Kalleberg, A. L. (2009). Precarious work, insecure workers: Employment relations in transition. *American Sociological Review*. https://doi.org/10.1177/000312240907400101 →

Lipset, S., Trow, M., & Coleman, J. (1956). *Union Democracy: The Internal Politics of the International Typographical Union* (Vol. 10). Free Press. →

Marschall, D. (2012). *The company we keep: Occupational community in the high-tech network society*. Temple University Press. →

Nguyen, M., Bin, Y. S., & Campbell, A. (2012). Comparing online and offline self-disclosure: A systematic review. *Cyberpsychology, Behavior, and Social Networking*, *15*(2), 103–111. →

Orr, J. E. (1990). Sharing knowledge, celebrating identity: Community memory in a service culture. In D. Middleton & D. Edwards (Eds.), Collective remembering (pp. 169–189). Sage Publications, Inc. →

Petriglieri, G., Ashford, S. J., & Wrzesniewski, A. (2019). Agony and ecstasy in the gig economy: Cultivating holding environments for precarious and personalized work identities. *Administrative Science Quarterly*, *64*(1), 124–170. https://doi.org/10.1177/0001839218759646 →

Qian, H., & Scott, C. R. (2007). Anonymity and self-disclosure on weblogs. *Journal of Computer-Mediated Communication*, *12*(4), 1428–1451. →

Ravenelle, A. (2019). *Hustle and gig: Struggling and surviving in the sharing economy*. University of California Press. →

Ravenelle, A. J., Kowalski, K. C., Janko, E. (2021). The side hustle safety net: Precarious workers and gig work during COVID-19. *Sociological Perspectives*, *64*(5),898–919. doi:10.1177/07311214211005489 a, b

Ryan, A. M., & Wessel, J. L. (2015). Implications of a changing workforce and workplace for justice perceptions and expectations. *Human Resource Management Review*, *25*(2), 162–175. https://doi.org/10.1016/j.hrmr.2015.01.001 →

Salaman, G. (1971). Some sociological determinants of occupational communities. *The Sociological Review*, *19*(1), 53–77. https://doi.org/10.1111/j.1467-954X.1971.tb00619. →

Schwartz, D. (2018). Embedded in the crowd: Creative freelancers, crowdsourced work, and occupational Community. *Work and Occupations*, *45*(3), 247–282. →https://doi.org/10.1177/0730888418762263 a, b

Siddiqui, F. (2021, October 22). Lyft says it recorded more than 4,0000 sexual assaults over three years. *Washington Post*. →https://www.washingtonpost.com/technology/2021/10/22/lyft-safety-report/ →

Tracy, S. J., & Scott, C. W. (2006). Sexuality, masculinity and taint management among firefighters and correctional officers: "America's heroes" and the "scum of law enforcement." *Management Communication Quarterly*, *20*, 6–38. doi:10.1177/0893318906287898 →

Scott, C. W., Dunn, A., Williams, E., and Allen, J. (2015). Implementing after action review systems in organizations: Key principles and practical considerations. In J. Allen, N. Lehman-Willenbrock & S. Rogelberg (Eds.), *Cambridge handbook of meeting science* (pp. 634–662). Cambridge University Press. doi:10.1017/CBO9781107589735 →

Scott, C. W., & Trethewey, A. (2008). Organizational discourse and the appraisal of occupational hazards: Interpretive repertoires, heedful interrelating, and identity at work. *Journal of Applied Communication Research*, *36*(3), 298–317. a, b, c, d, e

Skaggs, R. (2019). Socializing rejection and failure in artistic occupational communities. *Work and Occupations*, *46*(2), 149–175. https://doi.org/10.1177/0730888418796546 →

Stewart, A., & Stanford, J. (2017). Regulating work in the gig economy: What are the options? *The Economic and Labour Relations Review*, *28*(3), 420–437. →https://doi.org/10.1177/1035304617722461 a, b

Sun, P. (2019). Your order, their labor: An exploration of algorithms and laboring on food delivery platforms in China. *Chinese Journal of Communication*, *12*(3), 308–323. →https://doi.org/10.1080/17544750.2019.1583676 →

Thomas, B., & Lucas, K. (2019). Development and Validation of the Workplace Dignity Scale. *Group & Organization Management*, *44*(1), 72–111. https://doi.org/10.1177/1059601118807784 →

Turner, N., & Gray, G. C. (2009). Socially constructing safety. *Human Relations*, *62*(9), 1259–1266. →

Tracy, S. J. (2000). Becoming a character for commerce: Emotion labor, self-subordination, and discursive construction of identity in a total institution. *Management Communication Quarterly*, *14*(1), 90–128. →

Trice, H. M., & Beyer, J. M. (1993). The cultures of work organizations. Prentice-Hall, Inc. →

Van Maanen, J., & Barley, S. R. (1984). Occupational communities: Culture and control in organizations. Research in Organizational Behavior, 6, 287–365. a, b

Van Maanen, J. (2010). Identity work and control in occupational communities. In Organizational Control. Cambridge University Press. →

Watson, T. J., & Bargiela-Chiappini, F. (1998). Managerial sensemaking and occupational identities in Britain and Italy: The role of management magazines in the process of discursive construction. *Journal of Management Studies*, *35*(3), 285–301. →

Waring, J.J. and Bishop, S. (2010), “Water cooler” learning: Knowledge sharing at the clinical “backstage” and its contribution to patient safety”, *Journal of Health Organization and Management*, Vol. 24 No. 4, pp. 325–342. https://doi.org/10.1108/14777261011064968 →

Weick, K. E., & Sutcliffe, K. M. (2001). *Managing the unexpected*. San Francisco: Jossey-Bass. →

Weick, K. E., Sutcliffe, K. M., & Obstfeld, D. (2005). Organizing and the process of sensemaking. *Organization Science*, *16*(4), 409–421. a, b

Weil, D. (2014). *The fissured workplace: Why work became so bad for so many and what can be done to improve it*. Harvard University Press. →

Wenger, E. (2010). Communities of practice and social learning systems: The career of a concept. In C. Blackmore (Ed.), *Social Learning Systems and Communities of Practice* (pp. 179–198). Springer London. →https://doi.org/10.1007/978-1-84996-133-2_11 →

Weststar, J. (2015). Understanding video game developers as an occupational community. Information, Communication & Society, 18(10),1238–1252. →https://doi.org/10.1080/1369118X.2015.1036094 →

Wood, A. J., Graham, M., Lehdonvirta, V., & Hjorth, I. (2019). Good gig, bad gig: autonomy and algorithmic control in the global gig economy. *Work, Employment and Society*, *33*(1), 56–75. https://doi.org/10.1177/0950017018785616 →

Zohar, D. (2010). Thirty years of safety climate research: Reflections and future directions. *Accident Analysis & Prevention*, *42*, 1517–1522. https://doi.org/10.1016/j.aap.2009.12.019 →

Zoller, H. M. (2003). Health on the line: Identity and disciplinary control in employee occupational health and safety discourse. *Journal of Applied Communication Research*, *31*(2), 118–139. a, b

12 Effective behavior-based safety coaching:Guidelines from numerous case studies

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12.1 Introduction

Interpersonal behavior-based safety (BBS) coaching is essential for any mission to keep people safe. In fact, the success of BBS is contingent on the implementation of an effective peer-to-peer coaching process. One coworker (the observer) uses an employee-derived critical behavior checklist (CBC) to observe and record the work process of another coworker. The observer records potential environmental determinants of at-risk behavior and barriers to safe behavior in a “comments” column of the CBC.

When a CBC is completed, a percent-safe score is calculated and entered into computer software for a comparative analysis of safe-behavior percentages across work teams, job sites, and company facilities. Software helps organize and summarize the results from companywide CBCs and pinpoints targets for intervention. This data-analysis component of BBS is critical for proactive injury prevention, but this is not the most important component of BBS for OHS.

Most records of behavioral observations are actually biased and unreliable (Geller, Perdue, & French, 2004). Why? CBC records are typically obtained under unnatural conditions, as when the behavioral observations are announced beforehand. There is also a tendency for observers to overlook the at-risk behavior of their coworkers, especially when they are expected to follow their behavioral observations with an interpersonal feedback session. CBC records do provide useful leading indicators, but you should not

consider the absolute value of percent safe data the primary metric for process success. Actually, the most powerful feature of a peer-to-peer observation-and-feedback process is the very component many organizations implement ineffectively or often omit entirely – interpersonal behavior-based coaching.

We gleaned the following ten guidelines for implementing BBS coaching throughout an organization from more than two decades of the authors' direct experience helping organizations apply evidence-based principles and procedures for developing and maintaining an effective BBS observation-and-feedback coaching process. The guidelines were developed and refined from studying the trials and tribulations of hundreds of successful clients of Safety Performance Solutions (SPS). We are convinced they reflect the state-of-the-art in BBS coaching.

Principles and procedures of BBS coaching are described in prior publications (e.g., →Geller, 1996, →2001c, d; →Geller & French, 1998; →Geller & Geller, 2021), but all ten of these guidelines have not been presented together. It should be useful to have all of these in one place, especially since most are relevant for any organizational culture, and are applicable for more safety management processes than BBS coaching.

12.2 Teach principles with procedures

How many times have you heard the expression "flavor of the month" leveled at a new organizational program or process? Consider how safety programs are often introduced to potential participants. A corporate official (often a safety professional) learns about a new safety program at a conference or in a promotional flyer and then orders the appropriate materials, including workbooks, videos, and a facilitator's guide. Sometimes an outside consultant or trainer is hired to teach the new step-by-step procedures to certain personnel. Afterwards, these employees demonstrate the new procedures to others while on the job, and suddenly a new safety program is implemented plant-wide. For many, this is just another set

of temporary procedures that attempt to reduce outcome numbers (recordable injuries) and make management look good. It is commonly believed the new program will not really work to reduce injuries, and therefore it will not be long before it will be replaced with another "flavor of the month."

This "flavor-of-the month" mindset occurs when participants are not taught the principles or rationale behind a process. The relevant employees are just trained on how to implement the new injury-prevention procedures, and later these workers train others from a "how to" perspective without a "why." They were not educated on the research-based principles and rationale from which the program emanated. Therefore, these "trainers" can only teach each other "what to do;" not "*why* they should do it."

When people learn evidence-based principles underlying a method, they develop their own belief system to rationalize their participation. They also realize there is more than one way to fulfill a particular mission, and they have the ammunition needed – the foundation theory and guidelines to alter procedures whenever demands for refinement arise. When employees contribute to process improvement, they develop a sense of ownership, empowerment, and commitment to sustain the process. They become self-motivated to do the right things for OHS when they understand and believe in the reasoning behind a regulation, policy, process, or training program (→Lewin, 1947).

12.3 Empower employees to own the process

Three beliefs are necessary to feel empowered. Ask yourself or others the three questions reflected in →Figure 12.1 to determine whether you or other individuals feel empowered. First, "Can you do it?" – Do you have the training, time, resources, and personnel support to take on this extra responsibility? If you do not hear a confident "Yes," to these self-efficacy questions, two critical follow-up questions are called for – "What do you need?" and "How can I help?"

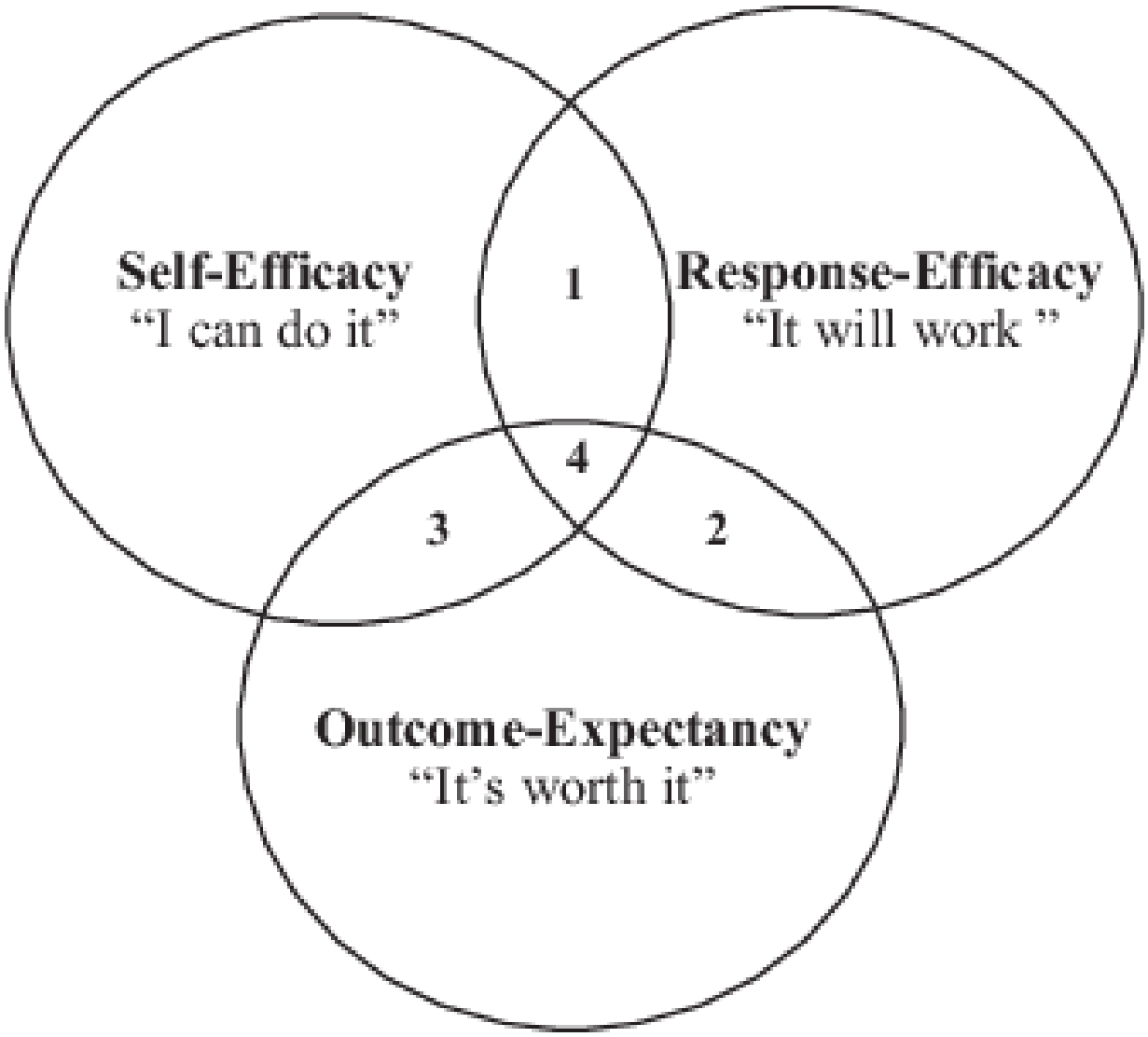

Figure 12.1: The Three Dimensions of Feeling Empowered.

Believing you can do something implies self-efficacy (→Bandura, 1997), but this does not mean you feel empowered. You also need to believe the process will work to achieve a desired outcome. You need

response-efficacy. For example, you can have the skills and self-efficacy to perform interpersonal BBS coaching, but you will not actually coach others on a regular basis unless you believe the coaching process can actually improve safety (i.e., prevent personal injuries). How can you facilitate this belief?

Reviewing research evidence or statistics is the most common approach to convincing yourself or others that a particular intervention is effective. However, people do not necessarily relate to such outcome numbers. Usually it is better to get more personal when attempting to "sell" the value of a safety process to a workforce. Research on risk perception, for example, has shown that people get more concerned or outraged about an issue when individual cases are presented in lieu of group statistics (→Covello, Sandman, & Slovic, 1991; →Slovic, 1991). Personal testimonies provide a powerful image. Listeners can relate to an individual's personal story and put themselves in the same situation. Two kinds of testimonies can increase response-efficacy: 1) a personal account of an injury that could have been prevented by a certain safety technique or process, and 2) an anecdote about someone who avoided an injury by practicing a particular safety-related behavior or process.

The third empowerment question – "Is it worth it?" – targets motivation. This is often the most difficult question to answer with a genuine "Yes." For example, a group might believe their safety record is good enough, since they see very few coworkers being seriously injured. The possible gain from an inconvenient safety process can seem too small to justify the amount of extra time and effort required. Besides, most people view the probability of getting hurt to be minuscule; and thus the need to participate in a certain OHS process can seem unimportant.

How can you foster outcome-expectancy – the belief that the potential effect of a safety process is worth the effort? As with cultivating response-efficacy, a case study is more influential than statistics. You could show, for example, the details of a single injury that occurred in your facility, and explain how an intervention like the

one being proposed could have prevented that incident. This approach can activate a powerful motivator: emotion.

Personal stories evoke emotions, and emotions motivate relevant action. It is not about statistics; it is about people. The most effective motivational speakers for safety are those who portray their personal injuries with genuine emotion. Victims of a serious injury describe in vivid detail the long-term and wide-range negative consequences of their ordeals, from personal pain and inconvenience to the extreme anguish and distress among family and friends. In the words of Charlie Morecraft, one of the most powerful of these motivational speakers, “We make safety personal” (→Morecraft & Geller, 2006).

Empathy plays a critical role here. The most effective teachers and motivational speakers relate to their audience. They teach their lessons with personal stories relevant to the listeners. The listeners who are most influenced are those who empathize with the speaker. They see themselves in the same situation and experience vicariously the speaker’s pain and suffering. The result: Interpersonal empathy and shared emotions motivate personal action to prevent a similar event. When the listeners know what to do, believe they can do it, and believe it will work to achieve a worthwhile outcome, they feel empowered.

12.4 Provide opportunities for choice

Personal choice, engagement, and ownership go hand-in-hand. Each supports the other two. More of one influences more of the others. Ownership implies personal choice, and people get more involved in procedures influenced by their input. As W. Edwards Deming reminded us years ago, “People support that which they helped to create” (→Deming, 1991). In fact, people have a need for autonomy, regardless of dispositional and situational factors (→Deci, 1975; →Deci & Flaste, 1995). Participative management means employees enjoy some personal choice during the planning, execution, and/or evaluation of their job assignments.

In the workplace, managers often tell workers what to do in order to be most efficient. It takes more time to involve employees in the decision-making process, and to promote perceptions of choice and inspire self-motivation. Consider how language can influence a perception of external control or personal choice. Should managers "give mandates" or "set expectations?" Should they "demand compliance" or "ask for commitment?" Is safety a "priority" and a "condition of employment?" or is safety a "value" and a "personal mission to actively care for the safety and health of others?"

Employees often consider themselves passive followers of safety rules and regulations. Why? Managers typically plan and evaluate most aspects of the job, including the safety protocol. As a result, the wageworker's perception of choice can be limited. Yet, an injury-free workplace requires interdependent engagement, information gathering, and BBS coaching by the line workers. These are the employees who know most about the hazards and at-risk behaviors, as well as the factors contributing to these potential determinants of injuries and fatalities.

So how much choice is optimal? Is it possible to allow too much choice in a BBS process? Our systematic evaluation of 20 successful BBS programs indicated that too much choice can be detrimental. More specifically, we found that BBS programs labeled "completely voluntary" were generally not as successful as BBS programs introduced with the explicit expectation that everyone will get involved to some degree (→DePasquale & Geller, 1999). In addition, those programs that incorporated an accountability system to track involvement obtained the most participation and success. However, we hasten to add that all of the most successful BBS coaching programs included some element of choice throughout process development, implementation, and continuous improvement (→Geller et al., 1998).

Maintaining an effective balance between external accountability and personal choice is analogous to this general guidance for child rearing: Provide children with structure and direction, but accompany your advice with opportunities for children to select among

alternative action plans. Likewise, management should provide structure, instruction, and support for OHS, while providing opportunities for participants to develop procedural options and to choose among them. This leads to the next guideline for implementing an effective BBS coaching process.

12.5 Facilitate supportive involvement from management

Some consulting firms have marketed BBS as employee-driven and management-independent. As a result, some organizations have implemented BBS principles and procedures without active participation from management. After arranging for the BBS training, the supervisory staff at these sites step back and let an employee steering committee direct the implementation of a behavioral observation-and-feedback process (→Krause, Hidley, & Hodson, 1996). This does enable maximum perceptions of choice among line workers, but employee involvement is typically not optimal.

Whether considering BBS coaching or another safety management process, a “hands off” policy is not optimal. Let’s face reality. People give priority to those aspects of their job that get attention from supervisors and managers. In other words, people do what they believe they need to do in order to please those with control over their ultimate monetary compensation for successful job performance.

Yes, self-directed, responsible behavior is best; but often behavior must start as other-directed. Before people can appreciate the natural supporting consequences of BBS coaching, they usually need to be held accountable for carrying out the basic procedures – from creating a CBC to systematically conducting the observation-and-feedback procedures. Moreover, supervisors can do a number of other things to encourage and support BBS coaching, including:

- Allocate time to discuss process activities and results at group meetings.

- Contribute to group discussions of BBS coaching procedures and results.
- Help schedule and coordinate opportunities for BBS coaching activities, such as observation-and-feedback sessions.
- Request systematic observation and feedback for certain tasks.
- Use the observation data to identify environmental hazards and barriers to safe behavior.
- Help remove hazards and barriers identified in the BBS observation-and-feedback process.
- Request up-dates on changes in the CBC and on the data from the BBS coaching process, such as amount of participation, percent safe behavior, number of coaching sessions performed, percentage of safety suggestions accomplished, and results of special BBS intervention efforts.
- Recognize individuals and teams for their notable BBS participation.
- Organize and support group celebrations of distinguished safety achievements.

12.6 Ensure the process is non-punitive

The prior guideline emphasized the use of recognition and group celebrations to support BBS activities and accomplishments. This guideline specifies the avoidance of negative or punitive consequences. The evidence-based disadvantages of traditional enforcement procedures are discussed elsewhere (→Geller, 1996, →2001c, d; →Grote, 1995; →Sidman, 1989). Here we only want to emphasize that connecting negative consequences to any aspect of an employee-driven (and management-supported) BBS activity can kill the entire process. Negative consequences can stifle feelings of trust, empowerment, ownership, and commitment.

The data from a BBS observation-and-feedback coaching process reveal at-risk behaviors and environmental hazards that require attention. It can also demonstrate less-than-optimal participation in a critical safety-related procedure. Such negative results, or a

specification of improvement needs, can provoke an enforcement mindset and suggest a need for punitive consequences. Please retreat from this traditional approach to safety management.

We are not recommending the elimination of all punitive or "discipline" applications, even though most of these are not corrective and probably do more harm than good (→Sidman, 1989). If you want to use a negative consequence to motivate compliance, do so at your own risk. However, be sure to administer your enforcement policy independently from all BBS coaching activities.

The workforce must be ensured and shown continuously that the data from their BBS process cannot be held against them. Finding low participation or at-risk behavior cannot be cause for negative consequences; rather it pinpoints opportunities for improvement. Punitive consequences or a failure-avoidance mindset can suppress open and frank conversation about areas of concern and a commitment to activate peer support for continuous improvement.

12.7 Ensure the coach is nondirective

At first, peer-to-peer observation and feedback can feel awkward for both the observer and the observee – the person who is observed. In fact, BBS coaching can come across as confrontational, with one person (the observer) assigned to audit another person's work practices and then to offer corrective advice for eliminating any at-risk behavior observed. Such a perception of BBS coaching hinders interpersonal trust and stifles involvement, ownership, and empowerment.

From the start, it is critical to emphasize that the observer (unlike a typical athletic coach) is not responsible for corrective action. The observer merely completes a CBC – developed previously through interactive group discussions among representatives of the relevant workforce – and afterwards shows the results to the worker observed. The two workers might discuss environmental or system factors that discourage safe behavior and encourage at-risk behavior. They might also consider ways to remove barriers to safe behavior.

The observer might offer positive words of approval and/or gratitude in order to recognize certain safe behavior, but s/he does not voice disapproval nor give directives related to any at-risk behavior observed.

Thus, with regard to at-risk behavior, the BBS coach is nondirective (→Geller & Geller, 2017, →2021; →Rogers, 1951). In other words, the observer only provides specific behavior-based feedback for the observee to consider. There are no ultimatums delivered or one-sided demands for change. There is only a discussion for collaborative problem solving and safety improvement. The only accountability is self-accountability. Any adjustment in behavior is self-directed, provoked by the results of a non-intrusive and *anticipated* application of a CBC.

12.8 Progress from announced to unannounced observations

Consider the word “anticipated” in the prior sentence. Taken literally, it means the recipient of an observation-and-feedback session knows it is coming and can prepare for a good showing. Consequently, the observations are not of random behavior, and the results are not necessarily representative of a worker’s typical daily routine. The CBC data are biased toward the positive. The “percent safe score” is usually higher than reality warrants.

The next guideline builds on this point about the artificially-inflated level of safe behavior observed in some observation-and-feedback sessions. Here we consider a justification for announcing the behavioral observations or for asking permission. If making employees aware that their work behavior is being observed leads to overly positive results, why announce the observations? One approach to answering this question is to consider the alternative. Imagine workers sneaking around and completing behavioral checklists unbeknownst to those being observed. Many would view such an approach as a “gotcha program,” undermining interpersonal trust, engagement, and ownership. The lower “percent safe” scores

might be more accurate, but at the expense of the attitudes and dispositional person-states needed to achieve the interpersonal cooperation and experiential learning needed to achieve an injury-free workplace.

Even when they know they are being observed, workers still perform certain at-risk behaviors. Indeed, these are the work practices that benefit most from behavioral feedback and collaborative problem-solving. When observation and feedback lead to a new awareness of how certain behaviors or conditions can be putting people at risk or how behavioral, procedural, or system changes can protect them or their coworkers, workers truly add to their knowledge base. They learn new behavioral patterns or new ways to protect themselves and others that they had not been aware of before. This is optimal behavior-based learning.

Another benefit of showing high percent-safe scores is that a descriptive norm is activated, and the frequency of safe behavior is increased through normative influence. In other words, people want to fit in, and when they view information showing that a majority of their coworkers perform certain behaviors safely, they will model that behavior. Thus, an injunctive norm – what people ought to do – is supported by the relevant descriptive norm – what people believe the majority of others are doing.

While this guideline reflects the need to start BBS coaching with announced observations, progress occurs with a transition to unannounced observations. Specifically, those organizations most successful at BBS coaching progress from announced to unannounced behavioral observations. This happens when workers realize the process is truly for their own benefit. This perspective occurs when the guidelines presented here are followed consistently, and when the workforce trusts management's intent, as well as their ability, to keep the process non-punitive and focused on problem-solving and improving OHS for everyone. At this point, employees – often through representation on an employee-based BBS Steering Committee – may actually choose to transition to unannounced observations.

Some of our SPS clients have developed creative ways to facilitate the transition from announced to unannounced observations. For example, one organization incorporated individual choice (Guideline 4) by distributing hard-hat stickers that workers could display to indicate their willingness to be observed. The workers at this site placed a special sticker on their hard hat whenever they were willing to be the recipient of a BBS coaching session. Eventually, all employees at this facility pasted this special sticker on their hard hats.

At another facility, employees put their name in a raffle jar whenever they were willing to be observed anytime on a particular day. The observers selected their coaching assignments each day by randomly drawing a name from this pool. Eventually the daily drawings included every worker. Everyone gave permission to be observed when their experience with BBS coaching convinced them that this was not the traditional, top-down enforcement approach to OHS. Rather, it was an interdependent learning process that enabled workers to actively care for the safety and health of their team members.

The NORPAC paper mill in Longview, WA developed an ingenious incentive process that not only increased personal choice and participation, but also added a fun and constructive diversion to the standard work routine. Each week, about 10% of the mill workers volunteer to be “mystery observees” that week. These employees receive a coupon redeemable for a meal for two at a local restaurant, which they give to the next person who coaches them for safety. Then this coach becomes a mystery observee, anticipating an opportunity to reward another coworker for completing a one-to-one behavioral observation-and-feedback coaching session.

Each week the employees are asked to complete a CBC for one coworker (with permission), and then to communicate the results in a positive one-to-one feedback session. The employees know about the mystery observees, but they do not know who they are. The process gets people talking about BBS coaching in positive terms, and it rewards the most challenging aspect of the intervention process – interpersonal feedback.

12.9 Focus on the interaction, not only on outcome numbers

Some BBS consultants emphasize the acquisition of objective data from a comprehensive observation-and-feedback process. They sell computer software to organize and summarize the results from behavioral checklists to identify trends, and to pinpoint targets for intervention. Computer programs can compare different workgroups on various dimensions of a BBS coaching process and track the results from consecutive days, weeks, or months of behavioral observations. Thus, work teams can benchmark objectively with others, and they can assess successive attempts to improve the quantity and quality of BBS coaching participation, as well as increase the percentages of safe behavior.

This data-analysis feature of BBS coaching is critical to its remarkable success. Behavioral data enable objective pinpointing of targets for improvement, as well as continuous evaluation of corrective action procedures (→ Daniels, 1989). Such data provide objective evidence of accomplishment, and thereby justify recognition and celebration. Hence, the data available from BBS auditing procedures are invaluable, but it is crucial to look beyond the numbers.

It is easy to become overly analytical with the results of BBS observations. The benefits of BBS coaching extend far beyond the analysis of CBC data. As discussed above, many records of behavioral observations are likely biased and unreliable, because they are typically obtained under unnatural conditions, as when the observations are announced beforehand. Plus, there is a tendency to overlook at-risk behavior if an interpersonal feedback conversation is anticipated.

While the data from BBS observation-and-feedback sessions provide useful comparative information – across sessions within the same work group and between different work teams – you should not take the absolute value of those numbers too seriously. Above all, consider that the process of interpersonal observation and feedback

and collaborative problem-solving is more powerful than the percent-safe numbers with regard to achieving an actively-caring-for-people (AC4P) work culture and an injury-free workplace.

The communication component of BBS coaching – integral to the design, implementation, evaluation, and refinement of an observation-and-feedback process – demonstrates the value of peer support, develops interpersonal trust, and helps to cultivate the kind of teaching/learning mindset that brings out the best in people (→Geller, 2018). The process teaches workers they can be "unconsciously incompetent" and they need feedback from others to improve (→Geller, 2001a, →2020). This leads to an interdependent perspective – a realization that the success of an organization is dependent upon systems of people contributing their diverse talents, and relying on each other to synergistically make the whole greater than the sum of its parts.

12.10 Continuously evaluate and refine the process

No process that targets human behavior can be carved in stone. Behavior is dynamic, continually adjusting to changing demands, expectations, and conditions. Consequently, CBCs need to be periodically revised, along with adjustments to the procedures used to conduct behavioral observations and deliver interpersonal feedback.

With experience, BBS coaches become more adept at noticing the finer features of safe vs. at-risk work practices, beyond the more obvious or easily identifiable behaviors such as the use of personal protective equipment (PPE). This continual increase in coaching expertise needs to be reflected in revised CBCs. In addition, techniques to support BBS principles and procedures (such as incentives, accountability techniques, and group meetings) need to be responsive to changes in the workplace, including behaviors, attitudes, management systems, and the environmental context in which work is performed.

Bottom line: Continually assess the behavioral and attitudinal impact of your BBS coaching procedures, and make refinements accordingly. The data analysis referred to in the prior guideline provides objective information regarding behavior change. An evaluation of people's opinions and attitudes about a BBS coaching process requires interpersonal conversations with both participants and nonparticipants. These should occur in both group and individual one-to-one sessions.

Perception surveys can enable a broad site-wide or organization-wide assessment of employees' opinions or attitudes about a BBS process or the state of the safety culture in general (→Geller, 1994). However, perception surveys have certain limitations, whether targeting how people feel about a BBS process or whether assessing more broad and general opinions, as in a Safety Culture Survey. While perception surveys do provide a basic understanding of "how" employees feel about safety, they usually offer limited opportunities for procedural refinement.

Interviews and focus-group discussions take much longer than surveys, especially if a representative sample of participants is desired. However, the added benefits of these interpersonal interactions usually outweigh the costs. Surveys alone often yield unexpected results and may raise more questions than they answer. In addition to perception surveys, focus-group interviews allow for not only an understanding of "how" employees feel about safety, but also reveal "why" they feel that way, thereby enabling a discovery of relevant examples and specific recommendations for improvement.

A Maturity Path Assessment has been quite successful at engaging employees in creating practical suggestions for improving a variety of safety management processes (→Roberts & Geller, 2018). Maturity Path Assessments involve group meetings where BBS or a variety of other safety management processes are targeted for in-depth discussion and critical analysis. The assessment involves asking questions related to a variety of safety management process components. Questions are typically given in the form of evaluative statement pairs, with statements describing a "beginning"

developmental stage of a particular process component on the left and statements describing an “advanced” developmental stage on the right. Participants are asked to rate whether the components of a certain safety management process are best described by the beginning or by the advanced developmental stage. Then, a discussion leader uses these evaluations as seeds to facilitate a group discussion regarding the developmental stage of a particular process component and to inspire teams to consider ways to continuously improve a safety management process, as well as the entire safety management system.

In order to ensure a wide range of opinions, organizations select key groups (e.g., senior leaders, supervisors, and hourly workers on a safety committee) to assess the maturity and effectiveness of each targeted process. If various groups provide such an assessment, a gap analysis can be performed to identify consistent perceptions as well as differences across groups. Relevant data can then be applied to create a new component of a safety management process or to refine an existing safety management process for improved overall effectiveness of the system, including its influence on the organization’s safety culture.

A Maturity Path Assessment can be used to critically analyze a wide range of safety management processes, including safety rules and procedures, safety training, hazard identification and corrective action, discipline implementation and impact, incident reporting and analysis, safety communications, safety suggestions, reward/recognition procedures, and a behavioral observation-and-feedback coaching process. →Figure 12.2 provides sample questions from the Maturity Path Assessment of the SPS Behavior Observation-and-Feedback Process (BOFP).

SPS Behavior Observation and Feedback Process (BOFP) Maturity Path: *Sample Items*

Read each pair of evaluative statements below describing various component of your BOFP and rate whether each component is closest to the *beginning* or the *leading developmental stage.*

	(1) Beginning	*(2) Improving*			*(3) Achieving*	*(4) Leading*
1.	Only a subset of employees serve as observers.	1	2	3	4	Employees at all levels of the organization serve as observers.
2.	Process is driven and led primarily by management and/or the safety dept.	1	2	3	4	Process is led and driven primarily by employees or a committee of employees.
3.	Both at-risk conditions and at-risk behaviors are included on the same checklist.	1	2	3	4	There are separate checklists for at-risk conditions and at-risk behaviors, allowing adequate focus on both.
4.	Observation data are not systematically collected and/or analyzed for follow-up.	1	2	3	4	A formal system is in place for collecting and analyzing observation data. Observation results are used to identify and address trends and system causes and to inspire intervention.

Figure 12.2: Sample Items from the Maturity Path Assessment of B.

When employees are given opportunities to evaluate components of a current safety-management process, express their concerns, and offer ideas for improvement, and later see their organization taking some action based on these ideas and recommendations, employee choice, ownership, and self-motivated engagement is enhanced dramatically. We discussed the value of these dynamic and interpersonal qualities of a BBS coaching process above in Guidelines 2 and 3.

12.11 Make the process part of a larger effort

Over the years BBS has attracted many critics. Some of the negative reactions were based on a fundamental misunderstanding of the principles and procedures of BBS. More specifically, some authors (→Manuel, 1998; →Smith, 1995; →Yandrick, 1996) have portrayed BBS as any attempt to influence the employee, regardless of the intervention approach (e.g., training, incentive/rewards, or

enforcement) or the intervention target (e.g., attitudes, behavior, or cognitions).

Other authors have typified BBS as only one type of intervention – behavioral observation and feedback (→Krause, Hidley, & Hodson, 1996; →Hans, 1996; →Petersen, 1998). More recently, proponents of Human and Organizational Performance (HOP) have claimed BBS overemphasizes "employee behavior" and ignores system factors contributing to injuries/fatalities. Their message is essentially that BBS targets the worker and not the system (→Dekker, 2017). →Leemann (2014) goes so far as to say, "Frankly, in many respects, HOP is the archenemy of BBS." →Williams and Roberts (2018) describe how these characterizations of BBS are unfounded and based on misunderstandings or misapplications of BBS. In fact, BBS and HOP are theoretically and practically compatible in many ways.

While this chapter focused on behavior-based coaching as the intervention approach, BBS principles can be applied to many other domains of OHS, including ergonomics, procedural training, recognition and celebration, hazard identification, and corrective action, to name a few (cf. →Geller, 1996, →2001d; →Geller & Geller, 2021; →McSween, 1995). In each of these cases, BBS reflects a particular approach toward handling the human dynamics of the process. Therefore, observation and feedback is not BBS, but rather it is an interpersonal coaching process for improving safety-related behavior with certain research-supported methods derived from applied behavioral science (e.g., →Geller, 2020; →Geller & Geller, 2021).

It is important to view behavior-based observation-and-feedback coaching as one of many systematic ways to prevent personal injury in the workplace. Yes, this intervention approach was developed by behavioral scientists and it does incorporate basic principles and procedures from BBS. However, it is not BBS. Rather, BBS represents an overall approach toward dealing with the human dynamics of injury prevention (→Geller, 2001c, d; →Geller & Geller, 2021; →Geller & Williams, 2001). Just as the guidelines presented here are relevant for the development, application, and evaluation of more safety

programs than an observation-and-feedback process, the philosophy and technology of BBS are applicable to more OHS interventions than an observation-and-feedback coaching process.

→ Roberts and Geller (2018) describe how a proactive, AC4P safety culture develops continuous improvement activities around at least six critical components, including leadership, physical environment/conditions, management systems, ongoing behaviors, employee engagement, and internal person-states or dispositions. The authors illustrate how taking a BBS approach to each of these components leads to more comprehensive and effective solutions to improving the safety culture and reducing injuries at any organization.

12.12 Conclusion

This chapter reviewed ten guidelines or strategies for establishing an effective interpersonal BBS coaching process for injury prevention. The guidelines were not derived overnight, nor were they obtained from research articles or textbooks. They were gleaned from hundreds of actual industrial applications of BBS coaching. Hence, these guidelines can be considered “lessons learned” from the trials and tribulations of helping organizations initiate and sustain an effective behavioral observation-and-feedback process for injury prevention.

This list is certainly not exhaustive, nor is it immutable. It is just the state-of-the-art as we see it today. We expect significant adjustments to this “Top Ten” list as the result of continuous learning. Indeed, this is the essence of Guideline 9 – continuously evaluate your efforts to achieve an injury-free workplace, and use the feedback from these observations to adjust your next attempt to prevent personal injury.

References

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman. →

Blanchard, K. (1999, November). Building gung ho teams: How to turn people power into profits. Workshop presented at Hotel Roanoke, Roanoke, VA.

Byham, W. C. (1998). *Zapp! The lightning of empowerment*. New York: Fawcett Columbine.

Covello, V.T., Sandman, P.M., & Slovic, P. (1991). Guidelines for communicating information about chemical risks effectively and responsibly. In D.G. Mayo & R.D. Hollander (Eds.). *Acceptable evidence: Science and values in risk management* (pp. 66–90). New York: Oxford University Press. →

Daniels, A. C. (1989). *Performance management* (3rd Edition). Tucker, GA: Performance Management Publications. →

Deci, E. L. (1975). *Intrinsic motivation*. New York: Plenum. →

Deci, E.L., & Flaste, R. (1995). *Why we do what we do: Understanding self-motivation*. New York: Penguin Books. →

Dekker, S. (2017). The original hearts and minds campaign, and the dereliction of behavior-based safety. safetydifferently.com (→http://www.safetydifferently.com/the-original-hearts-and-minds-campaign-and-the-dereliction-of-behavior-based-safety/). →

Deming, W. E. (1991, May). Quality, productivity, and competitive position. Four- day workshop presented in Cincinnati Ohio by Quality Enhancement Seminars, Inc. →

DePasquale, J. D., & Geller, E. S. (1999). Critical success factors for behavior-based safety: A study of twenty industry-wide applications. *Journal of Safety Research*, *30*, 237–245. →https://doi.org/10.1016/S0022-4375(99)00019-5 →

Geller, E. S. (1994). What's in a perception survey? *Industrial Safety and Hygiene News*, *28*(11), 11–12. →

Geller, E. S. (1996). *The psychology of safety: How to improve behaviors and attitudes on the job*. Radnor, PA: Chilton Book Company. a, b, c

Geller, E. S. (1998). *Understanding behavior-based safety: Step-by-step methods to improve your workplace* (2nd Edition). Neehah, WI: J. J. Keller & Associates, Inc.

Geller, E. S. (2001a). Behavior-based safety in industry: Realizing the large-scale potential of psychology to promote human welfare. *Applied & Preventive Psychology*, *10*, 87–1050. DOI: 10.1017.S0962184902010028. →

Geller, E. S. (2001b). *Beyond safety accountability*. Rockville, MD: Government Institutes.

Geller, E. S. (2001c). *The psychology of safety handbook*. Boca Raton, FL: CRC Press. a, b, c

Geller, E. S. (2001d). *Working safe: How to help people actively care for health and safety* (2nd Edition). New York: Lewis Publishers. →

Geller, E. S. (2018). *Life lessons from psychological science: How to bring the best out of yourself and others*. Plymouth, MI: Macmillan Learning. →

Geller, E. S. (2020). *Life lessons from psychological science: Understanding and improving interpersonal dynamics*. San Diego, CA: Cognella Academic Publishers. a, b

Geller, E. S., & French, A. (1998). Safety coaching through observation and feedback. In Proceedings of *Light up safety in the new millennium: A behavioral safety symposium* (pp.123–141). Des Plaines, IL: American Society of Safety Engineers. →

Geller, E. S., & Geller, K.S. (2017). *Actively caring for people's safety: How to cultivate a brother's/sister's keeper work culture*. Park Ridge, IL: American Society of Safety Professionals. →

Geller, E. S., & Geller, K. S. (2021). *The human dynamics of achieving an injury-free workplace: Safety directives from psychological science*. Newport, VA: GellerAC4P, Inc. a, b, c, d, e

Geller, E. S., Boyce, T. E., Williams, J., Pettinger, C., DePasquale, J., & Clarke, S. (1998, June). Researching behavior-based safety: A multi-method assessment and evaluation. *Proceedings of the 37th Annual Professional Development Conference and Exposition* (pp. 537–559). Des Plaines, IL: American Society of Safety Engineers. →

Geller, E.S., Perdue, S., & French, A. (2004). Behavior-based safety coaching: Ten guidelines for successful application. *Professional Safety*, *49* (7), 42–49. →https://www.researchgate.net/publication/293105261

Geller, E. S., & Williams, J. H. (2001) (Eds.). *Keys to behavior-based safety from Safety Performance Solutions*. Rockville, MD: ABS consulting. →

Grote, D. (1995). *Discipline without punishment*. New York: American Management Association. →

Hans, M. (1996). Does behavior-based safety work? *Safety and Health*, National Safety Council, June, 44–49. →

Krause, T. R., Hidley, J. H., & Hodson, S. J. (1996). *The behavior-based safety process: Managing improvement for an injury-free culture* (2nd Edition). New York: Van Nostrand Reinhold. a, b

Leemann, J. E. (2014). Human and organizational performance fixes systems, not behaviors. *Industrial Safety and Hygiene News* online. (→https://www.ishn.com/articles/99948-human-and-organizational-performance-fixes-systems-not-behaviors). →

Lewin, K. (1947). Frontiers in group dynamics: Concept, method and reality in social science; Social equilibria and social change. *Human Relations*, *1* (5), 5–41. DOI: 10.1177/001872674700100103 →

McSween, T. E. (1995). *The value-based safety process: Improving your safety culture with a behavioral approach*. New York: Van Nostrand Reinhold. →

Manuele, F. A. (1998). Perspectives on behavioral safety: Observations of ASSE's behavior safety symposium. *Professional Safety*, *43*(8), 32–37. →

Morecraft, C., & Geller, E.S. (2006, November). The human side of injury prevention. Motivational keynote address for the Annual Congress and Expo of the National Safety Council, San Diego, CA. →

Petersen, D. (1989). *Safe behavior reinforcement*. Goshen, NY: Aloray, Inc.

Petersen, D. (1998). Behavior-based safety: Magic pill, fad, or what? *Professional Safety*, *43*(8), p. 34. →

Roberts, D. S. & Geller, E. S. (2018). Principles of behavior-based safety. In Niklas Möller (Ed.) *Handbook of safety principles* (pp. 677–710). Hoboken, NJ: John Wiley & Sons. a, b

Rogers, C. R. (1951). *Client-centered therapy*. Boston, MA: Houghton-Mifflin. →

Sidman, M. (1989). *Coercion and its fallout*. Boston, MA: Authors Cooperative. a, b

Slovic, P. (1991). Beyond numbers: A broader perspective on risk perception and risk communication. In D. G. Mayo & R. D. Hollander (Eds.), *Acceptable evidence: Science and values in risk management* (pp.48–65). New York: Oxford University Press, 1991. →

Smith, T. A. (1995). Viewpoint: Rebutting behaviorism. *Industrial Safety & Hygiene News*, *40*(3), p. 40. →

Watson, D. L., & Tharp, R. G. (2002). *Self-directed behavior: Self-modification for personal adjustment* (8th Edition). Pacific Grove, CA: Brooks/Cole Publishing.

Williams, J. H., & Roberts, D. S. (2018). Integrating the best of BBS and HOP: A holistic approach to improving safety performance. *Professional Safety*, *63*(10): 40–48. →

Yandrick, R. M. (1996). *Behavioral risk management*. San Francisco, CA: Jossey-Bass Publishers. →

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The objective of this multi-volume set is to offer a balanced view to enable the reader to better appreciate risk as a counterpart to reward, and to understand how to holistically manage both elements of this duality. Crises can challenge any organization, and with a seemingly endless stream of disruptive and even catastrophic events taking place, there is an increasing emphasis on preparing for the worst. However, being focused on the negative aspects of risk, without considering the positive attributes, may be shortsighted. Playing it safe may not always be the best policy, because great benefits may be missed.

Analyzing risk is difficult, in part because it often entails events that have never occurred. Organizations, being mindful of undesirable potential events, are often keenly averse to risk to the detriment of capitalizing on its potential opportunities. Risk is usually perceived as a negative or downside, however, a commensurate weight should also be given to the potential rewards or upside, when evaluating new ventures. Even so, too much of a good thing may create unintended consequences of risk, which is also an undesirable situation. *Developments in Managing and Exploiting Risk* provides a professional and scholarly venue in the critical field of risk in business with emphasis on decision-making using a comprehensive and inclusive approach.

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