



Collective mindfulness in a regenerating organization: Ethnographic evidence from Roskilde festival

Morten Thanning Vendelø^{a,*}, Claus Rerup^{b,*}

^a Copenhagen Business School, Frederiksberg, Denmark

^b Frankfurt School of Finance and Management, Frankfurt, Germany



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ABSTRACT

Collective mindfulness has mainly been empirically studied in large, well-established organizations while few researchers have looked at collective mindfulness in non-permanent organizations. We addressed that gap by conducting an ethnographic study of the regeneration of the Crowd Safety Organization at Roskilde Festival, an annual outdoor music festival. Our findings show that the Crowd Safety Organization regenerated a mindfulness organization consisting mainly of volunteers by establishing clear roles across four hierarchical layers of the organization and clearly communicating and enforcing role expectations. Furthermore, we found that Weick and Sutcliffe's (2015) five subprocesses of collective mindfulness were unequally distributed across the four hierarchical layers of the Crowd Safety Organization. In particular, at the bottom of the organization we found no evidence of mindfulness in three of the five subprocesses, including reluctance to simplify interpretations, commitment to resilience and deference to expertise. Collective mindfulness is often conceptualized as a stable phenomenon but scholars have suggested that collective mindfulness varies over time and space. By studying collective mindfulness in a non-permanent organization, we cast further light on how organizations manage variations in collective mindfulness.

1. Introduction

In a world characterized by dynamism and ambiguity, collective mindfulness is increasingly seen as a resource for managing unexpected events (Sutcliffe et al., 2016; Oliver et al., 2019; Callari et al., 2019). Vogus and Sutcliffe (2012, p. 723) noted that an organization shows signs of mindfulness when it “captures discriminatory detail about emerging threats and creates a capability to swiftly act in response to these details.” Levinthal and Rerup (2006, p. 504) defined collective mindfulness as “being attentive to the context and at the same time being able to respond to unanticipated cues or signals from one’s context.”

Collective mindfulness has mainly been studied in high-reliability organization (Weick et al., 1999), such as nuclear power plants (Schulman, 1993), aircraft carriers (Weick and Roberts, 1993), oil and gas production (Dahl and Kongsvik, 2018), and wildland firefighting (Weick, 1993; Barton et al., 2015) where error free operations are essential. Studies have also been conducted in reliability seeking organizations (Vogus and Wellbourne, 2003), such as hospital emergency rooms (Christianson, 2019), where organizations need to be “sensitive to and constantly adjust to small cues or mishaps that if left

unaddressed, could accumulate and interact with other parts of the system, resulting in larger problems. By constantly adapting, tweaking, and solving small problems as they crop up throughout the system, organizations prevent more widespread failure” (Barton and Sutcliffe, 2009, p. 1330). Overall, research on collective mindfulness has focused on organizations pursuing safety and reliability in their operations (Callari et al., 2019), but calls have been made to study collective mindfulness in less trying contexts where reliability nonetheless is important (Sutcliffe et al., 2016).

We respond to this call by focusing on collective mindfulness in non-permanent organizations (Bakker, 2010), such as summer camps (Birnholtz et al., 2007), organizations that are scaling in response to emergencies (Lauta et al., 2018), and temporary organizations such as safety-critical projects (Saunders, 2015) and film sets (Bechky, 2006). A focus on non-permanent organizations contributes to the literature on mindfulness in two ways.

First, collective mindfulness is a dormant infrastructure for performance improvement in all organizations (Sutcliffe, 2018) and studies have found evidence of its benefit in permanent organizations spanning industries such as highway construction (Busby and Iszatt-White, 2014) and education (Ray et al., 2011). Research on high-reliability

* Corresponding authors.

E-mail addresses: mtv.ioa@cbs.dk (M.T. Vendelø), c.rerup@fs.de (C. Rerup).

organizations in large, well-established, structurally integrated organizations (Vogus and Sutcliffe, 2012; Rerup and Levinthal, 2014) has mainly captured how professionally homogenous groups at one hierarchical level are occupied with the pursuit of mindfulness and safety in their operations (e.g., nurses, physicians, military personnel, engineers, fire-fighters). However, in many organizations mindfulness is sustained through a set distributed processes that stretches across hierarchical levels and occupations. More work is needed to capture this heterogeneity (Oliver et al., 2019; Callari et al., 2019), and we contribute to the literature on collective mindfulness by studying how distributed mindfulness is enacted across the chain of command. Further, in most work contexts, employees (e.g., nurses, physicians) gradually become mindful members of a community by participating in a profession. We add to the literature on mindfulness by studying a context – concert crowd safety – where this mechanism for generating and sustaining mindfulness is void. Specifically, in our context the staff consisted of non-professional volunteers with temporal membership of the organization.

Second, as detailed below, collective mindfulness is enacted through five interrelated subprocesses that as a collective strengthen a systems capability to discern and encode cues, learn from the encoding, and adapt (Weick and Sutcliffe, 2015). However, despite more than 25 years of empirical research on collective mindfulness (Sutcliffe, 2018), only a few researchers have looked at collective mindfulness in non-permanent organizations (e.g., Weick, 1993), and how these organizations through the five subprocesses quickly recreate and sustain collective mindfulness. The challenge of a non-permanent crowd safety organization is to rapidly make a collection of largely untrained volunteers mindful. Doing so is non-trivial, because mindfulness cannot be instantly accomplished. It is demanding and difficult to be mindful (Rerup, 2005). We ask the following research question to address that challenge: How is collective mindfulness enacted and sustained in non-permanent organizations? To answer this question, we conducted an ethnographic study of the four hierarchical layers of the Crowd Safety Organization of Roskilde Festival, an annual music festival occurring in Roskilde, 25 km west of Copenhagen, Denmark.

The paper proceeds in the following way. First, we present the theoretical framework that we apply in our analysis of collective mindfulness in a non-permanent organization. Next, we describe our method, including the context of our empirical research, the data collection techniques we applied, and how we analyzed the data. Third, we present our findings about collective mindfulness in a non-permanent organization. Finally, we discuss our findings and outline the contributions of our research.

2. Theoretical background

Non-permanent organizations are comparatively different from the organizations traditionally considered in the literature on collective mindfulness. First, a non-permanent organization has an *ex ante* determined termination point (Burke and Morley, 2016). Second, because members of non-permanent organizations are “unfamiliar with one another’s skills” (Bechky, 2006, p. 3) they often form less developed groups with a smaller base of shared knowledge. They exemplify what Lindkvist (2005) described as underdeveloped groups with developed minds. In addition, some non-permanent organizations regenerate with regular intervals which require recruiting and training personnel into new roles (Birnholtz et al., 2007).

We know little about how collective mindfulness is achieved in non-permanent organizations, whether these involve regenerating, scaling or temporary organizations. In particular, non-permanent organizations face the challenge of making the organization a mindful collective within a very short time. Regenerating and scaling organizations are of

special interest because they vary significantly in size within short timeframes (e.g., days, weeks, months).

The concept of organizational regeneration appeared in Birnholtz et al. (2007) analysis of regenerating Camp Poplar Grove, a children’s summer camp. These scholars defined organizational regeneration as “the process of reproducing an organization after a period of dormancy” (ibid, p. 315). In their analysis they identified three characteristics of a regenerating organization. First, its activity is interrupted for long periods. Second, many of the assembled actors are inexperienced in their roles, or are new to the organization. Third, a few weeks of work are sufficient to regenerate a complex system of interdependent activities that can be recognized as another instance of the same organization.

Regeneration implies sameness between different instances of the organization. Although continuity indicates a level of achieved similarity, a summer camp is not completely identical from year to year. The variance can be attributed to the turnover of staff and volunteers and difference across children, activities and weather.

2.1. Collective mindfulness

The concept of collective mindfulness (or mindful organizing) appeared 20 years ago in Weick et al. (1999) with the aim of defining an infrastructure of cognition and action that could help organizations to anticipate and respond to unexpected events. Collective mindfulness is defined as “the collective capability to discern discriminatory detail about emerging issues and to act swiftly in response to these details” (Sutcliffe et al., 2016, p. 56). The construct of collective mindfulness involves five interdependent subprocesses: (1) preoccupation with failure, (2) reluctance to simplify interpretations, (3) sensitivity to operations, (4) commitment to resilience, and (5) deference to expertise. The first three subprocesses focus on anticipating problems or disruptions whereas the last two subprocesses focus on adaptive resilience if anticipation fails (Vogus and Rerup, 2018).

Preoccupation with failure involves deliberate and active attention to potential failure, and treats any indication of failure, such as close calls and near failures, as indicators of potentially larger problems. Reluctance to simplify interpretations is the active questioning of past practice and received wisdom to uncover blind spots and hiding assumptions. Sensitivity to operations means sustaining a shared and integrated understanding of operations in the moment. Collectively, the first three subprocesses drive organizations to look at cues and stimuli from multiple perspectives by continually creating and refining categories:

“When people make more distinctions and more refined distinctions they often see some of the limits of singular categories and even of categorizing itself. ... When people engage in distinction-making, they begin to realize how readily we put our experience into unexamined conceptual boxes, how reluctant we are to examine those conceptual boxes, and how much we discover when we become less dependent on those boxes” (Weick and Sutcliffe, 2006, p. 517).

Collective mindfulness represents an ability that may help organizations to use their past experience in a reflective way. Mindful collectives are sensitive to failure and success as well as new information. Despite efforts to anticipate unexpected events, problems appear, however. The fourth subprocess, commitment to resilience, involves developing individual and organizational capabilities to improve, adapt, and learn to respond and recover from unexpected events. The final subprocess, deference to expertise, implies that decisions migrate to individuals with the greatest expertise vis a vis a problem or unexpected event, regardless of formal rank.

When looking at collective mindfulness in regenerating organizations a key issue is how temporal membership of an organization

impacts participation in the five subprocesses. Effective participation by organizational members in some of the five subprocesses varies with accumulation of expertise which typically is a function of their tenure with the organization. Consider for example commitment to resilience. The ability to act resilient depends on the capability to improvise and create new solutions based on the recomposition of existing knowledge, practices and routines (Augier et al., 2001; Rerup, 2001), a capability that in turn is predicated on having access to a comprehensive repertoire of experiences from which useful parts of knowing and doing can be drawn and activated. In specialized contexts such as a nuclear power production, access to comprehensive repertoires often originates from long term organizational participation (Schulman, 1993). In a regenerating organization consisting mostly of volunteers with temporal organizational membership it is possible that commitment to resilience is less distributed than in a reliability seeking organization such as a hospital where most of the personnel are trained professionals (Christianson, 2019). A similar pattern might exist for the subprocess deference to expertise. Lave and Wenger (1991) described how newcomers become skilled members of a community of practice through participation. Specifically, newcomers gradually earn their membership of a community by participating in simple tasks and only later take on more complex task when they have learned the necessary skills. As a result, temporal organizational membership might be a barrier for accumulating expertise, unless the members of the organization acquire and maintain their expertise elsewhere.

2.2. Linking collective mindfulness and non-permanent organizations

Vogus and Sutcliffe (2017, p. 324) noted that early research on high-reliability organizations often emphasized their design, redundancies built into their structures, and their strong cultures. This research was complemented with a second wave of studies illustrating the importance of processes of collective mindfulness. In this study, we seek to contribute to this combined work by investigating how collective mindfulness unfolds in a non-permanent organization.

The fact that very little work has linked mindfulness and non-permanent organizations is interesting given that some of the early work on mindfulness was carried out in contexts that highlighted temporal and non-permanent features of organizing. For example, in the discussion of Weick and Roberts (1993) canonical study of collective mind and heedful interrelating they emphasized the importance of studying collective mind in temporary organizations such as film sets and project teams. Similarly, in Weick's (1993) study of the Mann Gulch disaster he highlighted the temporary and minimalist nature of the smoke jumping organization. Further, in their qualitative study of a large fire department, Bigley and Roberts (2001, p. 1282) introduced the idea of an incident command system (ICS) which is a term for the organization assembled to control the temporary systems deployed to "manage personnel and equipment at a wide range of emergencies." Incident command systems share some of the three characteristics of regenerating organizations identified by Birnholtz et al. (2007) in their analysis of Camp Poplar Grove (e.g., activity interrupted for long periods, inexperienced actors, and a few weeks of work are sufficient to regenerate a complex system of interdependent activities). While the activity of an incident command system is typically interrupted for long periods of time, the regenerating organization is inhabited by experienced professionals who are able to regenerate a complex system of interdependent activities within hours rather than weeks.

In this study, we contribute to this early work on non-permanent organizations. First, we show how the 'same' non-permanent organization is annually recreated and scaled. Second, we show that collective mindfulness is an effortful accomplishment in a non-permanent organization and highlight challenges associated with sustaining mindfulness in a non-permanent organization.

3. Method¹

Inspired by work on music festivals (Toraldø et al., 2019), we used an ethnographic study of the Crowd Safety Organization at Roskilde Festival, an annual outdoor music festival, to study the process of regenerating and scaling a mindful organization. We used an ethnographic approach to develop new theory (Van Maanen, 2011) because limited research has investigated collective mindfulness in non-permanent organizations.

Roskilde Festival is an empirical exemplar of a regenerating organization as it shares the three characteristics identified by Birnholtz et al. (2007) in their analysis of a regenerating organization, i.e., activity interrupted for long periods, inexperienced actors, and a few weeks of work is sufficient to regenerate a complex system of interdependent activities.

3.1. Research context

Annually, Roskilde Festival attracts roughly 85,000 guests, 5000 media people, and 3000 artists. In 2018, a total of 180 bands performed on eight stages. In addition, 30,000 volunteered to work in food stalls, camping safety, stage construction, crowd safety, etc. The focus of this paper is on the Crowd Safety Organization at Roskilde Festival (not the 30,000 volunteers) which consisted of four hierarchical layers. The membership of the Crowd Safety Organization expanded to approximately 700 people during the festival (see Table 1).

The size of the festival organization peaked in early July during the eight days of the festival where the 30,000 volunteers of the regenerated organization were in operation. During the months of August and September – before the planning of the next festival began – the festival organization consisted of 55 full time employees. Upscaling began in early April when planning intensified and more volunteers joined, and it accelerated with the construction of the premises of the event three weeks before the festival opened.

As summarized in Fig. 1, the planning and production of a festival followed a rhythm. The kick-off was the two-day spring seminar in April where festival employees and key volunteers gathered to brainstorm new ideas for next year's festival. The output of the seminar was a catalogue of ideas. After the spring seminar, the planning of next year's festival was put on hold. From April and until mid-July, the festival organization focused on enacting the current year's Festival.

During September, the festival organization completed the evaluation of the current year's festival. In early October, it resumed the planning of next year's festival with a two-day autumn seminar. The idea catalogue developed at the spring seminar as well as the evaluation of the current year's festival provided a backdrop for conversations at the autumn seminar. The output from the autumn seminar was a catalogue of activities, open spaces and stages, all of which would be realized at next year's festival, unless financial, legal or technical constraints made it impossible. Also, at this point the 350–400 volunteers and employees responsible for the various groups were identified, and they started their tasks. When the designs and set-ups had been finalized, ordering of equipment and budgeting started. A budget had to be ready for approval in February. In March the festival organization moved from planning to production. For example, when the detailed design of the stages and adjacent areas had been completed, the recruitment of 30,000 volunteers to staff the festival intensified.

The period from April and until the end of the Festival in July was the most intense as the organization prepared to move into the festival site in the second week of June. The first groups to move in were the

¹ The method section has been reduced to fit the length requirement of the journal which made it difficult to include the detail normally required to establish trustworthiness. The full length method section is available from the authors.

Table 1
Actors, experience, roles and responsibilities in the crowd safety organization.

Layer	Actors	Experience	Role and Responsibility	Numbers
1	Full-time Head of Safety and Voluntary Safety Coordinators	Many years of experience in the organization	Overall responsibility for festival safety	1 + 3
2	Voluntary Crowd Safety Managers	Many years of voluntary work at the festival	Crowd safety set-up at the stages, and crowd safety during concerts	20
3	Voluntary Crowd Safety Supervisors	Several years of voluntary work during the festival (many also hold experience from alike organizations)	Guide Crowd Safety Stewards during concerts, collect, filter and transfer observations from the teams	80
4	Voluntary Crowd Safety Stewards	Between none and some years of voluntary work during the festival	Front line, collect cues, close contact with audience during concerts	600

Construction Teams responsible for constructing the stages and other physical premises. These teams lived at the festival site three weeks before the festival started and two weeks after it ended to dismantle the stages. As the construction of the festival premises was completed other parts of the festival organizations established their offices. In the days before the opening of the festival the volunteers arrived and many stayed in tents at the festival’s camping area. During the four days music program, the festival organization was fully staffed and remained operative. The day after the music program was completed, the cleaning of the festival site began which could take up to two weeks to complete.

3.2. Data collection

Our main data collection commenced during the spring of 2008 and lasted until July 2013 when the festival of that year ended. From 2013 to 2018, we regularly conducted follow-up interviews and collected additional data at the site. Our use of two data collection techniques (participant observations and interviews) enabled us to develop insights into the dynamics of collective mindfulness in a non-permanent organization.

3.2.1. Participant observation

To capture how the Crowd Safety Organization enacted collective mindfulness on the front-line, the first author enrolled in the organization as a voluntary Crowd Safety Steward during the years 2008, 2009 and 2011. For three years he attended the obligatory Crowd Safety I and II courses, and became a certified Crowd Safety Steward. Crowd Safety I courses lasted for four hours and were held at the premises of the festival organization. The first author made extensive field notes about the course content, which included instructions about crowd psychology, stress management, first aid, and how to behave as a Crowd Safety Steward.

Crowd Safety II courses lasted approximately two and a half hours, took place at the various stages of the festival and were tailored to the specific demands of each stage. The first author was assigned to the Orange Stage (i.e., the largest stage at the festival) and here the course included visits to different parts of the stage, including the video surveillance room, the Back-Stage Area, and the On-Stage Crowd Spotters. These visits familiarized the Crowd Safety Stewards with safety work being performed in other parts of the organization.

While working as a Crowd Safety Steward at the Orange Stage for three years (during 23 concerts for a total of 63 h), the first author experienced how Crowd Safety Managers during pre- and post-concert briefings instructed Crowd Safety Stewards about their work. Some briefings were recorded and transcribed while field notes were made during other briefings. The first author experienced how Crowd Safety Supervisors guided the attention of Crowd Safety Stewards towards specific sections of the crowd during concerts, and he recorded manifestations of the five subprocesses of collective mindfulness.

3.2.2. Interviews

The first author’s informal conversations with other Crowd Safety Stewards produced data from the bottom of the organization and reduced the need for collecting data through formal interviews. Instead, the first author conducted a total of seven interviews with fulltime safety staff and voluntary managers in the festival organization, such as Crowd Safety Managers, i.e., volunteers who held or had held major responsibilities in the Crowd Safety Organization. These interviews were semi-structured, lasted between 90 and 120 min and were recorded and transcribed verbatim. All informants were knowledgeable about the challenges associated with the annual regeneration and scaling of the Crowd Safety Organization. They provided data that enriched our understanding of how the Crowd Safety Organization created and sustained collective mindfulness through the five subprocesses of mindfulness. The interview guides used during interviews

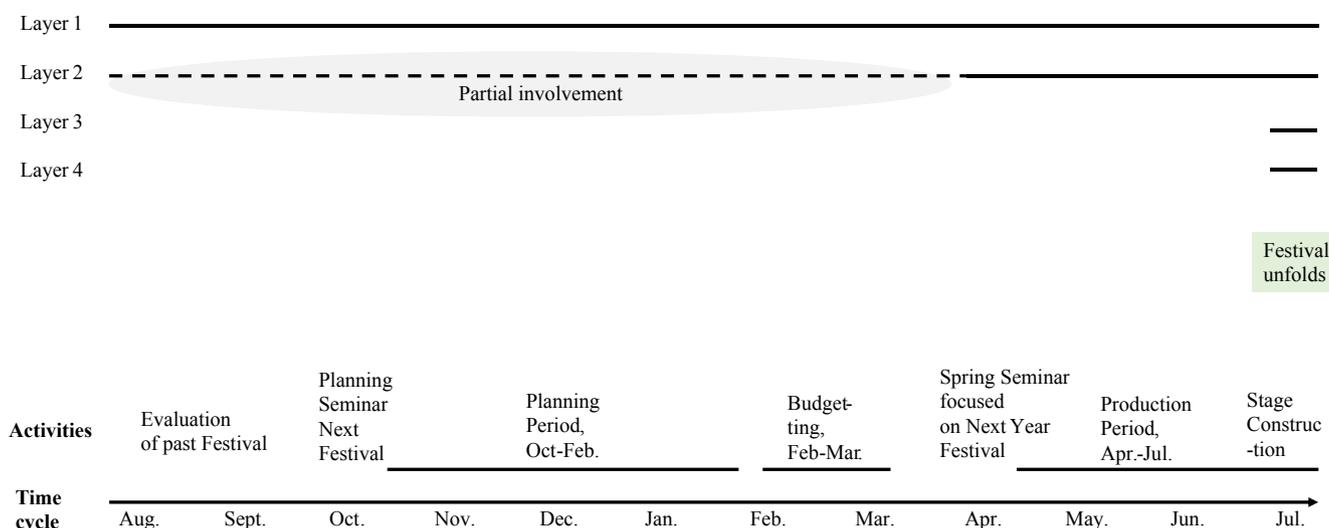


Fig. 1. An overview of the annual process of regenerating Roskilde Festival.

were loosely designed to capture data about anticipation of problems and recovery from problems.

3.3. Data analysis

We adopted an inductive analytical approach (Glaser and Strauss, 1967), which included reading and re-reading of field notes, interview transcripts, and analytical memos that connected actions with the five subprocesses of collective mindfulness (Weick and Sutcliffe, 2015). Our analysis proceeded through two phases.

First, we analyzed the four layers of the Crowd Safety Organization and established an understanding of the annual rhythm of the festival by mapping on a timeline the various activities that occurred as the organization moved from being dormant to active. On this timeline, we inserted the roles and responsibilities of the positions in the Crowd Safety Organization. These analytical outcomes provided insights into the regeneration and scaling of the organization, and the behavioral expectations attached to the different roles across the organizational hierarchy in the Crowd Safety Organization. Roles are socially constructed positions, and “interacting with relevant others provides opportunities to reinforce or renegotiate behavioral expectations for actors performing a given role set” (Eberhard et al., 2019, p. 101).

Second, we identified how and with what intensity organizational members across the different layers of the organization engaged in the five subprocesses of collective mindfulness. This analysis helped us to understand how the Crowd Safety Organization enacted and sustained collective mindfulness across a non-permanent organization consisting mostly of volunteers. We coded the data according to the five subprocesses of mindfulness (Weick et al., 1999) and the four layers of the organization, and identified two higher-level themes. The first theme concerned organizing for collective mindfulness and the other focused on collective mindfulness in action. We used both themes as anchor points as we crafted our findings. Through this process, we identified two patterns. First, not all layers of the organization participated in all five subprocesses. Second, because collective mindfulness was generally sustained during the festival, we coded the data to look for instances where mindfulness varied and deteriorated.

4. Collective mindfulness in a regenerating organization

In this section, we explain how collective mindfulness was achieved in the Crowd Safety Organization, how the organization followed the rhythm of the festival, and provided safety for the audience during concerts. Our findings are presented in four sections. First, we provide a

short description of the structure of the Crowd Safety Organization. Second, we describe how collective mindfulness was organized across the four hierarchical layers of the organization. Third, we show how the members of the Crowd Safety Organization were engaged in the five subprocesses of collective mindfulness, and how a regenerating organization achieves collective mindfulness. Finally, we identify three mechanisms which made collective mindfulness vary in the Crowd Safety Organization.

4.1. The structure of the Crowd Safety Organization

The Crowd Safety Organization had four hierarchical layers that each consisted of a number of positions (see Table 1 for an overview). At the top layer, the festival’s Head of Safety resided. Head of Safety was a fulltime employee who in collaboration with three voluntary Safety Coordinators overlooked the volunteers from the second layer of the organization and defined the crowd safety set-up for the different stages at the festival.

Voluntary Crowd Safety Managers resided at the second layer and were responsible for the overall safety of the audience attending concerts at the various stages of the festival. During a concert one Crowd Safety Manager was on duty at each stage, and could draw on support staff allocated for video surveillance of the audience area and teams for conducting quick intervention into the crowd in case of an emergency. The volunteers at the second layer had many years of experience with organizing and managing crowd safety work at a specific stage, and were responsible for designing the audience areas and staffing the Crowd Safety Organization.

The third layer consisted of the voluntary Crowd Safety Supervisors who guided the work of the Crowd Safety Stewards, which they were assigned to work with during a given concert. Many of the Crowd Safety Supervisors worked all year round on crowd safety jobs at other concerts and event venues.

The fourth layer consisted of Crowd Safety Stewards. These volunteers were the front-line of the Crowd Safety Organization. They worked under supervision of Crowd Safety Supervisors from the third layer and their task was to interact with the audience before and during concerts. Many Crowd Safety Stewards only performed this work annually at Roskilde Festival or were new to the task.

While many volunteers from the second and third layers returned to the festival year after year the annual turnover for Crowd Safety Stewards varied between 30% and 50%. Annually, the organization recruited and trained many new voluntary Crowd Safety Stewards (Field notes, Crowd Safety II course, Wednesday July 2, 2008). The

volunteers were recruited in different ways. Recruitment into the first three layers happened organically. Crowd Safety Stewards or Crowd Safety Supervisors who performed well and showed dedication typically moved upwards. The volunteers at the fourth layer were recruited by friends already working in the Crowd Safety Organization, or they had signed up via the festival's official web-site. The voluntary Crowd Safety Stewards agreed to deliver 24 h of crowd safety work during the festival. In return for the voluntary work they received a free ticket to the festival which in 2018 represented a value of approximately €300.

4.2. Organizing for collective mindfulness

Regenerating collective mindfulness is an effortful accomplishment that cannot be taken for granted. In an effort to build and sustain collective mindfulness, different strategies were applied in the Crowd Safety Organization to establish clear roles across the four layers of the organization, and then communicate and enforce role expectations. Different strategies were used, because of variation in expertise and frequency of participation among the volunteers. Below we describe the strategies applied to target the different layers of the organization.

4.2.1. Organizing for collective mindfulness at layer 1

The role expectations for the first layer of the Crowd Safety Organization originated from the top management of the festival organization, who expected the Crowd Safety Organization to deliver excellent safety at the festival. As described by a former Head of Stage Construction:

“The management of the festival wanted the festival to appear very professional with regard to safety, and be able to manage our processes. So they were not happy, if the safety documentation was not ready in time” (Interview, former Head of Stage Construction, December 18, 2018).

The Head of Safety had a degree in crowd safety management from a university in the UK. He maintained contact to crowd safety scholars and consultants, and attended international conferences where practitioners and scholars discussed the latest knowledge in the field. The knowledge accessed in these ways was subsequently used to inform practice when new or modified crowd safety set-ups were considered at the festival. For example, a redesign of the set-up of the audience area in front of the Orange Stage which took place in 2018, happened because new knowledge showed that the existing set-up produced some undesired consequences. The Head of Safety explained:

“We considered making a change like this for some years, however, we did not really know how to do it Then some new research became available, after some accidents in England. This research said that when you have 90 degrees edges in the Mojo-barriers [the fence separating the audience from the Crowd Safety Stewards] close to the center of the stage, which we actually had, it generated inadvisable movements in the crowd. This happens because the density of people in these areas is very high. With movement it is more difficult for people to stand still, which creates circular movements, which at other venues had caused the crowd to collapse” (Interview, Head of Safety, Roskilde Festival, December 19, 2018).

The first layer of the Crowd Safety organization was concerned with how new knowledge generated outside the organization could inform the organizing of safety at the festival.

4.2.2. Organizing for collective mindfulness at layers 2 and 3

The role expectations for the volunteers in the second and third layers were conveyed as they participated in the practices of crowd safety management and crowd safety supervision. For instance, the Crowd Safety Organization used a set of practice-oriented methods (i.e. mentoring) to build and sustain mindfulness in these groups of volunteers.

“A challenge for scaling an organization like Roskilde festival is to

retain experience, so we introduced mentoring, meaning that when a voluntary leader wanted to stop at the festival, then that person continued for the current festival with an assistant who would take over the year after. Thereby, we focused on training of new voluntary leaders, and on always having somebody ready to step in as a replacement” (Interview, former Head of Stage Construction, December 18, 2018).

The volunteers working at the second layer accumulated deep local knowledge as they established and refined local routines and practices. For instance, local crowd safety set-ups were used at the different stages. These actors also regularly designed and tested modifications to the audience areas in front of the stages to acquire new knowledge about how a modified design worked. For example, in 2008 when the first author served as a Crowd Safety Steward at the Orange Stage, the Crowd Safety Managers redesigned the entrance system to the gated audience area in front of the stage. A Crowd Safety Manager explained:

“2008 is the year of the entrances, because we are testing a new system where the entrances are shielded and moved further away from the audience area to make it impossible for those waiting in the queues to see the audience area, as we want to prevent impatient behavior because visual information says there are more space in the audience area. Furthermore, the entrances have been narrowed to prevent the audience from running into the audience area. We also expect to prevent the audience from running inside the audience area when they reach it” (Field notes, Crowd Safety Manager, Crowd Safety II course, July 2, 2008).

If a major change in the crowd safety set-up at a stage was under consideration, the volunteers at layer 2 and 3 would be invited to a meeting and informed about the planned changes. For example, one meeting took place during the spring of 2018 when the Crowd Safety Organization was planning to change the Mojo-barrier system mentioned above:

“All volunteers involved in crowd safety at Orange Stage were invited for an information meeting. I think we repeated the meeting three times, and it was very well attended. We explained the research behind the planned change, and why we had decided to implement the change” (Interview, Head of Safety, Roskilde Festival, December 19, 2018).

A central purpose of the meetings and gatherings arranged by the Crowd Safety Organization was to build a common understanding across the stages of how crowd safety work should be performed at Roskilde Festival. The Head of Safety believed that a common understanding was necessary and helpful if crowd safety volunteers were quickly transferred from one stage to another during an emergency. Yet, building this common understanding could be difficult. For instance, local knowledge, practices, and routines were not always aligned across the different stage, and not necessarily in line with the expectations of the first layer. Alignment was also challenged by the fact that many Crowd Safety Supervisors performed crowd safety work at other concert venues where they were exposed to other designs of audience areas, or other crowd safety procedures. Although multiple venues helped the Crowd Safety Supervisors to exercise their supervisory skills in different situations, it could also make it harder for them to do what the Crowd Safety Organization expected of them.

4.2.3. Organizing for collective mindfulness at layer 4

The Crowd Safety Organization had developed clear role expectations for the voluntary Crowd Safety Stewards because most of them had limited expertise, and needed detailed instructions to act mindfully as Crowd Safety Stewards:

“If people do not work in crowd safety with regular internals during the year, they need a strong framework to guide them” (Interview, Head of Safety, Roskilde Festival, December 19, 2018).

Table 2
Organizational layers and engagement in the five subprocesses of collective mindfulness.

Layer/Subprocess	Preoccupation with failure	Reluctance to simplify interpretations	Sensitivity to operations	Commitment to resilience	Deference to expertise
#1: Full-time Head of Safety and Voluntary Safety Coordinators	X	X	X	X	X
#2: Voluntary Crowd Safety Managers	X	X	X	X	X
#3: Voluntary Crowd Safety Supervisors	X	X	X	X	X
#4: Voluntary Crowd Safety Stewards	X	No evidence	X	No evidence	No evidence

Also, the intensity of the work environment demanded that they knew exactly what to do. Field notes from a concert with Radiohead conveys the context:

“We [the Crowd Safety Stewards] went out to meet the audience two hours before the concert was scheduled to start. For this concert, we were standing fairly close as the festival expected an intense concert. We began by filling the barrels with water, handing it out to the audience, and talking to them about the concert. Many more people arrived for this concert than at the other concerts where I had worked, and loud dunk-dunk rhythms came out of the loud speakers at least one hour before the concert started, and made the atmosphere feel intense. The music made it difficult to communicate – both with the audience but also with other stewards. There were screams from excited audience members and so many varied cues to pay attention to. In the middle of this chaos, I tried to do what we had been told to do before the concert” (Field notes, Orange Stage, Radiohead, July 3, 2008).

In order to enable the Crowd Safety Stewards to deal with this ‘chaos’ the organization invested much effort into clarifying and communicating role expectations. New Crowd Safety Stewards were introduced to their role, tasks and the Crowd Safety Organization for the first time when they participated in the mandatory Crowd Safety I course. The course lasted for four hours and included lectures on topics such as crowd psychology, cue detection, and stress management. To influence the Crowd Safety Stewards to act mindfully while on duty during concerts, a central part of the course clarified how they were expected to behave. For example, when participating in the Crowd Safety I course the new Crowd Safety Stewards were told to:

- “It’s the little girl in the crowd that you must see, but it is not easy, so it’s about being attentive.
- Reach out.
- Be observant.
- Ask people in the audience: How are you? Are you OK? Do you need help? Can you breathe?
- People in the audience often dehydrate, especially when it is hot, and because they have been drinking alcohol, remember to offer them a lot of water to drink.” (Field notes, Crowd Safety I course, June 28, 2008).

Crowd Safety Stewards who volunteered to work for a second year were not required to repeat Crowd Safety I, although it was recommended to attend the course regularly. The new Crowd Safety Stewards met the Crowd Safety Organization for the second time when they participated in the Crowd Safety II course. It took place one day before the festival’s music program began. Crowd Safety II was tailored to familiarize the Crowd Safety Stewards with the specific design of the audience areas, and the crowd safety challenges of the different stages. Consequently, the content of Crowd Safety II varied depending on what stage the Crowd Safety Stewards were assigned to.

The course content of the Crowd Safety I and II courses illustrates how the organization from the very beginning focused on priming Crowd Safety Stewards for pre-occupation with failure and being sensitive to operations.

In some situations, the instructions from the top of the organization was very specific as the following example from Orange Stage at the festival in 2018 illustrates. Due to a significant change in the positioning of the Mojo barrier system, the number of stewards needed for a given concert had changed, and so had the positioning of the stewards working inside the Mojo-barrier system. More Crowd Safety Stewards were needed during high-risk concerts, and a steward was positioned for every 3.75 m along the fence. As a contrast, during low risk concerts, a steward was positioned for every 15 m along the fence. To help the stewards figure out their position during different types of concerts, one of the Crowd Safety Managers from layer two placed strips of red, yellow and green tape on the fence. The location and color of the tape on the fence indicated the positions for Crowd Safety Stewards during high, medium and low risk concerts, respectively.

Specific role expectations and instructions ramped up mindfulness during the process of regenerating and scaling the Crowd Safety Organization. Establishing role expectations and sharing specific instructions helped the voluntary Crowd Safety Stewards to become mindful organizational members within less than a week after they had arrived and enrolled in the organization.

4.3. Collective mindfulness in action

In this section, we present examples of how members of the four layers enacted collective mindfulness. We do so to illustrate how achieving collective mindfulness in the regenerating organization was an effortful accomplishment. Our findings are summarized in [Table 2](#) which shows that the members of the Crowd Safety Organization were unequally engaged in the five subprocesses of collective mindfulness. In particular, at the bottom of the organization (layer 4) we found no evidence of engagement in three of the five subprocesses.

4.3.1. Pre-occupation with failure

Around midnight on July 4, 2008 a concert on the festival’s Astoria Stage almost went out of control, as the performing artist Fedde Le Grand attracted many more festival guests than anticipated by festival officials. A fast response to the call for help from the Astoria Stage Crowd Safety Manager by the nearby Orange Stage Crowd Safety Manager, and reallocation of crowd safety personnel at layers 3 and 4 to Astoria Stage, prevented the incident from evolving into a fatal accident. In the years after 2008, members of layers 1, 2 and 3 of the Crowd Safety Organization often reflected on what happened that night. For example, on Saturday June 23, 2012, during Supervisor Day, the Fedde Le Grand incident was discussed among the participating Crowd Safety Managers and Crowd Safety Supervisors to uncover possible learnings from the incident. In a similar vein, alike incidents at other stages of the Roskilde Festival were discussed among the abovementioned members of the organization. Pre-occupation with failure was also found at layer 4 where Crowd Safety Stewards continuously looked out for crowd behaviors, such as small guests getting squeezed in the crowd, that could cause trouble during concerts. Overall, our analyses indicated that pre-occupation with failure was present across the four layers of the Crowd Safety Organization.

4.3.2. Reluctance to simplify interpretations

In the top layer of the Crowd Safety Organization we found significant awareness of how many years of successful crowd safety management can breed a strong sense of organizational self-confidence, which makes concerts less safe. The Head of Safety said:

“In disaster research, you talk about a 10-year cycle. There is an accident, [which makes people work harder on safety, and over the] next 10 years you become better and better. After 10 years [safety] starts to dissipate, because there is a generational change, and there may be people not even knowing that the accident happened, so there is a loss of knowledge about everything you actually got implemented on the basis of the accident, and then [safety] starts to go down” (Interview, Head of Safety, Roskilde Festival, December 19, 2018).

As a consequence of this awareness, the Head of Safety wanted to prevent volunteers at the two next layers in the organization from developing and maintaining simple interpretations of what could cause accidents. He saw it as his responsibility to shake-up the organization and make sure it stayed on its toes.

“It is my perception that we need to be very careful. When I took over the position as Head of Safety in 2014/2015 including the responsibilities I hold now, I believe that we were heading downwards, and then it is my responsibility to kick-start it again, so that we begin to move upwards and explore all the new insights about crowds [originating from outside the organization]. The people in our organization are really, really talented and skillful, they just have not renewed themselves. They have learned a lot from the accident we had in 2000, and they have implemented at lot of really smart things. Yet, they are unaware of the recent developments in the crowd safety business outside Roskilde Festival. They do not know the new research about crowd safety. They just say ‘This system is working, and we have implemented it based on learning from a big accident’” (Interview, Head of Safety, Roskilde Festival, December 19, 2018).

To stimulate the curiosity of layer 2 and 3 volunteers, the Head of Safety organized events with crowd safety experts on topics such as crowd dynamics and crowd psychology. The first author attended a couple of these talks and noted that they were followed by a discussion among the participants to establish shared principles and practices across the festival stages. For instance, a gathering focusing on crowd movement took place on April 20, 2015. Furthermore, when participating in Supervisor Days in 2012 and 2013, the first author observed how layer 2 and 3 volunteers discussed potential safety issues associated with the local crowd safety set-ups used at the different stages.

In sum, we found evidence of reluctance to simplify interpretations at the three first layers of the organization, but not at layer 4.

4.3.3. Sensitivity to operations

In 2018, the Crowd Safety Organization implemented the major redesign of the audience area in front of Orange Stage – the largest stage at the festival. This decision was made after the Head of Safety consulted with two international crowd safety experts (not the authors of this article). In addition, he consulted with the voluntary Crowd Safety Managers and Crowd Safety Supervisors at the festival and discussed how the redesign would impact the patterns of crowd movements during concerts, change the safety of the festival, and the crowd safety work done before and during concerts. The Head of Safety explained:

“When we make a significant change ... we discuss if it improves or reduces safety, because it for sure changes the safety ... [by] changing our safety set-up. We have travelled the world for some years, and have said that we had the world’s best barrier system And then we suddenly do something significantly different, so we must

be sharp in the sense that we have thought it thoroughly through, but it was a little like, do we dare to do it?” (Interview, Head of Safety, Roskilde Festival, December 19, 2018).

The test of the new design of the audience area in front of Orange Stage came on the first day of the festival’s music program in 2018 when Eminem, a star in the rap-music genre, entered Orange Stage. During that concert the Crowd Safety Stewards had no conflicts with the audience. Further, no warnings were issued to the audience for unruly behavior which was unusual for a concert attracting an audience of more than 75.000. Also, the Crowd Safety Organization had hired external consultants to assist with evaluating the functioning of the new design:

“We hired two consultants to be on site. One of them joined us while we implemented the new design of the Mojo-barrier system, so he was with us out there helping us adjusting it as we saw how it was working. The other consultant evaluated the new design by collecting opinions from the volunteers and the festival guests” (Interview, Head of Safety, Roskilde Festival, December 19, 2018).

The new design illustrated the sensitivity to operation that was prevalent. Further, wondering whether it was sensible to change a well-functioning design suggested that the organization was humble, reflective, and mindful.

In the bottom of the organization the Crowd Safety Supervisors guided Crowd Safety Stewards during concerts. Also, briefings took place before concerts to inform the stewards about what to expect. Similarly, concert debriefings were important for keeping the stewards sensitive to operations. In 2008, when the first author volunteered to work as a Crowd Safety Steward, his peers received the following instruction during a concert debriefing:

“I will like to see you use more gestures [when the audience enter the area in front of the stage]. When you talk to them you only reach one or two persons, whereas when you use gestures you can reach 10 to 15” (Debriefing, Crowd Safety Manager, Orange Stage, Roskilde Festival, July 4, 2008).

The nudging that took place during debriefings focused on clarifying expected mindful behavior on the front-line. Layer 2 of the organization wanted to make sure that the Crowd Safety Stewards on the front-line not only attended to cues but also reacted appropriately to them. Doing so was important to keep the audience safe. Further, there was focus on making sure the stewards guided the behavior of the audience in a way that improved crowd safety. This is another example of how the upper levels of the Crowd Safety Organizations in their dealings with fourth layer volunteers attempted to keep them sensitive to operations.

Sensitivity to operations was also visible when more experienced stewards guided their peers, as it was experienced by the first author while being on the front line:

“I began to fill the plastic cups with water, and started talking to the arriving audience, as we handed out water to them. I was better at handing out water than at talking. I was constantly reminded by my more experienced peers that talking was important because we needed to establish a relationship with the audience to control them [if something unexpected should happen]” (Field notes, Orange Stage, Teitur, July 3, 2008).

In sum, we found sensitivity to operations to be present in all layers of the organization

4.3.4. Commitment to resilience

Commitment to resilience was present in the three upper layers of the organization where recovery from near-failures had high priority. We did not find any evidence in our data of commitment to resilience at the bottom of the organization.

In 2007, the festival experienced heavy rainfall which created some challenges. The former Head of Stage Construction explained:

“Pavillion is the stage located at the lowest altitude of the festival site. During a concert, the water began to rise, and at some point it was only 10 cm (4 in.) from reaching the bas loudspeakers’ position under the stage. It was clear something had to be done, and they had decided to stop the music and evacuate the audience area. I heard about the situation and called the Stage Coordinator and asked him: ‘I’ve heard you have evacuated the stage, do you need to assistance?’ He replied: ‘No we are fine, we requested a hose and a couple of guys with shovels. I expect we will open the audience area again within the next 10 min.’ He sat quietly inside his office and answered the phone, and there was no panic.” (Interview, former Head of Stage Construction, December 18, 2018).

From this example it appears that a layer 2 volunteer was committed to resilience. He was able to quickly evacuate the stage and coordinate the resources needed in the local stage organization to get the stage back into safe operation without assistance from the outside.

Similarly, during the Festival in 2011, the radios used at the Orange Stage to maintain communication between all layer 2 and 3 volunteers malfunctioned. The problem peaked on the first evening of the festival during a concert with the heavy metal band Iron Maiden, which was categorized as a high-risk concert and the Crowd Safety Organization had planned to use 20 radios. To reestablish communication, batteries were changed, headsets were checked, the channel was changed, and consultations were held with layer 1 staff and the provider of the radios, but the problem persisted.

“Fortunately, we had had much focus on communication and much focus on training, and we had a layer of supervisors who could actually perform without being in touch a lot, because we still had many interruptions on the radios. During the concert the supervisors continuously met in the middle [of the Mojo-barrier system], and if we had not prioritized our supervisors and had agreed on some emergency procedures, then they had not been able to perform during the Iron Maiden concert.” (Presentation by Crowd Safety Manager, Orange Stage, at Supervisor Day, June 23, 2012).

The two examples show that layer 2 and 3 of the Crowd Safety Organization could recover from unexpected events, which could threaten safety and cause the festival to terminate or cancel concerts. However, because of the extensive practice-oriented training the voluntary workers of these two layers were committed to resilience and could devise solutions, which made it possible to continue the safe operation of the festival’s music program.

4.3.5. Deference to expertise

We did not find any evidence of deference to expertise at the bottom of the organization. Decisions typically migrated upwards in the organizations, as layer 4 volunteers, due to their limited experience and the temporal nature of their engagement with the organization, did not possess the expertise to assess and deal with complex and/or unexpected situations.

When participating in Crowd Safety Course I, Crowd Safety Stewards were instructed to always execute the orders they received, and discuss them later with Crowd Safety Supervisors if they thought the orders were wrong (Field notes, Crowd Safety I course, June 24, 2010). Also, there was a long tradition for *not* deferring important decisions to the front-line. The leaflet “Worth knowing as an employee at Roskilde Festival 2000” stated that festival “management expects that ‘you keep away from making any decisions that are not in your domain,’ and that ‘everybody solves only his own tasks. If in doubt, you can always ask your manager.’” (Drachmann and Tranberg, 2000, p. 1). A concert in 2009 with Slipknot, a heavy metal band with an aggressive style of music, further demonstrated this point:

“A few tunes into the concert, I suddenly noticed moshing in the audience, which I reported to the supervisor, who responded that it

had already been observed by other supervisors, and that the staff in the video surveillance room now observed it via their system [and that I should not take further action].” (Field notes, Slipknot July 4, 2009).

The voluntary staff in the video surveillance room had deep expertise with surveillance of dangerous crowd behaviors from attending to hundreds of concerts over the years. They knew what to look for and in what situations to call for intervention by the Crowd Safety Stewards. That is why ‘control’ of the situation was deferred away from the front-line where less expertise was present. In other words, deference to expertise was centralized rather than distributed.

4.4. Three mechanisms of variations in collective mindfulness

Collective mindfulness varied at Roskilde Festival. We identified three mechanisms that contributed to this variation: contested authority, absence of renewal, and interference by outsiders.

4.4.1. Contested authority

Any formal organization is mirrored by its informal counterpart. In organizations staffed with volunteers, dedicated and highly skilled volunteers might contest the authority of the leaders of the formal organization. On a couple of occasions, a Crowd Safety Manager, who identified more with his peers at other stages than with the authority of the management, invited Crowd Safety Managers and Crowd Safety Supervisors to attend Supervisor Days without involving the first layer of the Crowd Safety Organization in the planning. When volunteers with many years of experience do not fully accept the authority of the formal organization, they can become a liability. This attitude can make it difficult to implement new crowd safety measures defined by the first layer of the Crowd Safety Organization, and to build a common understanding across the stages of how crowd safety work should be performed at Roskilde Festival. The Head of Safety explained:

“I think that the most dangerous challenge for a safety organization is the informal management structure derived from voluntariness. There might be a [formal] safety manager, but those out there, the informal safety managers, they decide how things are to be, even if I and others who pick up the newest knowledge about crowd safety, we define and introduce some new crowd safety initiatives, then they might do something else” (Interview, Head of Safety, Roskilde Festival, December 19, 2018).

To prevent variation in collective mindfulness due to contested authority, the first layer was constantly looking for cues indicating if volunteers from the second and third layer were loyal or if they had their own plans.

4.4.2. Absence of renewal

The ability of an organization to sustain collective mindfulness is predicated on its ability to discriminate between small details to detect emerging threats and respond swiftly. To preserve that ability, organizational members need to sustain an attitude of curiosity towards possibly new ways of organizing crowd safety work. If this curiosity is absent, collective mindfulness is at stake. Constant renewal is an indicator of the level of curiosity in an organization. Renewal is necessary because the behaviors of the audience are constantly changing. Consequently, the crowd safety set-up that worked well five years ago can be inadequate today. As mentioned earlier in our findings, the adequacy of a particular safety design cannot be known in advance but not changing might also introduce risks. Learning is tricky because a new safety setup might also have unintended consequences which can undermine the safety of the audience. The Head of Safety noted:

“I think it is extremely important to continuously renew oneself. The day when you start to just do as we usually do, it is not me who is the Head of Safety anymore, because then I think it starts to become

dangerous” (Interview, Head of Safety, Roskilde Festival, December 19, 2018).

Interference by outsiders. Mindful organizing might vary and deteriorate swiftly in a non-permanent organization if the organizing is disturbed by outsiders with little knowledge about the inner workings of the organization. An aforementioned example from 2008 illustrates this challenge. A young, and at that point in time, fairly unknown artist, Fedde Le Grand, was booked to perform on Astoria, the smallest stage of the festival, around midnight. The stage was located in a tent and it had an audience capacity of 2500 people. Approximately one and a half month before the festival the artist’s produced a viral hit. His popularity skyrocketed.

“The safety manager of Astoria noticed this [popularity] by checking the number of likes of the artist [Fedde Le Grand] on social media, and it was decided to upgrade the performance to a high-risk concert” (Field notes, Supervisor Day, June 23, 2012).

Shortly after the concert had started, the audience area of Astoria was occupied far beyond its capacity, and many more people tried to enter the tent. The situation went almost out of control. A number of Crowd Safety Supervisors and several Crowd Safety Stewards were transferred from the nearby Orange Stage, and the concert was stopped. Yet, one of the festival’s music bookers showed up at the stage and interfered in what should have been a pure safety decision. A discussion unfolded as the music booker wanted the concert to continue. He eventually overruled the decision made by the Crowd Safety Manager at Astoria, and allowed Fedde Le Grand to return onto the stage 25 min later and finish the concert. This happened although Crowd Safety Supervisors and Stewards had communicated to the audience that the concert would not resume. This example shows how interference by outsiders, prevented a mindful response by Astoria’s Crowd Safety Organization. A cue about an emerging threat had been detected, but it was overruled and collective mindfulness deteriorated. The incident made the festival management emphasize that crowd safety was a top priority, and that the Crowd Safety Organization had the final word about concert stops.

5. Discussion

We opened our paper with the observation that collective mindfulness is a dormant infrastructure for performance improvement in all organizations (Sutcliffe, 2018) but that mindfulness has mainly been researched in large, well-established, structurally integrated organizations (Rerup and Levinthal, 2014). As noted by Vogus and Sutcliffe (2012), the focus in this work has been on how professionally homogenous groups at one hierarchical level are occupied with the pursuit of mindfulness (e.g., nurses, physicians, military personnel, engineers, fire-fighters). These observations made us ask: How is collective mindfulness enacted and sustained in non-permanent organizations? We explored that question through an ethnography of the regeneration and scaling of the Crowd Safety Organization at Roskilde Festival.

Our findings illustrated how collective mindfulness was regenerated in a non-permanent organization. We make three contributions to the literature on collective mindfulness.

First, we showed how the Crowd Safety Organization regenerated a mindful organization consisting mainly of volunteers by establishing clear roles across the four hierarchical layers of the organization and then communicating and enforcing role expectations. For the bottom layer of the organization which consisted of volunteers with limited expertise and short-term commitment to the organization, communication of role expectations happened during training immediately before the festival, and direct instructions during the festival. In contrast, for the second and third layer role expectations were communicated through mentoring and participation in practice.

Second, our study showed that the five subprocesses of collective

mindfulness (Weick and Sutcliffe, 2015) were unequally distributed across the four hierarchical layers of the Crowd Safety Organization. In particular, we found no evidence of *reluctance to simplify interpretations*, *commitment to resilience* and *deference to expertise* at the bottom (the fourth layer) of the organization. The front-line was staffed with voluntary Crowd Safety Stewards with limited expertise. To contribute to collective mindfulness, the Crowd Safety Organization trained and guided these volunteers to focus on pre-occupation with failure and sensitivity to operations. Overall, we illustrated how distributed and collective mindfulness was accomplished across a multi-layered organization in a non-professional context.

Third, collective mindfulness is often conceptualized as a stable phenomenon but scholars have suggested that organizational mindfulness varies over time and space (Levinthal and Rerup, 2006; Rerup, 2004, 2009). By studying collective mindfulness in a non-permanent organization, we cast further light on the need for organizations to manage variations in collective mindfulness, and how they do so. In our context, variations evolved due to temporal participation by many organizational members, which for some had the consequence that they did not craft the expertise needed to be mindful. For others members of the organization, temporal membership allowed them to collect experiences in similar organizations but with different practices. Further, because most members of the organization were volunteers some became reluctant to accept the authority of the formal organization. In short, they developed their own local practices.

5.1. Regenerating collective mindfulness in a non-permanent organization

Because Roskilde Festival fits all three criteria in Birnholtz et al. (2007) our study provides unique insights into collective mindfulness in one type of regenerating organizations that have escaped prior investigation. Pre-occupation with failure and sensitivity to operations (Weick, 2017) were essential to the permanent employee of the Crowd Safety Organization, as well as the experienced volunteers in leadership positions. Their challenge was to sustain preoccupation and sensitivity as the organization ballooned to 700 people. In other research on mindfulness, preoccupation with failure and sensitivity to operations are typically sustained by deferring to expertise on the front-line, but at Roskilde Festival the front-line consisted of volunteers with limited crowd safety expertise. Turnover among the Crowd Safety Stewards was high, so in case of an emergency the top of the Crowd Safety Organization could not defer to expertise on the front-line. To make the front-line more robust, much effort was invested into articulating, communicating and reinforcing role expectations. While minimal, these role expectations provided a semi-structure that guided the volunteers to develop shared understandings of what was important and how to act.

5.2. Regenerating multi-layered collective mindfulness in a non-professional context

Roskilde Festival presents a novel context to study collective mindfulness because the organization was largely a non-professional organization.

Our study illustrated how collective mindfulness is enacted and sustained in organizations that are not inhabited by professionals with years of education and training such as nurses, physicians, engineers, law enforcement and so on. It also showed that in a regenerating organization collective mindfulness exists across hierarchical levels, but that the “mind” of the system is more developed at the top of the organization. In their study of collective mind onboard an aircraft carrier, Weick and Roberts (1993, p. 375) noted that it was important to distinguish between the development of the ‘group’ and the ‘mind’ of that group. In their analysis, Weick and Roberts (1993) assumed that the combination of developed-group vs. undeveloped-mind and undeveloped-group vs. developed mind were possible. These distinctions are important because with every regeneration and scaling of the

Crowd Safety Organization the organizers had to develop and sustain collective mind(fullness) in a group that largely consisting of volunteers with limited expertise.

5.3. Variations in collective mindfulness

A core feature of high-reliability- and reliability seeking organizations are their deliberate investment of time and resources in developing a capability to perform in situations requiring nearly continuous operational reliability. Non-permanent organizations prioritizing safety do not have the need, time, and resources to invest in the development of such permanent organizational capabilities (Bigley and Roberts, 2001). Instead, because of their temporal character, they face the challenge of enacting or reenacting processes of collective mindfulness whenever they become operative. Yet, that is hard to do because collective mindfulness is a fragile social process that continuously needs to be re-accomplished through ongoing actions, especially by the members of an organization working on the front-line (Vogus and Sutcliffe, 2012). If it was easy to 'boost' and sustain collective mindfulness through a fairly simple training protocol, and if mindfulness improved safety performance, then all organizations would engage in this type of training (Rerup, 2005).

In our study, we observed two types of differences in mindfulness. First, the enactment of the five subprocesses of mindfulness varied across the four layers of the Crowd Safety Organization. As explained above, this variation manifested because the organization was staffed with inexperienced volunteer who had limited expertise about crowd safety. The antidote to manage this variation was to develop the 'mind' of top of the organization, and to establish clear role expectations at the bottom of the organization. Second, beyond the impact of voluntarism, we identified three mechanisms that contributed to variation in collective mindfulness at Roskilde Festival: contested authority, absence of renewal, and interference by outsiders. Each of these mechanisms prevented parts of the multi-layered organization from engaging in tasks and issues in a mindful manner. The antidote to these variations were to constantly look for cues of loyalty/disloyalty among layer 2 and 3 volunteers, sustain curiosity with new ways of organizing crowd safety work, and maintain the understanding across the festival organization that crowd safety overruled other concerns at the festival.

Overall, our study provides empirical evidence to affirm the theoretical insight that "Mindfulness unravels. It varies over time and people, and requires ongoing effort to sustain and rebuild. It is demanding and difficult to be mindful" (Rerup, 2005, p. 452).

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