

## Article

# Key Factors of Organizational Resilience in Prisons and Police Forces in French-Speaking Switzerland during COVID-19

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**Abstract:** During the COVID-19 crisis, organizations had to demonstrate organizational resilience (OR) to continue to carry out their missions. We conducted qualitative research to identify the factors that contributed to the OR of police and penitentiary institutions in French-speaking Switzerland, in terms of their operations and management. The modes of action and crisis responses of these emergency services, regularly confronted with crises and particularly impacted during the pandemic, are worthy of attention. To this end, we synthesized the OR factors that are frequently identified in both theoretical and empirical review articles and identified four theoretical conceptualizations: (a) resilience engineering, (b) ecological resilience (these two are the most widely used), (c) a third way situating resilience at an intermediate stage in a metamodel representing the evolution of organizations from a fragile to antifragile state, and (d) a conceptualization focusing on the temporal dimension of OR. Based on the results of 25 semi-structured interviews with executives from cantonal police forces and prisons, we present what we consider to be the key levers in a three-phase resilience process (upstream, during, and after the shock): anticipatory and proactive organizational culture, information management and communication, liminal leadership practices, social and environmental practices, agility-enhancing governance practices, and learning capabilities. Our results largely confirm that these parameters significantly contributed to the OR of the institutions in question. They also enable us to propose winning configurations of factors that can increase the potential for OR.

**Keywords:** organizational resilience; police and prison institutions; public sector; qualitative research; COVID-19 crisis



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## 1. Introduction

In 2020, the world was struck by the COVID-19 pandemic; starting in February, the spread of the virus led to the worldwide implementation of emergency measures to contain its transmission. However, the impact of the pandemic—including the extent of the spread of the virus and the response of authorities—varied from country to country, partly due to differences in institutional functioning. It is thus crucial to learn from this exceptional historic period. Furthermore, the scientific literature with respect to organizational resilience, even if better developed currently, is far from reaching consensus on its definition and on its different stages or phases [1]. Moreover, there are scientific studies that cope with this organizational issue, specifically in very narrow business sectors. For instance, maritime business [2], among nurses [3], or more generally in the healthcare system [4]. It is also important to stress that organizational resilience has been studied above all in private organizations [5], often very important ones (as Apple, Microsoft, Kyocera, and so on), as if resilience were somehow the field of choice for private companies and organizations. As a result, it is also important to look at public organizations and how they develop organizational resilience. Critical public infrastructures have already been studied through this resilience lens [6]. It is therefore of interest to better study organizational resilience in public organizations as well. Astonishingly, publications with respect to organizational resilience

during or closely following the COVID-19 pandemic crisis are scarce or even lacking [4,7]. This article aims to fill two research gaps: investigating organizational resilience in the close aftermath of the COVID-19 pandemic, so as to better identify organizational levers that sustain resilience; and studying emergency organizations that are used to dealing with crises and can teach us a great deal about good practices when it comes to concretely developing organizational resilience. Among public institutions, pandemic management by police and penitentiary institutions has been less investigated compared to, e.g., healthcare systems, despite the fact that they were also affected—at different levels given their respective mandates—and may even have been particularly strongly impacted. We therefore feel that it would be useful to study the ways in which these emergency services, which are regularly confronted with crisis situations, acted and responded to COVID-19-related shocks.

The main aim of the study is therefore to investigate the organizational resilience (OR) of these institutions in terms of their operations and management by examining police and penitentiary institutions in French-speaking Switzerland. They had to cope with a situation of extreme organizational stress and continue to carry out their missions while controlling the spread of the virus. Health and safety issues required rapid changes in practices and/or the assignment of new tasks, necessitating OR. It is therefore important to identify the organizational, steering, and management levers that enabled them to cope with this very particular context. In addition, we identify the most significant among these levers and establish their interrelationships, which have to date received little research attention [8]. Our investigation also aims to identify possible areas for improvement.

The research question is, therefore, as follows: What organizational and managerial levers increased organizational resilience among police and prison institutions in French-speaking Switzerland to the constraints imposed by the COVID-19 pandemic? Our focus is on institutions in the French-speaking cantons of the Latin Helvetic concordat: Geneva, Vaud, Valais, Neuchâtel, Fribourg, and Jura.

## 2. Literature Review

### 2.1. Conceptualizing Organizational Resilience

The concept of OR is based on a common perception of the meaning of resilience, illustrated by its Latin etymology *resiliere*, ‘to bounce back’ [9]. This is close to the definition given by the physical sciences [5]: ‘a physical system’s capacity to return to its original form after a disturbance’ [10] (p. 491). Interest in applying this concept to organizations has emerged in response to the multiplication of disruptive or catastrophic events against the background of accelerating economic, societal, and technological transformations. Such events impact organizational functioning and may even threaten their survival [8,10–13]. Our definition of such disruptions includes those originating in nature, such as Hurricane Katrina, the Fukushima accident, and the COVID-19 pandemic, and those generated by humans, such as the 2008 financial crisis, terrorist attacks, or cyberterrorism [6,11,13]. In the remainder of this article, we will often use the term “crisis”. This is to underline the fact that organizational resilience is a temporal process. There is always a before-crisis, a during-crisis, and an after-crisis. Resilient organizations are those that learn from all three phases. In our study, we will use the term crisis to refer to the moment when organizations are faced with an unusual, urgent, and imperative situation to which they must respond. The definition of OR is clearly not a consensus among scientists [10,14–19]. OR was first understood as the implementation of skills enabling an organization to cope with shocks and ‘continue to meet its objectives’ [10] (p. 496) and realize its mission [11]. Now it is also conceived as a structural issue, in the sense that organizational structures also matter when it comes to explaining organizational resiliency [14]. Other studies consider organizational resilience above all as a learning process [16], mainly as a leadership issue [20], or even an issue that could primarily be solved by social interventions through human resources management practices [4,7]. All these perspectives, which are complementary rather than contradictory, nevertheless highlight the need for organizations to go outside their usual operational framework [9].

OR encompasses diverse phenomena; many dimensions are associated with it and no clear definition has yet been established. Thus, the concept remains difficult to operationalize and measure [8,9,15,19]. The most widespread conceptualizations of OR fall within the perspectives of resilience engineering (RE) and the more recent ecological resilience (ER) [9,11].

### 2.2. Resilience Engineering and Ecological Resilience

RE, imbued with a “machine” view of systems, with simple cause and effect dynamics’ [10] (p. 491), conceptualizes OR as the ability to bounce back ‘quickly to the functional “acceptable” state’ [11] (p. 86), primarily through the maintenance of functions and rapid recovery via the mobilization of resources required to cope with the shock [19].

Contrastingly, ER applies the notion of OR to complex social systems whose adaptive dimension is recognized. In addition to the capacity to bounce back from adversity [21], ER includes the ability to adapt to the crisis and continue to ‘thrive’ during it [9–11]. From this perspective, when faced with shocks, the most important factor is the ability to [adapt and transform] through the emergence of new structures such as policies, processes, and organizational culture that enable organizations to continue to perform their functions’ [10] (p. 491). In this way, the system learns from the disruptions encountered while absorbing them and reorganizing itself to emerge stronger [10]. Thus, a dynamic aimed at ‘getting stronger’ [9] (p. 191) is emphasized, since the objective is to overcome the previous state of functioning in order to grow through learning and flourish after the shock, rather than to merely remain the same and stabilize. Such crisis responses are part of a long-term, continuous, proactive process combining anticipatory and adaptive activities, demonstrating the organizational capacity to learn [9]. Finally, according to Barasa et al. [10], ‘organizations must focus on developing a capacity to adapt to changing environments’ (p. 500). While planned resilience is important, adaptive resilience is even more so in contexts characterized by uncertainty and unpredictability. Accordingly, while Tennakoon and Janadari [9] identify adaptive capacity as an overriding predictor of OR, they anchor it in the capacity to anticipate and integrate prior crisis learning as part of a proactive, ongoing process.

### 2.3. A Third Way between the RE and ER Perspectives

In Ruiz-Martin et al.’s [12] metamodel of the evolution of organizations from a fragile to an antifragile state, resilience is included as an intermediate stage of the continuum (i.e., from fragile to robust to resilient to antifragile). In a fragile state, a complex system (such as an organization) goes through and responds to a shock by breaking or sustaining damage [12,13]. A robust system, on the other hand, withstands known disturbances by absorbing them; however, ongoing stress may cause it to break and fail to recover. A resilient organization is not only robust, but also reacts to crises and unknown shocks by adapting to some extent, before bouncing back to the previous state of equilibrium or accessing a new point of stability [12]. It is thus better prepared to recover and survive than a robust organization, because response mechanisms are built into its design [12,13]. According to Tokalić et al. [13], a resilient system returns to its pre-shock state as soon as stress decreases. In defining OR, the authors thus rely on the RE perspective and confirm the adaptive dimension as a step preceding or leading to a return to the original state. However, Ruiz-Martin et al. [12] and Tokalić et al. [13] agree that if the new point of stability is better than the previous one, in other words, if the organization has become stronger and benefited more from the crisis than it has suffered from it, it is considered antifragile, a state beyond mere resilience. Indeed, antifragility enables a system to take advantage of both threats and opportunities to continue to flourish in a turbulent environment.

### 2.4. The Time Dimension of OR

Other scientists highlight the temporal dimension of OR, which manifests in three phases [15]. Firstly, upstream of the shock ( $t - 1$ ), the proactive, anticipatory, preparatory, or planning phase is identified [8,10,11,15,19]. Then, during the shock ( $t$ ), two types

of resilient responses are possible [15]. The first consists of absorbing the change and its harmful consequences [11,15,22] by maintaining the pre-shock equilibrium [15]. The second is adaptation through reorganization, transformation [10,11], reconfiguration, or the recombination of 'existant or novel resources' [15] (p. 406); such adaption should occur quickly in order to move to a new equilibrium point. Finally, after the shock ( $t + 1$ ) comes the phase of rebound or recovery from the crisis, which involves returning to the pre-shock state or reaching a new point of stability [15].

For Vakilzadeh and Haase [8], the process has three stages, corresponding to those cited by Conz and Magnani [15]. For Barasa et al. [10], the resilience process requires the implementation of actions in two phases, before and after the shock. This model corresponds to the one proposed by Rahi [11], to which Tenakoon and Janadari [9] also seem to subscribe. For Hillmann and Guenther [19], as well as for Ruiz-Martin et al. [12], if we place their conception on a timeline based on the conceptualization of the former, resilience occurs before and during the crisis.

### 2.5. Operationalization: Resilience Factors

In terms of the operationalization of OR, two main categories of analysis emerge from the literature. Firstly, Barasa et al. [10] define organizational hardware (or 'hard organizational material') as comprising three key ingredients: material resources, financial resources (enabling, among other things, the mobilization of other resources during the crisis), and technological resources (which can, for example, lead to the development of good information and communication systems; [8]. Secondly, organizational software [10] groups together the softer or intangible aspects of the system, elements that are perhaps more important than the first because, in addition to their usefulness in their own right, they contribute to mobilizing the resources that form the organizational hardware in an emergency and ensure that such formation occurs appropriately [10]. This second category contains all the other relevant variables in resilience. Within this category, we use most of the variables proposed by Vakilzadeh and Haase [8] as tools for classifying the set of associated indicators frequently found in the articles in our literature review (cf. Appendix A). Wherever possible, we also explain which phase(s) of the process they fall into, according to the different authors. We briefly note here the 10 variables identified: environmental knowledge construction systems, leadership practices, organizational culture, governance practices, human resources practices, information management and communication, social and environmental practices, resource reserves (ensuring access to varied resources and establishing collateral pathways), learning capacity, and organizational change management [4,7,8,10,11,15,19,20,22].

### 2.6. Research Propositions

We establish our research propositions based on their obvious link with the main dimensions and key phases of OR mentioned above (anticipation, absorption, adaptation, and learning). We assume that the six variables and associated indicators from the organizational software category set out below are essential levers in the resilience process. This represents 10 out of 33 indicators, associated with 6 out of 11 variables. For the sake of clarity, we refer to these variables as 'essential factors'.

Essential factor No. 1: An anticipatory and proactive organizational culture

OR is nurtured by 'an organizational culture that supports resilience' [8] (p. 7). This includes developing resilience plans and adopting a proactive long-term survival perspective, characterized by vigilance about risks that can strike at any time [8]. Barasa et al. [10] also highlight the value of developing risk management plans, crisis scenarios, and exercises. These form part of the ability to guarantee 'collateral pathways', i.e., the existence of alternative paths to achieving a goal when disruptions are encountered on another path.

#### Essential factor No. 2: Information management and communication

The importance of sharing information and knowledge and establishing effective communication both inside and outside the organization is well recognized [8,10,11]. In short, clear information management enables timely and appropriate adaptation to challenges [10] and contributes to building knowledge of the environment, a key factor of anticipation [8,10,11].

#### Essential factor No. 3: Leadership practices—liminal leadership

Among the leadership practices considered resilient, the ability to ‘introduce liminality’ [23] during shock consists of the ability of managers to ‘immediately initiate a new phase in the organizational lifecycle involving new routines and structural patterns’ [8] (p. 8) via the ability to ‘constantly make sense of the environment’ [8] (p. 8). The success of such an undertaking relies on certain managerial practices such as making sense of changes; this involves analyzing and interpreting them in terms of the organization’s objectives to realign its priorities [11,19]. Vakilzadeh and Haase further emphasize the importance of fostering relationships between members of the organization [8] and creating meaning. The establishment of a clear, shared vision through which to stimulate staff and focus energies is also emphasized [10]. Finally, leaders must be able to mobilize, ‘ensure availability of resources needed’ [11] (p. 94), articulate them in such a way that the organization can derive the greatest possible benefit during the crisis [8], and reduce the damage caused [11]. The liminal leadership approach covers all these practices [23].

#### Essential factor No. 4: Social and environmental practices

The existence and maintenance of social networks inside and outside the organization (also referred to as relational resources; [8]), enabling collaboration on various levels, is another OR factor [8,10]. Indeed, developing strong intra- and interorganizational social relationships supported by regular communications is a vector for knowledge transmission and mobilization [8,10,24]. In addition to being useful for constructing knowledge of the environment [11], evolving within a ‘networked environment’ [10] (p. 500) expands the pool of available resources and enhances learning and response capacities to disturbances [10,11]. Finally, according to Boissières and Marsden [24], frequent interactions as part of internal social practices foster the creation of strong relationships, contributing to the robustness of organizations and facilitating cooperation, all the more so in times of crisis. ‘The fact that people know each other “personally”’ [24] (p. 121) is a particularly important factor, especially pre-shock, as the configuration that social interactions take in normal times influences those that will develop in times of crisis.

#### Essential factor No. 5: Governance practices that promote agility

Among the governance practices highlighted, the decentralization of structures is considered a resilience factor [8,10,11]. It strengthens the potential for agility [25] and is an indicator of the organization’s adaptive capacities, providing ‘the necessary flexibility that [facilitates] timely responses’ [10] (p. 498). It induces a bottom-up decision-making mode and involves the initiative and empowerment of actors at the local level (managers and employees), whose commitment, knowledge and skills, innovation, and problem-identification capabilities are essential. As for iterative, nonlinear planning, it enables back-and-forth between organizational levels and trial-and-error learning logic. Additionally, the practice of deliberative democracy in decision-making is noted. This leads to a shared understanding between different actors based on information rooted in their direct knowledge of their own situation [26] and contributes to staff empowerment, developing their ‘trust, motivation and commitment’ [10] (p. 498). Transparency about decisions and processes is another key indicator. Finally, coordination between various organizational sectors helps avoid duplication of work, reduce managerial uncertainties, and improve efficiency, among other things.

### Essential factor No. 6: Learning capabilities

Learning from experience by analyzing and documenting it as it emerges from a crisis is important to avoid repeating the same mistakes; documentation also raises awareness of the organization's vulnerabilities and limitations. This creates better ground for anticipating the emergence of future threats. It is equally useful to learn from the experiences of other organizations, notably through the active exchange of information [8]. Similarly, some authors claim that organizational culture should promote certain attitudes towards hardship, such as the ability to see it as a (learning) opportunity [10,19], to improve resilience.

### 3. Methodology

The study sample comprised officers from a total of nine cantonal institutions (five police and four prison institutions). Within these institutions, we conducted semi-structured interviews lasting an average of one hour, with 25 people, both male and female, including 22 senior managers in ranks N to N – 2, two middle managers in rank N – 3, and one person who managed the relay of health information both internally and externally at one prison. All these interviews were conducted in 2022 (from January to March), i.e., after the COVID-19 crisis, but close enough for the interviewees' memories to be sufficiently vivid. The interview grid was developed on the basis of the resilience factors deduced from the literature review. We then carried out a thematic analysis of the data, using a closed coding model, based on reports of the interviews conducted [27]. Two researchers, one a research associate and the other an experienced researcher, analyzed the qualitative data collected during the interviews separately and then jointly, using a thematic analysis.

The fourteen codes on which the analysis of the collected data was based were also created to deal with all the resilience factors. The exercise of deconstructing and reconstructing categories of indicators, which were divided into different items or grouped together under a single item (which was used to process the data and build the interview grid), was repeated at this stage. This involved assigning a code to specific variables and indicators, but also sometimes dividing up indicators associated with the same variable into different codes, or grouping together indicators associated with different variables in the same code. Although the study covered all of the latter, we restrict the presentation of the analysis here to the factors retained within the framework of the essential factors above, equivalent, therefore, to six codes.

### 4. Results

It should be noted at the outset that interviews were conducted with a variable number of respondents for each institution. Similarly, it was not always possible to address all the indicators with each respondent. Thus, in order to define the frequency with which resilience factors were existent or activated, we base ourselves on the number of institutions where they were mentioned, rather than on the number of interviewees who cited them. Note that there are nuances in terms of how institutions operate, which means that a particular OR factor may be present at one site but not another. In such cases, we nevertheless note that the factor is present at the institution in question. The scale chosen to list them is as follows: 'Majority' or 'most' in the case of seven, eight, or nine institutions; 'Several' or 'often' in the case of four, five, or six institutions; and 'Minority', 'rare', or 'few' in the case of one, two, or three institutions.

#### Essential factor No. 1: Anticipatory and proactive organizational culture

A culture of anticipation and proactivity reflects a long-term vision of survival [8]. In the case of the institutions we studied, situations are anticipated at the level of operations through the establishment of collateral pathways. Organizations do not actually draw up multiple plans, scenarios, and exercises for each type of risk. Rather, the way they work internally and with their partners, and the resources they have to deploy in the face of different types of shock, constitute their anticipation. Most police and prison institutions have various risk management plans and crisis scenarios. These plans involve

prioritizing, reorganizing, reducing, or abandoning activities and services, as well as reassigning staff, depending on the severity of the crisis and mainly in the event of staff shortages. In short, the ‘toolbox is ready’, in the words of one cantonal police executive. In addition, each canton has a cantonal crisis management structure, or état-major cantonal de conduite (EMCC), which is activated by the executive in the event of major disasters. These structures—on which cantonal police forces (but not prisons) are based—organize annual crisis management training and exercises. Police forces also benefit from the support of the French-speaking part of Switzerland’s Groupe d’Intervention (GI), as well as annual training organized by the Réseau National de Sécurité (National Security Network) for dealing with extraordinary risks (terrorist attacks, power blackouts, etc.).

Explaining this anticipatory posture, as well as the agility, flexibility, and responsiveness shown by these institutions during the COVID-19 crisis, respondents from a majority of the organizations point out that these characteristics constitute a culture inscribed in the organizational structures of emergency service institutions. In fact, in addition to crisis management plans, versatility is formalized in specifications, according to one respondent. Staff are also flexible and accustomed to working in a hurry, assessing risks on a regular basis, and coping with unforeseen events and changes in activities. In this way, while the crisis took them by surprise (by its nature and scale), existing reorganization capabilities and operating methods, pre-established structures, and experience working with external partners enabled them to adapt quickly.

Essential factor No. 2: Information management and communication

On the basis of our literature review and interview data, it appears that using direct interpersonal communication channels and having direct referents known before and during the crisis, among other things, facilitates crisis management and contributes to effective communication [24]. The first of these aspects corroborates the contributions of Daft and Lengel’s ‘media richness theory’, according to which ‘a [communication] medium is considered rich when it contributes to a shared vision or understanding between actors’ [28] (p. 26) and thus enables discussion; ‘On the contrary, for well-defined situations where the level of equivocality is low, poorer media such as written documents will suffice’ [28] (p. 27). Thus, in descending order of richness, face-to-face meetings and telephone calls fall into the category of rich media, followed by personal written communications (aimed at a particular person) and impersonal written documents, described as personal and impersonal poor media, respectively [28]. Table 1 below describes the information and communication systems deployed within organizations, as well as the types of channels or media preferred internally and with external partners.

**Table 1.** Communication channels utilized by the studied organizations.

<b>Internal Channels</b>	<b>Top-Down</b>	<b>Bottom-Up</b>	<b>Horizontal</b>
Rich media: bilateral or group face-to-face contact (in person or via videoconferencing)	Majority	Majority	Majority
Rich media: telephone, radio	Several	Minority	Several
Personal poor media: SMS, WhatsApp groups	Minority	Minority	Ø data
Personal poor media: e-mails	Several	Minority	Minority
Impersonal poor media: intranet, newsletter, SharePoint, notice boards, etc.	Majority	Minority	Several
<b>External channels</b>	<b>Typical partners (intra- and intercantonal)</b>		
Rich media: face-to-face or videoconferencing	Majority		
Rich media: telephone, radio	Several		
Personal poor media: e-mails	Minority (one mention)		

Finally, in addition to the obstacles to communication inherent in the crisis itself—characterized by ‘infobesity’—communication problems at both intra- and inter-cantonal levels arise due to the absence of direct, known points of contact established prior to the crisis. Conversely, having direct contacts based on pre-established bonds of trust and communication facilitates information exchange during the crisis. By way of illustration, two penitentiary institutions encountered difficulties in obtaining information and in having their specific situation and needs understood and taken into account by EMCC decision-makers. This was due in part to the fact that no direct representative of these institutions sat on the EMCC. Contrastingly, in another canton, direct telephone communications (made possible by social proximity due to the small size of the canton) between the head of the penitentiary service and the political authorities facilitated the obtaining of (notably informational) resources. Similarly, in another canton, the in-person presence of a penitentiary director within the EMCC (due to his parallel activities) also facilitated access to (informational) resources.

#### Essential factor No. 3: Leadership practices

Liminal leadership practices consist of constantly making sense of the environment in order to rapidly initiate a new phase in the organization’s conduct through the establishment of new structural operating modes. This is made possible by recognizing changes and analyzing and interpreting them in terms of the organization’s objectives in order to realign priorities; it also requires ensuring the availability of the necessary resources [8,11,19]. In all cases, this analysis and interpretation work—underpinned by the use of environmental knowledge-building systems—leads to the implementation of crisis plans aimed at reorganizing resources and activities and establishing new missions. As part of the realignment of priorities, the creation of operational manpower reserves and the reallocation of personnel to new tasks are essential activities.

This process is also about stimulating and mobilizing energies towards achieving the goal. Fostering relationships within the organization and creating meaning and a clear, shared vision contribute to this [8,10]. In most institutions, relationships are fostered by the frequency of institutionalized and informal communications through rich media. In particular, the majority of penitentiary institutions maintain numerous exchanges between various hierarchical levels; such exchanges are explicitly encouraged, helping to create a strong ‘esprit de corps’. The adoption of managerial postures, such as being open to fears and divergent opinions and actively pursuing mediation, is also cited by most institutions as having contributed to ‘keeping everyone on board’. Most also confirm the importance of conveying clear messages, instructions, and objectives, as well as ensuring unity of action by establishing a common way of working.

#### Essential factor No. 4: Social and environmental practices

Developing and maintaining solid internal and external social networks requires regular communication, and collaboration in times of crisis is facilitated by previously established personal relationships [8,24]. We therefore specify here the different modes of communication (intra- and interorganizational) deployed by institutions, their formal or informal nature, as well as their frequency (which generally intensified during the crisis): regular (daily, several times a week, or weekly); monthly; annual (once or several times a year); and one-off. These parameters give us an idea of the extent to which they foster social relations and effective communication.

In terms of internal networks, most institutions use rich media on a regular basis for formal communications between managers at different levels (top-down and bottom-up). Several institutions also use rich media on a regular basis for formal exchanges at the field level (horizontal) and between the field and various hierarchical levels (bottom-up). In several institutions, poor formal media are used for the unilateral dissemination of top-down information. As for informal exchanges, in most cases, the spatial proximity between actors at various hierarchical levels in the workplace favors face-to-face interactions (rich media).

In contrast, the use of poor media for informal top-down and horizontal communications is rarely mentioned.

With regard to external networks (cantonal and intercantonal), interorganizational collaborations are aimed at exchanging information and knowledge, as well as providing support in terms of material and human resources, during interventions. In this case, respondents from most institutions claim to have direct contacts and maintain regular communications (formal and informal) through rich media with their usual partners (this is more pronounced at the cantonal level). However, it would appear from our data that, by the very nature of its activities, the police sector has a wider network than the prison sector, at cantonal, intercantonal, and even international levels. Mention is also often made of other opportunities for interpersonal encounters between police officers of different hierarchical levels in the context of joint interventions, training, and exercises, as well as with partners from other sectors at cantonal and national levels.

#### Essential factor No. 5: Governance practices favoring agility

Exercising governance practices that promote organizational agility helps improve adaptive responses [8,10,11]. While structural decentralization seems to be integrated to varying degrees into the normal functioning of most institutions, its role during a crisis is even more crucial. In several institutions, for example, leadership structures were organized into headquarters staffed by senior executives who were assigned specific roles and missions (internal/external communication, logistics, planning of activities and resources, etc.). Operational management was then carried out by middle managers and field operatives, who were given considerable room to maneuver within the framework of set objectives. Finally, in the majority of prisons, flexibility prevailed in the application by facility management of decisions taken jointly within management structures to enable adaptation to the specific features of the various sites. Such difficulties of coordination in an emergency situation, caused by excessively large differences between sites, also occurred in the case of prisons at the intercantonal level.

In addition, the usefulness of coordination in crisis situations between internal and external (intra- and intercantonal) partners, as well as bottom-up and horizontal coordination at both strategic and operational levels, is recognized by the majority of institutions. Shaped by enhanced communication, such coordination improves collaboration and resource mobilization, management efficiency, and the consistent implementation of health measures.

Iterative planning seems to be of marked importance, especially in times of crisis, in the majority of institutions. Given that this practice is underpinned by bottom-up mechanisms and processes, we first note that the value of including field agents' proposals in decision-making is recognized by the majority of institutions. We also observe that face-to-face bilateral or group meetings, involving various hierarchical levels or managers of different ranks, seem to be preferred. In fact, they are mentioned by the majority of institutions, unlike other channels. In the early stages of an emergency, however, the general tendency is to centralize strategic decision making at management structure levels and, subsequently, to request and incorporate feedback from the field in order to adapt and refine measures.

The usefulness of transparency in decisions and processes—described as an asset for mobilizing staff to achieve set objectives—is also often emphasized. This is also the case for collective intelligence (understood here as synonymous with deliberative democracy), which leads to the implementation of appropriate solutions.

#### Essential factor No. 6: Learning skills

This code aims to determine the learning capacities of the sampled institutions, in particular through the institutionalization of learning practices through the analysis and documentation of their own crisis experience [8]. In this context, the institutionalized feedback system (RETEX) appears to be a vehicle for sharing knowledge and carrying out assessments. It takes the form of discussions held after any intervention and exists within all institutions, at every hierarchical level, and sometimes in an upward direction when considered relevant. In the case of cantonal police forces, we were told that RETEX

is systematically carried out at all levels (and is more structured as you move up the hierarchical pyramid, according to some respondents). In a few cases, follow-up to RETEX is mentioned, such as the assignment of new tasks, the creation of operational training courses, or the drawing up of best practice reports, which are then shared. In the case of the COVID-19 crisis, the system was used to adjust measures in line with feedback from the field.

Finally, the majority of institutions claim that different approaches were tried at all levels and between different levels, demonstrating an ability to perceive crises as learning opportunities [8,10]. Lessons were also learned about the importance of establishing a clear message and about what a crisis of the magnitude of COVID-19 generated in terms of planning and reorganization. Organizations also stated they came away with a stronger network of partners thanks to mutual support given during the crisis. New synergies were also developed from internal collaboration; emphasis was placed on reactivity and flexibility in decision-making and operational responses, as well as adaptation to staff shortages, among other things. Furthermore, operational improvements were tested, such as alternative organization and management models; the intention was to continue using them post-crisis. The crisis experience also accelerated the introduction of new communication tools, testing certain processes in situ, and correcting certain habitual ways of doing things.

## 5. Discussion

### 5.1. Essential Resilience Factors

Our results largely confirm our theoretical expectations. Our results also confirm that it is important to draw on several dimensions of organizational resilience and to have the literature on the subject discussed. Indeed, of all the resilience factors highlighted, the six variables and several of the associated indicators chosen to form our research propositions (essential factors) seem to have contributed to the OR of the institutions in our study sample in a particularly important way. In particular, the numerous and very rich dimensions identified in our literature review all seem to play an important role in explaining organizational resilience in the organizations studied. This confirms the interest of this scientific literature on organizational resilience. However, we would like to highlight some of the particularly important factors that we were able to identify during our fieldwork. More specifically, we highlight the usefulness of collateral pathways in the form of risk management plans drawn up ahead of the shock, with a view to long-term survival (anticipatory organizational culture). These were decisive in terms of ensuring responsiveness and agility when the crisis arrived.

We also note that, among institutions lacking certain resources considered essential by the literature (i.e., financial resources) and other resources highlighted through our interviews (i.e., human resources), certain factors were called upon more than others during the shock. Indeed, we note that institutions facing structural or cyclical problems have relied on specific resilience factors to compensate for these shortcomings. Specifically, our interpretations of the collected data indicate that they found support in the social relationships forged within the organization, fostered by spatial proximity and regular communication via rich media (social practices). We also note the value of having developed a network of external partners through rich media, fostering personal acquaintances. The latter thus became direct points of contact to be called upon in crisis situations, making information transmission and communication more effective, as well as facilitating the mobilization of various resources (environmental practices). Similarly, organizational decentralization has contributed to flexible, responsive crisis management (governance practices promoting agility). The factor that we determine to be essential to activate after the shock has occurred is the sharing of experiences from a learning perspective, notably institutionalized here through the RETEX system (learning capabilities). This factor has a counterpart during the shock, i.e., iterative planning (governance practices favoring agility).

Finally, when we tried to compare these findings with the resources that our respondents deemed essential in crisis management, the importance of information management and communication, as well as the ability to introduce liminality (leadership practices), became apparent. Indeed, communication (associated with these two factors) is considered paramount by executives from a majority of institutions; for those who specified it, such communication may involve the establishment of clear objectives, should give meaning and seek to speak with a common voice.

Thus, in relation to our empirical data, five of the six factors that we consider essential are identified as resilience factors (without being qualified as essential in the sense that we understand it) by the three articles in our literature review whose main focus is the operationalization of the OR concept [8,10,11]. Namely, the five factors are: anticipatory and proactive organizational culture (within which two papers explicitly mention collateral pathways; [8,10]), social and environmental practices, information management and communication, governance practices favoring agility, and practices associated with liminal leadership [23]. The other factor, learning capabilities, is noted in two articles [8,10].

### 5.2. Study Limitations

The first limitation is that we spoke to a variable number of respondents in each institution; furthermore, they were of different ranks and positions. This can lead to variability in the subjects covered in the interviews, particularly because the people interviewed do not all have the same duties, the same specifications, and the same professional objectives to achieve. This variability may also be due to the fact that we were unable to ask all our interviewees all the questions during the interviews because of time constraints. A second limitation relates to the general nature of the analyses, stemming from the fact that we did not establish nuances between the functioning of different sites or sectors of the institutions. As sociologists know perfectly well, organizational culture and characteristics matter when it comes to explaining organizational responses to crises, for instance. Similarly, we did not go into the details of each indicator during our interviews, because of a lack of time. The third limitation is that this research only collected managers' points of view. This may constitute a bias with regard to certain elements, notably the relations between the latter and field employees, which are underpinned by delicate and complex dynamics, as evidenced, for example, by the literature on organizational silence [29]. A next step, to complete our data and gain a more complex and detailed view of the resilience capabilities of the organizations in our study, would be to conduct interviews with employees in the field. The literature on street-level bureaucracy has clearly shown that public servants in the field are creative and capable of dealing with the unexpected with a great deal of agility and common sense [30,31].

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**Institutional Review Board Statement:** Ethical review and approval were waived for this study because each of the organizations studied gave their explicit agreement to take part in our research. In addition, the conditions of respondent anonymity and data confidentiality were respected at every stage of our research.

**Informed Consent Statement:** From a formal point of view, the University of Lausanne, to which the scientists involved in this research are attached, does not require an ethics certificate for research that does not involve clinical, medical or psychological experiments involving humans or animals. Consequently, our research did not require prior approval from the University of Lausanne's ethics committee. We were therefore not obliged to ask participants in our survey to sign an explicit and formal consent form. Of course, each of the people interviewed as part of our work gave their prior

consent not only to the conduct of our interview, but also to the use of the qualitative data obtained from it. But these agreements were obtained verbally. It should be noted that the participants in our survey were duly informed about the use of the data, enjoyed total transparency in the survey method we chose, and benefited from complete confidentiality of their comments, insofar as the anonymisation of the data was ensured throughout the survey process.

**Data Availability Statement:** Our interview data, in the form of minutes, are not available for reasons of confidentiality and data anonymization. This is the agreement we reached with the organizations taking part in our study.

**Conflicts of Interest:** The authors declare no conflicts of interest.

### Appendix A

**Table A1.** All variables and indicators.

Variables	Indicators			
Organizational hardware				
Resources (t – 1, t)	Materials and structures [10,14,21]	Financial and capital [5,8,10,21]	Technological [8,10]	
Organizational software				
Knowledge of internal/external environment (t – 1, t, t + 1)	Knowing the operating environment: resources available for ‘minimum operating requirements’ [5,11], p. 92]	Monitor organizational health and vulnerabilities [5,11]	Assess the internal environment: understand the factors that trigger a crisis and identify changes and warning signals [10,11]	Assessing the external environment: understanding crisis triggers and spotting changes and warning signs; learning from adversity [5,10,11,21]
Leadership (t – 1, t, t + 1)	(t – 1) Anticipation: 1. Deploy resources to promote employee commitment and training, and implement technical measures to anticipate and cope with adversity. 2. Identify problems and early signs of crisis. [8,11,23]	(t – 1, t) Liminal leadership practices 1. Make sense of the environment, interpret it, and realign priorities 2. Promoting relationships 3. Creating meaning and communicating a clear, shared vision 4. Ensure the availability of resources and articulate them appropriately [8,10,11,19,20,23]	(t – 1, t) Complex leadership practices: Profile of facilitators and mediators, recognize complexity and adapt your practice to SAC [3,10,20,23]	(t – 1, t) Inclusive decision-making and social interactions [10,24]
Organizational culture (t – 1, t)	Anticipation and proactivity: drawing up resilience and risk management plans, exercises, and crisis scenarios [5,8,10,11,19]	See crises as opportunities, especially for learning [5,8,10,19,21,22]	Supporting innovation and creativity: encouraging the sharing of ideas and knowledge (between and within organizations) [5,8,10,11]	Promote agility, improvisation, and internal cooperation [5,8,13,15,25]

Table A1. Cont.

Governance practices ( $t - 1, t, t + 1$ )	Robust organizational governance practices (control and stability): 1. Characteristics of centralized structures 2. Strong social relations, notably through frequent interpersonal communication [5,15,24]	Governance practices favoring organizational agility (multiple and fast answers) [8,10,11,25]	
Human resources practices ( $t - 1, t, t + 1$ )	Recruit the right number of employees with the right skills for the job, and clearly assign roles and responsibilities: Develop high-performance work systems [4,7,8,10,11]	Developing skills and knowledge and recruiting agents with resilient characteristics [4,7,8,10,11]	Promote well-being and, by extension, motivation, and commitment: 1. Encourage the expression of emotions and the sharing of information 2. Deploy adequate resources to meet needs and actively listen to staff [4,10]  Promote workforce diversity: age, gender, education (skills) [8]
Information management and communication ( $t - 1, t$ )	Share information and knowledge inside and outside organizations [4,8,10,11]	Reduce organizational barriers to communication by setting up information and environmental monitoring systems [8,11,20]	
Social and environmental practices ( $t - 1, t, t + 1$ )	Develop and maintain internal and external social networks and trust for collaborative purposes [4,8,10,11]	Create strong relationships through frequent, interpersonal, pre-shock communications [4,8,10,24]	
Resource reserves, varied resources and collateral pathways ( $t - 1, t$ )	Have resource reserves to mobilize in an emergency (anticipation for absorption) [8,10,15]	Ensuring access to varied resources (anticipation for adaptation) [15]	Establish collateral pathways: foresee several ways of carrying out the organization's mission (anticipation for adaptation) [8,10]
Learning skills ( $t + 1$ )	Analyse and document crisis experiences [8]	Learn from the experience of others through the active exchange of information [8,20]	
Organizational change management ( $t + 1$ )	Implementing learning through activities of transformation [8,22]	Conveying a renewal discourse by focusing on the future [8]	Cultural transformation: instilling a renewed awareness of risk within the organization [8,20]

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