



Kristiania

Redefining the IDEAL in Crisis Communication Strategies

Anna Elisabeth Hasselström

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Abstract

Traditional crisis communication models in the public sector frequently fail to align organizational priorities with audience expectations, especially during prolonged crises. This misalignment not only risks restricting public engagement and self-efficacy but also diminishing institutional trust and credibility. This dissertation, therefore, aims to develop a framework for public crisis communication leadership by comparatively analyzing how Scandinavian public health authorities (PHAs) used institutional messaging across visual, textual, and video modes during the prolonged COVID-19 pandemic. The study further examines how these communicative strategies interacted with governance contexts to shape crisis communication. Through an examination of social media, expert opinion, and press conferences, this dissertation uses a comparative research design to contrast how Scandinavian PHAs adopted strategies to instruct, offer support, and manage their reputations as credible public health experts.

Findings from social media indicated that PHAs prioritized reputation management and instructive messaging, while audiences engaged more strongly with instructive content. Building on these insights, expert interviews indicated that both the content of instructional messages and the leadership qualities of PHAs shape audiences' perceptions of crisis instructions. Consequently, PHAs must account for how their messages are internalized and understood, as well as whether PHAs, as the source of information, are perceived as trustworthy. Based on these insights, this dissertation introduces the IDEA(L) model, an extended model of the existing IDEA model of instructive crisis communication. The extended

model consists of five key components: internalization, explanation, action, distribution, and legitimacy. An empirical analysis of press conferences revealed that PHAs in Scandinavia adhered to all elements of the extended IDEA(L) model during the COVID-19 pandemic, though there were some national differences. Norwegian PHAs focused on an internalizing, explanatory, and legitimate approach; Danish PHAs emphasized an actionable and legitimate approach; and Swedish PHAs prioritized providing explanations.

This dissertation, therefore, argues that combining instructional content per the IDEA model with legitimacy-focused strategies can improve public understanding, trust, and compliance during complex, prolonged public crises.

Sammendrag

Tradisjonelle krisekommunikasjonsmodeller i offentlig sektor klarer ofte ikke å tilpasse organisatoriske prioriteringer til publikums forventninger, spesielt under langvarige kriser. Denne feiljusteringen risikerer ikke bare å begrense offentlig engasjement og handlekraft, men også å redusere institusjonell tillit og troverdighet. Denne avhandlingen har derfor som mål å utvikle et rammeverk for offentlig krisekommunikasjonsledelse ved komparativt å analysere hvordan skandinaviske folkehelsemyndigheter (PHA-er) brukte institusjonell kommunikasjon på tvers av visuelle, tekstlige og videobaserte uttrykksformer under den langvarige COVID-19-pandemien. Studien undersøker videre hvordan disse kommunikative strategiene samvirket med styringskontekster for å forme krisekommunikasjon.

Gjennom en undersøkelse av sosiale medier, ekspertuttalelser og pressekonferanser benytter avhandlingen et iterativt, komparativt og multimodalt forskningsdesign for å sammenligne hvordan skandinaviske PHA-er tok i bruk strategier for å instruere, tilby støtte og håndtere sitt omdømme som troverdige folkehelseeksperter.

Funn fra sosiale medier indikerte at PHA-ene prioriterte omdømmehåndtering og instruktive meldinger, mens publikum engasjerte seg sterkere i instruktivt innhold. Med utgangspunkt i denne innsikten viste ekspertintervjuer at publikums oppfatning av instruksjonsinnhold formes av både budskapets innhold og lederegenskapene til PHA-ene. Krisekommunikasjon må derfor vurdere hvordan budskap internaliseres og forstås, samt hvordan kilden oppfattes med hensyn til pålitelighet.

Basert på denne innsikten introduserer avhandlingen IDEA(L)-modellen, en videreutvikling av den eksisterende IDEA-modellen for instruktiv krisekommunikasjon. Den utvidede modellen består av fem nøkkelkomponenter: internalisering, forklaring, handling, distribusjon og legitimitet.

En empirisk analyse av pressekonferanser viste at de skandinaviske folkehelsemyndighetene fulgte alle elementene i den utvidede IDEA(L)-modellen under covid-19-pandemien, selv om det var enkelte nasjonale forskjeller. Norske PHA-er fokuserte på en internaliserende, forklarende og legitim tilnærming. Danske PHA-er la vekt på en handlingsorientert og legitim tilnærming, mens svenske PHA-er prioriterte forklarende kommunikasjon.

Denne avhandlingen argumenterer derfor for at en kombinasjon av instruksjonsbasert innhold i tråd med IDEA-modellen og strategier som vektlegger legitimitet kan bidra til å styrke offentlig forståelse, tillit og etterlevelse under komplekse og langvarige offentlige kriser.

List of Publications

Hasselström, A. E., & Larsson, A. O. (2024). Managing the Pandemic in Digitized Spaces: Assessing the Social Media Approaches of Scandinavian Public Health Authorities. *Social Media + Society*, 10(3). <https://doi.org/10.1177/20563051241269283>

Hasselström, A. E., & Larsson, A. O. (2025). Crisis? What crisis? Assessing over-time public engagement with crisis communication on social media during COVID-19 in Scandinavia. *Information, Communication & Society*, 1–18. <https://doi.org/10.1080/1369118X.2025.2498691>

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Appendix B – *Publication II: Crisis? What Crisis? Assessing Over-Time Public Engagement with Crisis Communication on Social Media during COVID-19 in Scandinavia*

Appendix C – *Publication III: Public Leadership during Prolonged Crises: Multisectoral and Community-Centric Approach*

Appendix D – *Publication IV: Distributing Instructive and Legitimate Crisis Communication: COVID-19 Press Conferences in Scandinavia*

Appendix E – *Codebook: Publications I and II*

Appendix F – *Interview guide: Publication III*

Appendix G – *Participant Consent Form: Publication III*

List of Abbreviations

WHO	World Health Organization
PHAs	Public Health Authorities
IDEA	Internalization, Distribution, Explanation, Action
IDEA(L)	Internalization, Distribution, Explanation, Action, Legitimacy
SCCT	Situational Crisis Communication Theory
IRT	Image Repair Theory
RCCE	Risk Communication and Community Engagement
CR	Critical Realism
MSSD	Most Similar Systems Design
CA	Content Analysis
TA	Thematic Analysis

1. Introduction

Public health crises remain among the most persistent global threats to humanity. Infectious diseases can spread rapidly and can cross borders within weeks of detection, rendering these dangers unconfined by time or geography (Sellnow & Sellnow, 2024). Throughout history, epidemics have claimed more lives than wars and famines combined (Bali Swain et al., 2024; Kenny, 2021). Today, factors such as increased human mobility, globalization, and rapid urbanization intensify the risk and impact of viral outbreaks (Bali Swain et al., 2024).

When epidemics evolve into pandemics, they represent a convergence of multiple risks and crises on an unprecedented scale (Sellnow & Sellnow, 2024), impacting public attitudes, policies, alliances, and institutional practices (Diers-Lawson & Omondi, 2024). In December 2019, this threat became reality when the first cases of SARS-CoV-2, a novel coronavirus, were detected at the Huanan Seafood Wholesale Market in Wuhan, China. By January 30, 2020, the World Health Organization (WHO) had declared the viral infection, commonly referred to as COVID-19, an international public health emergency. On March 11, 2020, the WHO officially declared COVID-19 a pandemic (Beladiya et al., 2024). Over the next three years, COVID-19 continued to spread and mutate, triggering repeated waves of infection similar to those seen during the 1918 Spanish flu pandemic (Bali Swain et al., 2024) and claimed millions of lives (WHO, 2023).

The COVID-19 pandemic placed governmental communication at the forefront of crisis response, with Public Health Authorities (PHAs), consisting of government officials, healthcare professionals, crisis-related agencies, etc., as the face of crisis leadership (Wodak, 2021). As the

principal representatives of crisis leadership, PHAs assumed the critical role of providing strategic health and crisis communication. In essence, they were responsible for delivering crafted messages that not only inform but also effectively guide public understanding and behavior throughout the outbreak.

According to Sturges (1994), achieving attitudinal or behavioral change among intended publics requires a shift from traditional, organization-centric models that emphasize organizational interests and image protection to a stakeholder-centered approach. Within this paradigm, communicative priorities are realigned to address first and foremost the informational needs of stakeholders, with particular emphasis on ensuring their safety and psychological well-being, thereby situating strategic communication as an inherently protective, stakeholder-oriented practice that incorporates both sense-making and instructional frameworks. During COVID-19, this required ongoing guidance and communication about evolving infectious risks and corresponding public health measures, including social distancing mandates, lockdowns, and mandatory face mask use (Bali Swain et al., 2024; Cacciapaglia et al., 2021; Coccia, 2021).

However, Sturges (1994) further argues that institutional self-promotion and organizational interests remain integral to crisis communication, albeit as a secondary concern. This entails that, operating within complex bureaucratic ecosystems shaped by democracy in the form of political oversight and public scrutiny (Boin & Christensen, 2008; Frandsen & Johansen, 2009; Ndlela, 2019), PHAs must engage in communication practices that sustain and build crisis information credibility, while continually reinforcing their institutional authority as the primary source of

pandemic guidance. Consequently, the communicative mandate of PHAs is best understood as an ongoing endeavor in which they actively construct and convey their crisis framing, articulate evidence-based best practices, and assert their leadership.

With the onset of lockdown measures, digital interactions quickly replaced in-person contact (Cersosimo & Landolfi, 2021). This transition expanded the range of voices in pandemic-related public discourse, thereby heightening competition for informational and narrative authority. As a result, information flows grew increasingly fragmented, making it more challenging for PHAs to sustain epistemic authority and deliver a consistent crisis narrative (Liu & Baur, 2025).

These dynamics were further compounded by structural pressures, including nationalism, geopolitical tensions, inequitable resource distribution, and inadequate outreach to vulnerable groups (Liu & Baur, 2025; Löffelholz & Xu, 2025). Collectively, these factors led to disparate access to trustworthy information and essential support, as well as intensifying social isolation and worsening mental health challenges (Ganesan et al., 2021). In this strained informational landscape, the spread of misinformation and conspiracy narratives, often termed an “infodemic”, further undermined public sense-making (Cinelli et al., 2020; Liu & Baur, 2025) and contributed to declining public trust and reduced compliance with public health guidance (Ganesan et al., 2021).

Scholars argue that more effective pandemic communicative leadership could have reduced this public confusion and mistrust (e.g., Liu & Baur, 2025; Löffelholz & Xu, 2025). With clearer, more inclusive messaging, earlier investment in testing infrastructure, stronger collaboration with the

media, and proactive efforts to address vaccine hesitancy and misinformation, public engagement and response might have bolstered community resilience. Since the conditions that enabled COVID-19, e.g., global connectivity, high population density, viral mutations, and declining attention to public health preparedness, remain present, scholars consider another pandemic not only possible, but likely (Salmanton-García et al., 2024). This underscores the need to improve health infrastructure, build stronger international collaboration, and examine more closely the communicative challenges that shaped the COVID-19 responses. More importantly, it underscores the imperative to develop communication strategies that serve the needs of stakeholders while advancing PHAs organizational objectives.

1.1 Pandemic Communication

The COVID-19 pandemic has been described as a mega-risk (Sellnow & Sellnow, 2024), a prolonged crisis (Diers-Lawson & Omondi, 2024), and, due to the crucial role official websites and social media played in information dissemination (Carlsen et al., 2021), as the first "data-driven pandemic" in human history (Okuhara et al., 2025). For scholars in risk and crisis communication, this pandemic presented a significant theoretical challenge, as existing communication models proved inadequate to address its complexity (Sellnow, 2025). Due to the lack of straightforward cause-and-effect explanations, COVID-19 blurred the lines between traditional risk communication, which focuses on transparency, dialogue, and participation (Kasperson et al., 2013), and crisis communication, which emphasizes urgency and directive messaging aimed at protecting lives and maintaining institutional credibility (Mileti & Peek, 2000; Sellnow

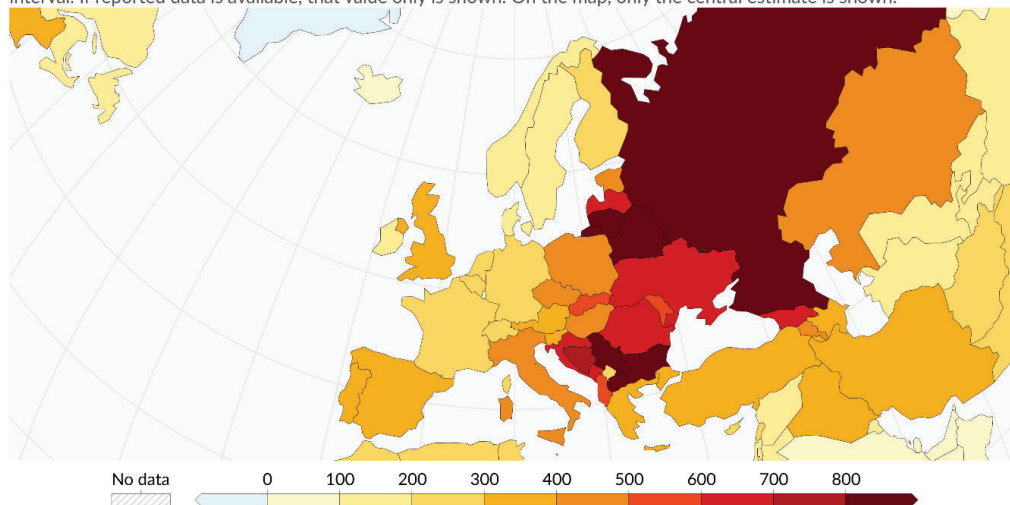
& Sellnow, 2010). Globally, both transparent risk communication and effective crisis response were often lacking, leading to a high death toll and weakened institutional trust (Liu & Baur, 2025; Löffelholz & Xu, 2025).

Despite international shortcomings, Scandinavia, which consists of Denmark, Norway, and Sweden, saw a significant rally-around-the-flag effect in the early weeks of the pandemic, with citizens expressing strong trust in their government agencies (Ihlen, Johansson, et al., 2022; Johansson, Sohlberg, et al., 2023; Skogerbø et al., 2024). While crises often see an increased rally-around-the-flag effect in the initial phase, according to surveys conducted in 2020, trust in PHAs remained high in all three countries even after the initial weeks of the pandemic (Helsingen et al., 2020; Nielsen & Lindvall, 2021).

Furthermore, excess mortality in Scandinavia remained relatively low (see Figure 1), albeit with spikes in mortality rates (Forthun et al., 2024), with estimated cumulative deaths per 100,000 people ranging between 114 in Denmark and 179 in Sweden by the end of the declared pandemic (Mathieu et al., 2020). What's more, when vaccines became available in 2021, all three countries surpassed the WHO's 70% vaccination target (Adawy, 2023).

Estimated cumulative excess deaths per 100,000 people during COVID-19, Feb 27, 2023

For countries that have not reported all-cause mortality data for a given week, an estimate is shown, with uncertainty interval. If reported data is available, that value only is shown. On the map, only the central estimate is shown.



Data source: The Economist (2024); World Health Organization (2025); Population based on various sources (2024)

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Note: For some countries, all-cause deaths and COVID-19 deaths use different date schemes, in which one refers to when the death occurred and the other to when it was reported. This difference could produce an artificial lag between the two time series.

Figure 1

Estimated Cumulative Excess Deaths in Europe per 100,000 People During COVID-19.

Note. From *COVID-19 pandemic* by E. Mathieu, H. Ritchie, L. Rodés-Guirao, C. Appel, D. Gavrilov, C. Giattino, J. Hasell, B. Macdonald, S. Dattani, D. Beltekian, E. Ortiz-Ospina, & M. Roser, 2025, Our World in Data (<https://ourworldindata.org/coronavirus>). Licensed under CC BY.

The Scandinavian countries feature closely aligned institutions, political cultures, media systems, and high levels of public trust (Bendixsen et al., 2018). These institutional, cultural, and social factors may help explain the region's generally favorable pandemic outcomes, as they create conditions conducive to widespread public adherence and effective public health implementation. Nevertheless, as these metrics largely persisted throughout the pandemic, the Scandinavian experience offers important insights into how high-trust societies can strategically maintain and leverage institutional trust during prolonged crises.

While the wider Nordic region (Denmark, the Faroe Islands, Finland, Greenland, Iceland, Norway, Sweden, and Åland), share history in terms of colonialism, religiosity, and social structure (Sigurdson, 2013; Ågren, 2011), these countries exhibit greater linguistic, historical, and governance diversity compared to the more narrow classification of Scandinavia (Denmark, Norway and Sweden), introducing additional structural complexity that could confound direct comparisons (Kristiansen, 2017).

Thus, with the narrow classification of Scandinavia, the common welfare-state development, similar public-sector communication norms, and mutually intelligible languages create a cohesive backdrop that supports clear comparative analysis of crisis communication strategies. Moreover, variations in pandemic responses, such as differences in regulatory stringency, timing of restrictions, messaging tone, and leadership framing, provide opportunities for nuanced cross-country comparison. Accordingly, this dissertation adopts a most-similar systems design (Anckar, 2008), controlling for broader linguistic, institutional, and cultural factors while maintaining variation in policy and leadership structures to assess communicative strategies and inform best practices for high-trust societies.

1.2 Scandinavian Response to COVID-19

Denmark, Norway, and Sweden operate within a high-choice media environment and share significant cultural and societal similarities, including language, history, and values (Bendixsen et al., 2018). Each country exhibits high levels of institutional trust, robust welfare systems,

meritocratic bureaucracies, and semi-autonomous central agencies (Sandberg, 2023). Their political cultures are characterized by low power distance and consensus-oriented governance (Johansson, Ihlen, et al., 2023).

However, the Swedish constitution restricts individual ministers from intervening in the decisions of administrative agencies (Sandberg, 2023). Instead, ministers serve collectively within a cabinet structure rather than as heads of individual ministries. In contrast, Denmark and Norway afford ministers greater oversight of their ministries and public authorities, thereby giving them greater legal authority to enforce binding restrictions and issue direct responses (Sandberg, 2023). It is of little surprise then, that during the pandemic, these differences would manifest with Sweden operating as the outlier by choosing to rely primarily on non-binding recommendations (Wenander, 2021).

March 11, 2020, the same day that the WHO officially declared COVID-19 a pandemic, marked the day when Danish Prime Minister Mette Frederiksen, labeling the pandemic as a matter of "life and death" and an "extraordinary situation", announced a national lockdown and imposed restrictions on border access in Denmark (Nord & Olsson Gardell, 2023; Rasmussen et al., 2023). Following Denmark's decision, the Norwegian government, led by Prime Minister Erna Solberg and backed by strong collaboration among governmental entities, agencies, and even political opponents, implemented some of the strictest public health measures in Norway's peacetime history. Solberg characterized COVID-19 as the most significant challenge to Norwegian society since World War II and urged the public to engage in *dugnad*, a cultural term representing a moral framework of

voluntary collective effort for the common good, to foster public solidarity (Christensen & Læg Reid, 2020; Nord & Olsson Gardell, 2023).

In contrast to Denmark and Norway, the Swedish government, led by Prime Minister Stefan Löfven, adopted an alternative approach to stringent lockdown measures, permitting schools for younger children to remain open and allowing citizens to frequent cafés and restaurants. The prevailing metaphor for this policy was "flattening the curve," i.e., a strategy to manage rather than halt the transmission of the virus (Johansson & Vigsø, 2021; Ludvigsson, 2020; Rasmussen et al., 2023). The Public Health Agency of Sweden, along with its state epidemiologist, Anders Tegnell, was placed at the forefront to provide recommendations, alongside the Swedish Civil Contingencies Agency and the National Board of Health and Welfare, and Sweden's decentralized institutional system allowed these PHAs to utilize their expertise and resources independently (Sandberg, 2023). Although Prime Minister Löfven portrayed the spread of the viral infection as a societal threat, similar to Frederiksen and Solberg (Rasmussen, 2022; Rasmussen et al., 2023), he also contended that COVID-19 did not necessitate extensive government intervention, but rather individual responsibility to mitigate the virus's spread (Nord & Olsson Gardell, 2023).

After the initial divergence, Sweden modified its strategy when the Swedish mortality rates exceeded those of its Nordic neighbors and enacted the Temporary COVID-19 Act (SFS 2021:4) to authorize targeted restrictions, with schools and universities embracing remote learning (Lindblad et al., 2021), and visitation limitations were imposed on businesses, shopping centers, and public transportation. It is noteworthy that, despite increased

mortality rates and a slight decrease in institutional trust, Swedish citizens' satisfaction with PHAs' communication and leadership regarding COVID-19 increased, while overall satisfaction with government performance decreased (Abdelzadeh & Sedelius, 2024).

Given the central role that PHAs played as the public face of crisis communication, an important question emerges: What lessons can be learned from the communication strategies of Scandinavian PHAs to enhance future public sector crisis responses?

1.3 Aim of the thesis

As inconsistent and poorly coordinated messaging across different regions worldwide resulted in public confusion and weakened responses (Liu & Baur, 2025; Löffelholz & Xu, 2025), and with the looming threat of another pandemic happening in our lifetime (Salmanton-García et al., 2024), it is crucial to gather lessons learned from COVID-19 to improve future pandemic communication.

Moreover, a systematic review of English-language journals from 1953 to 2015 (Diers-Lawson, 2017) indicates that the field of crisis communication is heavily reliant on U.S.-centric research and grounded in a few dominant theories (e.g., Ha & Boynton, 2014; Kim & Sung, 2014), with European research mainly focused on media, culture, and practitioner perspectives (e.g., Tench & Moreno, 2015; Verhoeven et al., 2014) rather than message effects, relational factors, and theoretical diversity. Similarly, a bibliometric analysis of crisis communication research conducted from 1968 to 2022 (Upadhyay & Upadhyay, 2023) confirmed these limitations and emphasized the need for more comparative and cross-cultural

studies, as well as recommending exploring emerging and underdeveloped themes related to social media dynamics, health communication, leadership, and reputation management.

To that end, this dissertation examines pandemic-related communication strategies by PHAs, both on social media and in traditional media, to balance stakeholder interests and organizational objectives. Adopting a cross-country, cross-platform, and cross-message comparative design, this dissertation aims to identify best practices in messaging that foster public understanding and compliance while sustaining institutional and organizational interests. By comparing the strategies employed under the stringent political mandates of Denmark and Norway with the voluntary, recommendation-based approach of Sweden, this study examines how communicative choices interact with policy contexts and how crisis communication practices are shaped under differing governance conditions to address stakeholder needs and justifications for continuous crisis leadership. This dissertation focuses specifically on PHAs institutional messaging, rather than misinformation ecosystems, interpersonal health communication, and political leadership communication as primary units of analysis. Moreover, the scope does not extend to evaluating epidemiological outcomes or experimentally assessing behavioral compliance. Hence, this thesis aims to elucidate:

What communication strategies did Scandinavian public health authorities employ to address stakeholder interests and organizational objectives under differing national pandemic policies?

To achieve its objectives, this dissertation employs an iterative research design that progresses through stages of observation, analysis, and theoretical refinement. Each stage builds on the previous, deepening understanding of how crisis communication strategies are crafted and implemented across media platforms and national contexts.

Publication I examines the initial stage of this inquiry, focusing on social media content, including textual, visual, and video messaging across platforms Facebook, Instagram, and Twitter, seeking to address:

RQ1: What crisis communication strategies did Scandinavian public health authorities employ on social media during the COVID-19 pandemic?

Building on these findings, Publication II explores patterns of public engagement with the social media content from Publication I to address:

RQ2: How does public engagement correspond to crisis communication strategies by public health authorities across the Scandinavian nations?

The first two publications provide the foundation for Publication III, which extends the analysis to a broader perspective, incorporating insights from subject-matter experts to contextualize strategies observed on social media and identify broader lessons for crisis communication practice, thus addressing:

RQ3: What lessons can be drawn from subject-matter experts on Scandinavian crisis communication strategies during the COVID-19 pandemic?

Drawing on the synthesis of findings from the preceding studies, this dissertation introduces the IDEA(L) model. Publication IV empirically tests this model through an analysis of press conferences, addressing the

following and final research question:

RQ4: How can the IDEA(L) framework be applied to understand public health authorities' crisis communication strategies?

Hence, this dissertation makes the following contributions to crisis communication scholarship: (1) comparative insight, (2) theoretical advancement, and (3) practical insights in a public sector or health context. Specifically, this dissertation offers a comparative analysis of Scandinavian PHAs' crisis communication across traditional and social media, providing insight into how national and institutional differences, as well as media environments and platform affordances, impact crisis communication.

Furthermore, in response to calls for greater theoretical diversity (Diers-Lawson, 2017; Upadhyay & Upadhyay, 2023), this dissertation introduces a framework for public crisis communication leadership during prolonged crises, underscoring the importance of aligning stakeholder and institutional interests. It argues that effective crisis messaging must address not only stakeholders' affective, cognitive, and behavioral outcomes, but also promote organizational objectives such as epistemic authority, trust, credible reputation, and ultimately, institutional legitimacy. Specifically, it extends the message-centric IDEA model (Sellnow et al., 2023), which argues for crisis messaging strategies based on Internalization, Distribution, Explanation, and Action, by introducing Legitimacy as a fifth dimension. As the IDEA model centers on stakeholder relations, the addition from this dissertation broadens its relevance for public crisis leadership and health communication contexts.

Finally, bridging the gap between theory and practice, this dissertation encourages practitioners to move beyond one-size-fits-all approaches by accounting for cultural context, communication channels, and stakeholder diversity in designing crisis messaging.

1.4 Structure of the thesis

Following this introduction, which outlines the context, aim, research questions, and structure of the thesis, the dissertation is organized as follows:

Chapter 2. Literature Review: This chapter introduces the crisis context in which this dissertation is situated, the specific subjects under scrutiny, and an outline of the progression of crisis communication, culminating in the conceptual framework this dissertation employs: crisis communication objectives, the IDEA model, and legitimacy, and concludes with the research gap this dissertation addresses.

Chapter 3. Research Methods: This chapter presents the philosophical stance adopted in the dissertation, grounded in a critical realist perspective, and outlines a mixed-methods approach combining quantitative and qualitative analyses. It presents the comparative case study of Scandinavia and the methodologies applied in each publication, including content analysis of social media and thematic analysis of semi-structured expert interviews and press conferences.

Chapter 4. Findings: This chapter presents the results from each publication. It begins with analyzing social media content, focusing on message strategies and public engagement. Next, it examines leadership

implications drawn from semi-structured expert interviews. Finally, it provides a comparative analysis of communicative strategies employed during press conferences in Denmark, Norway, and Sweden.

Chapter 5. Discussion: This chapter outlines the main theoretical findings and implications from national and media comparisons of crisis communication objectives and introduces the extended IDEA(L) model. It then presents empirical findings and implications for Denmark, Norway, and Sweden. The chapter concludes by discussing the practical applications of the dissertation's results.

Chapter 6. Conclusion: This chapter offers the concluding remarks, the dissertation's limitations, and proposes directions for future research.

1.5 Overview of Included Publications

To address the four aforementioned research questions, this thesis includes four publications as summarized below, with Table 1 providing an overview of each publication's aim, title, outlet, and addressed research question.

Publication	Aim	Focus	Outlet
I – Managing the Pandemic in Digitized Spaces: Assessing the Social Media Approaches of Scandinavian Public Health Authorities	´to examine PHAs crisis communication strategies on social media	(RQ1) <i>What crisis communication strategies did Scandinavian public health authorities employ on social media during the COVID-19 pandemic?</i>	Social Media + Society
II – Crisis? What crisis? Assessing over-time public engagement with crisis communication on social media during COVID-19 in Scandinavia	´to examine public engagement with PHAs crisis communication strategies on social media	(RQ2) <i>How does public engagement correspond to crisis communication strategies by public health authorities across the Scandinavian nations?</i>	Information, Communication, and Society
III – Public Leadership during Prolonged Crises: Multisectoral and Community-Centric Approach	´to derive expert perspectives of PHAs crisis communication strategies	(RQ3) <i>What lessons can be drawn from subject-matter experts on Scandinavian crisis communication strategies during the COVID-19 pandemic?</i>	Edward Elgar Publishing
IV – Distributing Instructive and Legitimate Crisis Communication: COVID-19 Press Conferences in Scandinavia	´to contrast PHAs use of press conferences to provide crisis communication	(RQ4) <i>How can the IDEA(L) framework be applied to understand public health authorities' crisis communication strategies?</i>	Mediální Studia ECREA Summer School Special Issue

Table 1

The Included Publications in the Dissertation

2. Literature Review and Conceptual Framework

This chapter situates the dissertation in its specific crisis context, outlines the public-sector leadership dynamics examined, and traces the evolution of crisis communication scholarship that has shaped the analytical models used. It then introduces the core theoretical frameworks guiding the dissertation, including crisis communication objectives, instructional crisis communication, and principles of legitimate crisis leadership, which together form the conceptual foundation for the empirical analyses that follow.

2.1 The Crisis Context

The term "crisis" can be characterized as e.g.; (1) Disruption of established order, as crises fundamentally interrupts normal systems, processes, or routines, creating threats and unexpected challenges that require rapid decision-making (Hermann, 1963); (2) Threats to core societal values, as crises break down normal operations and jeopardize safety, environmental integrity, public trust, and economic stability, demanding urgent, high-stakes responses (Badu et al., 2023; Rosenthal et al., 1989); or (3) Collapse of the status quo, as crises introduce uncertainty, rapid change, and unpredictability, compelling actors to respond with agility, adaptability, and improvisation (Comfort, 2007; Engen et al., 2021; Liska et al., 2012; Sellnow et al., 2017; Weick & Sutcliffe, 2015).

These viewpoints suggests that a crisis operates as a singular event that follows a set trajectory beginning with a provocation, progressing to a build-up stage, and concluding with recuperation and recovery, in line with

models such as Fink (1986) four-staged model, Mitroff (1994) five-staged model, or a standard three-staged model, e.g., Sturges (1994) model which includes 1) a triggering event, 2) an acute stage, and 3) a resolution phase.

In cases such as the COVID-19 pandemic, these depictions of crises may be inadequate, as pandemics are complex and interconnected events. Instead, one can consider depictions of crises that align more closely with authors such as Heath and O'Hair (2009), who suggest that a crisis is the escalation of intensified risks that leads to significant disruption. In this perspective, a crisis is not simply a discrete event; rather, it is a critical turning point that arises from ongoing risks. Uncertainty carries risk, and a crisis emerges when that uncertainty materializes, potentially resulting in severe consequences (Seeger, 2006).

However, the scale, duration, and cascading consequences of COVID-19 meant the pandemic was not a single risk followed by a crisis. Instead, several interconnected risks evolved into new crises, each generating further risks in a recursive cycle. Sellnow & Sellnow (2024) therefore characterize the pandemic using the concepts of mega-risk and mega-crisis to capture this complexity.

COVID-19 lasted officially from March 2020 to May 2023 (United Nations, 2023) and produced extensive and enduring repercussions across global trade and economies, political polarization, public trust in vaccines, and both mental and physical health (Cascini et al., 2022; Freeman et al., 2023; Glasdam & Stjernswärd, 2020; Harding et al., 2023). It resulted in millions of deaths worldwide (Liu & Baur, 2025). Beyond these immediate consequences, the pandemic reshaped public health systems, accelerated technological change, and transformed governance and

economic structures, effects that persisted well beyond the official end of the crisis (Kelly-Holmes, 2024). As such, COVID-19 constituted not a singular emergency, but a convergence of interrelated crises characterized by global reach, deep uncertainty, and ambiguous temporal boundaries, thereby defying conventional sectoral or disciplinary responses (Sellnow & Sellnow, 2024; Yen & Salmon, 2017). In this sense, the pandemic simultaneously exposed latent, interconnected vulnerabilities across health systems, economies, and information environments, which are hallmarks of a mega-risk, while triggering cascading failures, widespread disinformation, and the erosion of institutional trust, consistent with a full-scale mega-crisis (Sellnow & Sellnow, 2024).

This dual character distinguishes COVID-19 from earlier systemic threats such as the Y2K scenario. Although Y2K involved tightly coupled technological interdependencies across government, healthcare, aviation, finance, and education, and prompted substantial preemptive investment and global coordination, it ultimately did not materialize into an acute crisis (Manion & Evan, 1999; Ristvej, 2011). By contrast, COVID-19 not only revealed preexisting structural weaknesses, similar to Y2K, but also actively precipitated a series of cascading disruptions across multiple domains. Comparable dynamics can be observed in other contemporary large-scale crises, including the climate crisis, which has generated prolonged ecological, economic, and political disruption across global and local scales (Galaz, 2020), and the 2015 refugee crisis, which produced enduring geopolitical and policy consequences for both the European Union and Middle Eastern states (Matusz et al., 2020). Together, these cases illustrate how modern crises increasingly emerge as interconnected, transboundary phenomena whose risks and impacts evolve over time,

reinforcing the need for interdisciplinary, long-term approaches to crisis governance.

Although the concepts of mega-crisis and mega-risk capture the scale and complexity of COVID-19, they do not fully address the pandemic's prolonged nature and the resulting societal fatigue. Building on Heath and O'Hair's (2009) argument that a crisis is an escalation of intensified risks causing significant disruption, this thesis adopts an approach that does not distinguish between mega-risk and mega-crisis. Instead, it conceptualizes the COVID-19 pandemic as a prolonged crisis, emphasizing its extended duration and lasting societal impact.

2.1.1 Prolonged Crisis

Diers-Lawson and Omondi (2024) define prolonged crises as events marked by long duration and ongoing societal disruption, rather than sudden onset and quick resolution. They identify seven key characteristics:

1. Persistent, causing ongoing societal harm.
2. Spreads across multiple geographic regions.
3. Triggers or contributes to other event-based crises.
4. Accompanied by an infodemic.
5. Leads to crisis fatigue.
6. Causes major shifts in attitudes, policies, alliances, and institutional practices.
7. Blame often shifts from root causes to crisis responses, influenced by politics and scapegoating.

These features demonstrate that prolonged crises fundamentally transform not only systems and institutions, but also reshape public expectations, trust, and standards of accountability. Consequently, effective public crisis leadership requires coordinated, multi-level strategies that can navigate complexity, integrate risk management with crisis leadership, and address both existing vulnerabilities and emerging threats (Sellnow & Sellnow, 2024).

Moreover, framing COVID-19 as a prolonged crisis shifts the focus toward understanding stakeholder experiences, recognizing long-term societal impacts, and addressing the demands of sustained public scrutiny. This perspective requires careful consideration of the societal contextual factors that shape public expectations.

2.1.2 Scandinavian Risk Cultures

According to Cornia et al. (2016), from a broader societal perspective, nations operate within distinct overarching risk cultures that shape how they respond to crises and societal challenges. Individual-oriented cultures prioritize self-responsibility, encouraging citizens to take personal initiative and manage their own risks and safety. In contrast, fatalistic cultures adopt a more resigned approach, viewing crises as inevitable and beyond individual control, which may contribute to perceptions of limited agency among the populace. Italy and Hungary are often cited as examples of fatalistic orientations, in which crises may be framed as unavoidable rather than as situations requiring proactive collective mobilization. By contrast, the Netherlands is a culture more aligned with individual-oriented values, emphasizing personal accountability and self-sufficiency in navigating crises.

State-oriented cultures, by contrast, place significant reliance on governmental intervention and institutional coordination, expecting the state to take the lead in managing risks and safeguarding citizens (Cornia et al., 2016). The Scandinavian countries analyzed in this thesis are typically characterized as state-oriented systems, marked by high levels of institutional trust cultivated through longstanding welfare-state arrangements and traditions of administrative competence (Christensen & Lægreid, 2005; Johansson, Ihlen, et al., 2023; Rodin, 2025). In such contexts, citizens are theorized to view public institutions as legitimate and capable actors in crisis management, shaping expectations regarding governmental responsibility and authority during periods of uncertainty.

Within this shared risk culture framework, Denmark, Norway, and Sweden provide a particularly suitable comparative setting. The three countries share structural similarities in welfare-state organization, democratic governance, and media systems, making them analytically comparable. This structural similarity allows the study to operate within a most-similar systems design (e.g., Anckar, 2008), where broader institutional and cultural conditions are relatively constant. At the same time, meaningful variation exists in political-administrative arrangements and pandemic policy approaches, most notably Sweden's constitutionally embedded agency autonomy compared to stronger ministerial steering in Denmark and Norway. These differences influenced regulatory strategies, leadership visibility, and communicative framing during COVID-19. The comparative analysis, therefore, does not rely on essentialized national traits but rather examines how institutional configurations shape communicative strategies within otherwise similar high-trust, state-oriented contexts.

In state-oriented risk cultures, PHAs serve as the principal communicative leaders during crises (Wodak, 2021), shouldering significant expectations to deliver authoritative guidance, coordinate response efforts, and ensure public welfare. High institutional trust amplifies these expectations but also exposes PHAs to heightened accountability pressures and intensified public scrutiny regarding crisis management decisions. Because responsibility is concentrated within public institutions rather than distributed among individuals or attributed to fate (Cornia et al., 2016), the communicative and reputational demands on PHAs become even more pronounced. Citizens consequently expect not only effective action but also clear and transparent justification for policy decisions.

Prolonged crises such as COVID-19 further intensify these dynamics. As crisis fatigue accumulates, attribution of responsibility to public authorities may become more pronounced (Diers-Lawson & Omondi, 2024). In high-trust and state-oriented systems, sustained expectations of institutional performance underscore the need to scrutinize how crisis leadership is constructed, conveyed, and justified throughout prolonged periods of uncertainty. Consequently, this context provides a compelling analytical rationale for investigating how Scandinavian PHAs navigated the balance between stakeholder-oriented communication objectives and the maintenance of organizational objectives across varying governance conditions during the pandemic.

2.2 Crisis Leadership

According to Frandsen and Johansen (2025), crisis communication encompasses the management and communicative practices associated with three interconnected domains of crisis management: a) public crisis

management, e.g., natural disasters, health emergencies, and societal disruptions, b) political crisis management of political crises and scandals, and c) corporate crisis management involving organizational crises.

Public crisis leadership plays a central role in fostering community resilience during prolonged crises. Resilience extends beyond simply returning to pre-crisis conditions; rather, it is an adaptive, ongoing process through which societies learn, adjust, and enhance their capacity to respond to future disruptions (Teo et al., 2017). Crisis leaders contribute to resilience through processes of sensemaking and resourcefulness (Eaddy et al., 2022). Sensemaking enables leaders to interpret evolving and uncertain situations, construct shared meaning, and guide collective understanding, while resourcefulness involves the flexible mobilization and allocation of both tangible resources, such as financial or technological assets, and intangible resources, including social capital. Social capital comprises structural connections, relational trust, and shared cognitive frameworks that facilitate coordinated action across individual, social, and organizational levels (Teo et al., 2017).

In democratic contexts, particularly within the state-oriented risk culture of Scandinavia, social capital becomes especially significant during public health crises, where compliance with health recommendations frequently relies on voluntary adherence rather than coercive enforcement. Source credibility, therefore, emerges as a key component of effective crisis communication, as public acceptance of guidance depends on perceptions of trustworthiness and expertise (Hocevar et al., 2017). With the advent of social media, however, the notion of expertise has expanded beyond formal credentials to encompass the lived experiences of

individuals directly affected by health issues. This has led to more citizens preferring to listen to competing narratives and sources, as was evident in the controversial debate over the established recommendation of COVID-19 vaccines versus alternative treatments such as hydroxychloroquine or ivermectin (e.g., Badu et al., 2023; Balog-Way et al., 2020; Christensen & Læg Reid, 2020; Islam et al., 2021; Siegrist & Zingg, 2014).

These developments require crisis leaders to balance credibility and authority in increasingly complex communication environments, as they may convey highly credible, evidence-based, and trustworthy advice while lacking the formal institutional authority to announce or implement official decisions. Conversely, a government spokesperson may possess the authority to issue directives, but if their messages are inconsistent, biased, or lack evidence, their credibility, and thus public trust and compliance, may be undermined, or risk the trust falling under an 'argument from authority' fallacy (Cummings, 2014). Maintaining both dimensions simultaneously becomes particularly challenging in media-saturated and politically charged contexts, where leaders must communicate confidently while acknowledging uncertainty and adapting to evolving evidence. As a result, crisis leadership assumes a performative dimension, requiring leaders to cultivate social capital, demonstrate competence, and sustain public trust through transparent and empathetic engagement (Boin & Smith, 2006; Liu et al., 2022).

Given these dynamics, contemporary crisis leadership increasingly emphasizes collaborative governance and citizen engagement. Effective leadership involves not only delivering clear and evidence-based communication but also fostering dialogue, participation, and shared

responsibility between institutions and communities, recognizing that public trust and cooperation are essential for sustaining long-term crisis responses (Hobbins & Enander, 2015). Within public health emergencies, these leadership demands are most visibly enacted by PHAs, who operate at the intersection of science, governance, and public communication.

2.2.1 Public Health Authorities

PHAs represent the institutional embodiment of crisis leadership within health emergencies, translating abstract leadership principles into concrete governance and communication practices. Such health communication leaders must continually reassess risks, integrate diverse perspectives, and facilitate collaboration across political, scientific, and organizational domains (Löffelholz & Xu, 2025).

In practice, PHAs operate within complex ecosystems involving ministries, non-governmental organizations, scientific communities, and private-sector actors, all of which may have competing priorities and expectations (Ndelela, 2019). PHAs are therefore embedded within democratic systems characterized by political oversight, public accountability, and intense media scrutiny (Boin & Christensen, 2008). Consequently, PHAs adopt both public crisis leadership and political crisis leadership perspectives, as communication and decision-making are shaped not only by scientific considerations but by politics and public perception (Diers-Lawson & Omondi, 2024; Frandsen & Johansen, 2025).

Trust is central to PHAs, which constitute a relational outcome reflecting willingness to rely on PHAs under conditions of uncertainty. Empirical research indicates that PHAs are often among the most trusted actors

during crises, frequently commanding greater credibility than political leaders, even in countries where overall political trust is relatively low (Bielicki, 2021). However, the COVID-19 pandemic revealed the fragility of institutional trust. Factors such as scientific uncertainty, evolving guidance, widespread misinformation and disinformation, and lack of standardized protocols for an unprecedented global health emergency all contributed to declining trust for many public health institutions worldwide (Caceres et al., 2022; Filip et al., 2022).

Navigating these conditions requires PHAs to balance the often conflicting expectations placed upon them as both scientific experts and institutional authorities, thereby adding complexity to crisis communication practices. PHAs can offer credible, evidence-based advice but may lack the authority to enact policies, even though they are tasked with providing recommendations and guidance. This tension underscores the importance of persuasive, dialogic communication strategies that encourage voluntary compliance rather than relying solely on formal authority (Badu et al., 2023; Diers-Lawson, 2019; Györfy, 2018; Jørgensen et al., 2021).

Sustaining effective crisis leadership, therefore, depends on cultivating long-term stakeholder relationships and engaging in continuous organizational learning. Learning processes, whether deliberate or emergent, enable PHAs to refine their strategies before, during, and after crises. These processes enhance their capacity to reduce uncertainty, foster engagement, and sustain institutional credibility and authority (Antonacopoulou, 2008; Antonacopoulou & Sheaffer, 2014). Viewed through this lens, the COVID-19 pandemic offers an opportunity to evaluate successes and shortcomings in public health crisis leadership, providing

insights to strengthen communication practices, expand audience reach, and sustain institutional trust in future crises.

2.3 Crisis Communication Frameworks

Crisis communication is shaped by five interconnected factors: (1) proactive crisis mitigation, which involves managing issues and maintaining reputation; (2) an understanding of how crises evolve in a globalized context; (3) the consideration of organizational characteristics that affect crisis responses; (4) the dynamics of stakeholder relationships; and (5) the customization of response strategies tailored to specific crises (Diers-Lawson, 2019).

Historically, viewing crises as isolated and episodic events has significantly shaped the development of key conceptual models in crisis communication. From a corporate crisis management perspective in the 1990s, Sturges (1994) argued that crisis communication, often mistakenly viewed as merely a defensive phenomenon, should be regarded as a strategic approach to influencing public opinion. The form of crisis communication that Sturges (1994) critiqued treats crisis communication as a defensive organizational tool and positions the communication strategies, both in theory and practice, in a sender-oriented mass communication paradigm (Falkheimer & Heide, 2009), primarily focused on private corporations and their image management (Olsson, 2014). From this perspective, Benoit's (1997) Image Repair Theory (IRT) has had a significant influence on the field of crisis communication by outlining the strategies organizations should adopt to protect or repair their reputations during turbulent times. This model was subsequently refined by Situational Crisis Communication Theory (SCCT), which introduced a framework that

aligns communication strategies with the attribution of responsibility (Coombs, 2007).

The priority of organizational interests, with crisis communication centered on decision-makers and reputational protections and minimizing of operational disruptions (Seeger et al., 1998; Sellnow et al., 2015), has contributed to a prevailing top-down, sender-focused approach in the literature (Olsson, 2014), and best practices based on the assumption that the public will respond appropriately when presented with (a) an honest explanation of the crisis and (b) a clear account of the organization's effective response (Seeger, 2006; Sellnow et al., 2017). However, such assumptions often overlook the complex ways in which audiences receive, interpret, and act on crisis messages, particularly in diverse or polarized contexts.

Shifting focus from a corporate to a public-sector perspective, as well as from sender- to receiver-oriented models, has prompted a closer examination of communication frameworks that balance institutional expectations with community demands for transparency, empathy, and engagement. Engaging in practices of relationship-building, ethical stakeholder engagement, and dialogue (Heath & Abel, 1996; Heath & Nathan, 1990; Palenchar & Heath, 2002; Sellnow et al., 2023), requires more interactive modes of communication that challenge traditional top-down models (Olsson, 2014) and foster participatory discussions and collective intelligence (Jenkins & Deuze, 2008). While traditional theories such as IRT (Benoit, 2014) and SCCT (Coombs, 2007) remain relevant, their focus on protecting organizational interests and controlling the narrative is less effective during prolonged crises like COVID-19. These situations

demand a broader, more inclusive approach that considers not only the needs of public organizations but also the lived experiences, agency, and participation of diverse publics.

2.3.1 Shifting to Stakeholder-Centric Models

The COVID-19 pandemic exposed limitations of traditional, top-down crisis communication, underscoring the need for Risk Communication and Community Engagement (RCCE) as a foundation for sustaining public trust, promoting adherence, and effectively managing uncertainty (Tambo et al., 2021). Unlike sender-focused models, RCCE reconceptualizes crisis communication as a two-way, dialogic process that: (A) build trust by maintaining transparency and scientific integrity; (B) empower communities to make informed health decisions; (C) tailor messages to resonate with specific cultural and social contexts; and (D) facilitate direct citizen engagement through ongoing dialogue and responsive feedback channels (Duncan & Salvi, 2022).

RCCE has proven critical in all phases of crisis management during the COVID-19 pandemic, with its effectiveness evident both early on, when fostering protective behaviors in at-risk communities was essential, and later, as culturally responsive messaging addressed vaccine hesitancy and promoted continued preventive actions. By contrast, insufficient RCCE efforts led to government credibility crises, widespread mistrust, diminished compliance, and exacerbated health and socioeconomic consequences (Duncan & Salvi, 2022).

Furthermore, previous epidemics, such as Ebola and Zika, affirmed that effective crisis communication must always be context-sensitive and

adaptable to the cultural and demographic realities of diverse audiences (Berg et al., 2021). In tailoring messages for RCCE, PHAs must consider stakeholders' demographic factors, such as ethnicity, gender, and age, which can affect how messages are received, how individuals seek information, and their protective behaviors (Littlefield et al., 2014; Park & Avery, 2018), in addition to cultural values, learning styles, and identities (Lapinski et al., 2025). They must also take into account stakeholders' risk perception, which is influenced by rational, emotional, and psychological factors such as trust, dread, familiarity, and expectations about the impact on themselves or their children (Johansson et al., 2021; You et al., 2019).

Building on Sturges' (1994) argument for a more audience-centered approach to crisis communication and recognizing the central role of RCCE in effective communication, this argument demands that stakeholder interests move to the forefront of both theory and practice. This shift necessitates a public-centered perspective that is sensitive to the emotional realities audiences face, including anger, sadness, fear, and anxiety, and acknowledges the diverse coping strategies they employ, whether cognitive or behavioral (Jin et al., 2012).

However, Sturges (1994) still maintains that organizational interests, such as reputational management and image repair, remain essential features of crisis communication. Accordingly, this dissertation focuses on the communicative strategies PHAs use to enhance audience self-efficacy while balancing organizational objectives.

2.3.2 Modes of Communication

Modern communication strategies operate in a high-choice hybrid media environment, which, for countries like those in the Scandinavian region, coalesces traditional, digital, and social media (Nord et al., 2021). During the prolonged COVID-19 crisis, governments and PHAs utilized a combination of all three to provide crisis information and policy guidance (Xu & Löffelholz, 2024). This blend of traditional and digital communication represents a shift in government communication toward "enlightened choice-making," where the public actively engages in collective sense-making rather than simply absorbing directives from above (Heath, 2018).

This new form of government and public communication has contributed to a broader "multimodal turn," which emphasizes how communication, primarily digital communication, integrates textual and visual resources to shape meaning (Xu & Löffelholz, 2024; Zhang, 2025).

With this in mind, this dissertation takes a multimodal perspective, understanding multimodality as an analytical lens for examining how crisis communication is constructed across different communicative modes (textual, visual, and video) to highlight differences in communicative logics.

Textual communication relies on grammar and conventions to structure arguments, while visual communication relies on association, activating stored visual patterns in viewers' minds (Messaris & Abraham, 2001).

Visuals are especially significant in health contexts, as they influence risk perceptions, promote protective behaviors, and either counteract or amplify misinformation (Xu & Löffelholz, 2024). As pandemics generate massive volumes of multimodal information, including texts, visuals, and data streams, leading to fragmented and visualized consumption habits,

PHAs are required to integrate strategies that both guide opinion and calm emotions across multiple communication modes (Zhang, 2025).

As Scandinavian PHAs operated in hybrid media environments, using both digital and traditional means (Esaiasson et al., 2021), this dissertation examines the textual, visual, and audio elements of crisis messaging across social media and press conferences to understand how PHAs guided public opinion. While multimodal communication encompasses a wide array of sensory, spatial, and embodied modalities, this dissertation intentionally narrows its focus to textual, visual, and audio-verbal modalities as they manifest in publicly disseminated crisis communication, including social media content and press conferences. Other modalities, such as nonverbal communication, platform interface design, or tactile and spatial experiences (Dicks, 2019), are recognized as potentially influential but are excluded to ensure analytical consistency and methodological clarity.

2.3.2.1 Social Media

PHAs have long used social media platforms to disseminate health guidance and cultivate trust with diverse audiences (Engebretsen, 2023). From a multimodal standpoint, visually oriented platforms, in particular, have reshaped the relationship between visual and textual modes of communication (Xu & Löffelholz, 2024), as research from Norway suggests that a carefully orchestrated collaboration between short, engaging video clips and precise verbal texts, well adapted to the target group and providing a specific style or content, may improve unity and coherence (Engebretsen, 2023).

Social media played a crucial role during the COVID-19 pandemic, particularly in digitally advanced regions such as Scandinavia (Eimhjellen, 2019), where it served as both a key tool for information dissemination and a space for contestation. Specifically, social media discourse surrounding the COVID-19 vaccines was both supportive of, and challenging of, official narratives (Fiskvik et al., 2023). As such, beyond their informational function, social media platforms serve as emotional and symbolic arenas for rituals of mourning, unity, and optimism (Liu & Ni, 2022; Meadows et al., 2019).

As lockdowns and social distancing measures restricted in-person interactions, these restrictions prompted societies to rapidly rethink their approaches to work, education, and leisure, with remote work and online learning becoming the norm (Lim & Toh, 2022). During these times, social media emerged as central spaces for communication and daily life, revealing both opportunities and challenges in how information was shared and interpreted (Han & Baird, 2024). This shift toward “datafied” social life led scholars to label COVID-19 the first “data-driven pandemic” (Okuhara et al., 2025), and participatory features such as likes, comments, shares, and hashtags became tools for collective meaning-making and algorithmically amplified visibility, which increased the perceived importance of messages (Bucher, 2012; Jost, 2023).

However, the same features that foster engagement also pose significant challenges in retaining audience attention, as public health messaging from PHAs competes with entertainment content (Engebretsen, 2023). This competition takes place on platforms that operate rapidly and interactively, affording little room for error and thereby heightening public scrutiny, which

risks blurring the boundaries between public and private communication (Karunakaran, 2024). Furthermore, if crises are not resolved offline, they can be brought to, and amplified by, social media (Gruber et al., 2015).

2.3.2.2 Press Conferences

It is noteworthy that while digital platforms have expanded the reach of communication, traditional media, especially television, continues to play a critical role, particularly among older audiences (Sellnow et al., 2017), as televised press conferences remain important in shaping crisis narratives. During pandemics, press conferences allow spokespersons to both provide health updates and project an image of competence and control (He et al., 2023; Wodak, 2021). For instance, in the UK, visual data presentations conveyed a sense of control (Allen et al., 2024), while WHO briefings allowed the organization to adopt a stable, formal tone to foster trust and resilience (He et al., 2023).

Press conferences have long been an essential component of crisis communication, providing authorities with a multidimensional platform to inform the public, clarify their decisions, and manage uncertainty (Hayek, 2024; Hernández, 2024; Scacco & Wiemer, 2019). As a format, press conferences are cost- and time-efficient, allowing rapid dissemination of information to media, regulators, and communities (Badu et al., 2023; Kjeldsen, 2023). As such, press conferences serve as venues where political power meets media inquiries, often resulting in tensions between the two (Nord, 2021).

Furthermore, the multimodal nature of press conferences, combining speech, visuals, and symbols, enables repurposing into clips, transcripts,

and graphics for broader audiences (Kjeldsen, 2023; Scacco & Wiemer, 2019) and shaping of news coverage by supplying visual material for reporting (Allen et al., 2024).

During the pandemic, press conferences allowed government spokespersons to outline their focus on mitigation strategies (Johansson & Vigsø, 2021), build trust and consistency, and give space to address sensitive topics (Byrman & Westum, 2024). Serving as recurring multimodal events, carefully staged performances that combined spoken words, visual design, emotional cues, and institutional ethos (Kjeldsen, 2023), these events fostered a sense of collective belonging, national values, and reinforced a unified approach to crisis management (Helsingen et al., 2020; Nilsen & Skarpenes, 2022).

2.4 Strategic Objectives of Crisis Communication

Sturges (1994) argued that crisis communication should achieve three key objectives: (1) in the initial phase of the crisis, crisis leadership should provide instructive information that guides stakeholders on immediate protective actions; (2) in the second phase of the crisis, they should offer adjusting information that helps support emotional and psychological coping; and (3) as the crisis moves to the recovery and renewal phase, crisis leaders should deliver internalizing information that works to restore an organization's reputation and credibility.

Lindholm et al. (2023), who recontextualized Sturges' model to better adhere to the communicative context of Scandinavian PHAs during the COVID-19 pandemic, reframed the typology to (1) instructive information (i.e., behavioral guidance); (2) supportive information (i.e., promoting well-

being and empathy); and (3) reputational management (i.e., enhance credibility and authority).

The first objective, instructive communication, has been identified as a crucial aspect of pandemic communication for promoting compliance with behavioral guidelines such as physical distancing, handwashing, and mask-wearing (Al-Hasan et al., 2020; Cascini et al., 2022). The second objective, supportive information, has been shown to foster psychological resilience (Pfattheicher et al., 2020), facilitate collective sense-making, and reduce anxiety and stress (Liu & Ni, 2022). The third objective, reputation management, is a particularly central concern during public crises, as it helps build long-term relationships with stakeholders and retain credibility and trust (Maor & Sulitzeanu-Kenan, 2015; Wæraas, 2020).

Beyond these core crisis communication objectives, prioritizing stakeholder-centric practices highlights the value of social media's interactive potential. During COVID-19, platforms like Twitter, Facebook, and Instagram were not just information channels but also dynamic spaces for public dialogue, questions, and collaborative meaning-making (Manias-Muñoz & Reber, 2022). Therefore, scholars recommend that institutions adopt proactive strategies, such as using hashtags and mentions, to foster engagement (Chen et al., 2020).

Building on these developments, this dissertation proposes a conceptual framework with four interrelated strategic objectives: instruction, support, reputational management, and soliciting interaction. Instead of viewing these as sequential stages, as Sturges (1994) suggested, this thesis treats them as overlapping, ongoing practices that operate concurrently during a

crisis. Prolonged crises like the pandemic unfold through overlapping events that demand simultaneous attention, and therefore, communicative objectives must be addressed concurrently rather than in a fixed sequence.

2.4.1 Stakeholder-Centric Objectives

Central to the objective of instructional communication is the concept of fear appeals, which Walton (1996) argues serves as a form of communication that warns the respondent that a negative or frightening outcome will occur if they do not take the recommended action. Fear appeals are based on a type of argument known as the argument from consequence, which advocates acceptance or rejection of a proposition by highlighting the consequences of accepting or rejecting it. For instance (Walton, 1996, p. 303):

(AC-) If the respondent chooses to take action A, then negative consequences will follow; therefore, they should NOT take action A.

(AC+) If the respondent chooses to take action A, then positive consequences will follow; therefore, they should take action A.

Clear instructional messages can motivate protective action under uncertainty, confusion, and urgency (Bean et al., 2016; Frisby et al., 2013; Sellnow et al., 2023), by informing the audience of locations impacted by the crisis, the nature of the crisis, the duration or other time-related factors of the crisis, and the protective actions required to face the crisis (Mileti & Peek, 2000). Conversely, vague or complex instructions can lead to confusion (Turner et al., 1986).

As pandemics are enduring health crises, a certain level of health literacy is required for the public to understand instructions. Individuals who clearly understand recommended behaviors and believe they can perform them are more likely to take protective action (Richmond et al., 2016). In other words, individuals who receive practical guidance for self-protection in a way they can understand tend to report greater confidence and a higher likelihood of adopting protective behaviors (Frisby et al., 2014; Sellnow et al., 2012).

PHAs are, therefore, tasked with translating complex medical and scientific findings into information that is accessible and actionable (Borchelt & Nielsen, 2014; Sellnow et al., 2023). However, translating scientific research presents a challenge, as scientific accuracy often requires nuance, whereas the public's understanding relies on clarity (Taylor, 2018). Thus, in line Dewey's (1986) philosophy of experiential learning, which emphasizes the importance of engaging with ideas through a cycle of thinking, knowing, doing, and reflecting (Johansson et al., 2021), and Kolb's (2014) four-stage learning cycle of concrete experience (feeling), reflective observation (watching), abstract conceptualization (thinking), and active experimentation (doing), PHAs instructive communication should guide audiences through all four stages during crises, not merely to inform, but also to inspire reflection, deepen understanding, and motivate action (Johansson et al., 2021). An instructive communication strategy should hence include three key learning outcomes: affective, cognitive, and behavioral (Johansson et al., 2021; Krathwohl, 2002).

Affective learning is achieved when people recognize the personal significance of a threat and feel emotionally motivated to respond

(Edwards et al., 2021). Cognitive learning goes beyond simply receiving information; it requires interaction, reflection, and contextual application (Sellnow-Richmond et al., 2018). Behavioral learning focuses on whether audiences take the intended protective actions (Sellnow et al., 2017), 2017). When these elements are addressed holistically, individuals are more likely to appreciate the message, understand its implications, and feel confident in performing the recommended behaviors (Johansson et al., 2021). This approach moves away from the outdated "knowledge deficit" model (Irwin, 2008) toward an ongoing, relational method of engagement, in which learning and action are co-produced over time (Sellnow et al., 2023).

While Sturges (1994) differentiated between instructional (informational) and supportive (empathetic) objectives, adopting a relational model to crisis communication rather treats these two objectives as overlapping, and viewed through the lens of affective, cognitive, and behavioral dimensions; with affective engagement encompassing emotions such as fear, belonging, or anger; cognitive engagement involving the effortful comprehension of complex ideas; and behavioral engagement entailing participation and action (Johnston, 2018). Not only do these dimensions combine objectives to instruct and support the audience, but they also introduce a form of educational communication that teaches the audience about the crisis event and response.

Accordingly, this dissertation conceptualizes stakeholder-centric communication as an educational and persuasive process that integrates fear appeals, clarity of behavioral guidance, health literacy considerations, and experiential learning principles, examining how PHAs combine

affective, cognitive, and behavioral engagement to facilitate understanding, motivate protective action, and support ongoing sensemaking during COVID-19 as a prolonged crisis.

2.4.2 Organizational-Centric Objectives

Corporate crisis communication has traditionally positioned reputational management as a central strategic objective, emphasizing the need to protect organizational credibility and authority amid disruption (Cornelissen, 2023). This perspective has also influenced research on public-sector communication, where organizations must similarly maintain credibility to sustain stakeholder relationships and public confidence (Christensen et al., 2020). Accordingly, this dissertation begins by examining reputational management practices, focusing specifically on how PHAs construct and maintain perceptions of credibility and authority through crisis communication (e.g., Lindholm et al., 2023).

However, while reputation management provides a useful analytical starting point, it remains insufficient for fully understanding public-sector crisis leadership. Unlike private organizations, public institutions operate within fundamentally political environments in which communication is tied to democratic accountability, public scrutiny, and the implementation of collective decisions (Andersen, 2010; Peters & Pierre, 2012). As a result, PHAs communication extends beyond strategic reputational management to broader questions of legitimacy, namely, justification for maintained crisis leadership based on whether institutional actions are perceived as appropriate, fair, and aligned with shared societal values.

For PHAs operating within a bureaucratic-scientific ethos, legitimacy building involves demonstrating procedural transparency, evidence-based reasoning, competence, and reliability (Ihlen & Vranic, 2024; Maslowska et al., 2025). These qualities contribute to perceptions that institutions act in the public interest, yet legitimacy cannot be reduced to technical competence alone. Rather, legitimacy also emerges through moral and relational evaluations, including whether authorities acknowledge public concerns, incorporate diverse perspectives, and engage citizens in meaning-making processes (Sellnow et al., 2023). When communication invites participation and fosters shared understanding, it becomes not merely informational but empowering, reinforcing legitimacy through openness, inclusivity, and shared accountability.

This distinction highlights a key analytical shift in this dissertation. Reputation management primarily focuses on strategically shaping perceptions of credibility and authority, whereas legitimacy encompasses broader societal judgments of institutional rightfulness and normative appropriateness (Suchman, 1995; Jann, 2016). While reputation can be managed through communication strategies, legitimacy must be continuously negotiated through interactions between institutions and their publics. Breaches of legitimacy, arising from perceived failures in leadership, transparency, or fairness, can exacerbate crises by intensifying blame attribution and eroding trust, particularly during already volatile prolonged emergencies such as COVID-19 (Yim & Park, 2019; Diers-Lawson & Omondi, 2024).

Building on democratic governance, legitimacy can be understood across three interrelated dimensions: input legitimacy (responsiveness to public

needs), throughput legitimacy (the quality and transparency of decision-making processes), and output legitimacy (the perceived effectiveness of outcomes) (Christensen et al., 2018). These dimensions illustrate how crisis communication extends beyond message design to encompass ongoing processes of justification and engagement. Legitimacy thus reflects a form of social approval grounded in rational evaluations of competence, emotional responses to leadership performance, and moral alignment with shared societal values (Bundy & Pfarrer, 2015; Coombs, 2023; Pollock et al., 2019).

As with instructive crisis communication, audience demographics play a central role in shaping legitimacy dynamics. Historical inequalities and power asymmetries can influence how marginalized groups perceive institutional authority and interpret crisis messaging, thereby affecting levels of trust, community engagement, and collective resilience (Zhao & Falkheimer, 2026). Hence, historical relational factors can impact legitimacy. As such, legitimacy should be understood as an outcome requiring the same sustained and strategic attention as instructive and supportive communication objectives, grounded in a nuanced awareness of audience diversity and social context.

Consequently, this dissertation conceptualizes legitimacy as a socially constructed evaluation of institutional authority, produced through communicative interaction, transparency, and participatory governance, rather than as a fixed organizational attribute (Schmidt & Wood, 2019; Svenbro & Wester, 2023). By beginning with reputational management practices, such as building credibility and authority, and subsequently expanding to legitimacy, the analysis captures both the strategic and

normative dimensions of crisis leadership communication and PHAs organizational interests. This progression reflects the evolving nature of crisis communication in public health emergencies, where effective leadership requires not only managing perceptions but also cultivating morality, trust, and societal acceptance.

2.5 IDEA-Model

The four strategic objectives outlined above define the core objectives of crisis communication, clarifying what social media-based communication should accomplish during emergencies: instructing, supporting, managing reputation, and encouraging interaction. To further systematically assess how these objectives are implemented in practice, the IDEA model (Sellnow et al., 2017) provides a comprehensive, widely recognized framework. This model enables a nuanced analysis of the ways crisis messages inform, motivate, and guide the public. Consistent with the prolonged, overlapping perspective of crisis communication employed in this dissertation, the IDEA model focuses on message content rather than strictly following chronological phases (Sellnow & Sellnow, 2023). This approach provides flexibility throughout the crisis timeline, allowing communication efforts to remain sustained, adaptive, and actionable over time (Sellnow & Sellnow, 2023).

Drawing on public perspectives regarding cognitive, affective, and behavioral aspects of learning (Johansson et al., 2021), the IDEA model (see Figure 2) comprises four core components (Sellnow et al., 2017):



Figure 2
IDEA Model.

Note. Adapted from “The IDEA Model as a Best Practice for Effective Instructional Risk and Crisis Communication,” by D. D. Sellnow, D. R. Lane, T. L. Sellnow, and R. S. Littlefield, *Communication Studies*, 68(5), 552–567 (2017).
<https://doi.org/10.1080/10510974.2017.1375535>

Internalization (I): The message must resonate personally with the audience. This means highlighting proximity, urgency, and social significance to engage emotional learning, which serves as the basis for attention and involvement.

Distribution (D): Messages should be shared through trusted, accessible, and multimodal channels to maximize reach and timeliness. Strategic distribution enhances audience access, supports message repetition, and increases the likelihood of message uptake.

Explanation (E): Clear and straightforward explanations of the crisis and its implications are essential. This clarity promotes cognitive learning by helping the public understand the situation and its significance.

Action (A): Messages must provide specific, feasible recommendations for audience actions. This supports behavioral learning, empowering individuals to act with confidence and purpose.

The IDEA model has been shown empirically to be effective across diverse crisis scenarios, including natural disasters, food safety threats, bioterrorism, and public health emergencies (Sellnow et al., 2017; Soares et al., 2022). IDEA-based messages have been shown to improve knowledge retention, behavioral intention, and self-efficacy more effectively than traditional risk communication strategies (Anthony et al., 2013; Frisby et al., 2013). For instance, earthquake preparedness campaigns incorporating IDEA components increased message recall and the likelihood of protective behaviors (Sellnow et al., 2019).

2.5.1 Extending the IDEA model for PHAs

The IDEA model provides a structured framework for analyzing how stakeholder-centered crisis communication objectives are operationalized in message design. In this dissertation, these objectives are reflected in the core crisis communication functions of instructing and supporting publics. However, public-sector crisis communication also involves ongoing evaluations of institutional authority and crisis leadership. To account for this dimension, the analysis extends the IDEA framework by incorporating legitimacy as an additional analytical lens. This extension enables the dissertation to bridge instructional risk communication with scholarship on public crisis leadership, allowing a more integrated examination of both audience learning processes and institutional evaluation. This approach preserves the theoretical structure of the IDEA model while integrating a

complementary analytical dimension specifically relevant to public-sector crisis leadership.

According to Sellnow and Sellnow (2024), the concept of internalization extends beyond affective relevance to include relational elements such as empathy, compassion, and perceived trustworthiness of the communicator. From this perspective, internalization fosters psychological proximity between sender and audience by encouraging individuals to perceive crisis messages as personally meaningful and worthy of attention. While this expanded understanding strengthens the model's focus on audience engagement, it also introduces conceptual ambiguity by incorporating attributes, such as trustworthiness and perceived moral integrity, that overlap with broader notions of institutional legitimacy. This dissertation, therefore, distinguishes internalization from legitimacy to avoid conflating psychological engagement with normative assessments of institutional action.

Clarifying this distinction is crucial as the two concepts function at distinct analytical levels. Internalization concerns individual emotional and cognitive responses to message relevance and can emerge rapidly through persuasive communication, motivating personal engagement with crisis guidance (Sellnow et al., 2017). Legitimacy, by contrast, reflects collective social evaluations regarding the perceived rightfulness and appropriateness of institutional actions, developing through sustained interactions between institutions and the public (Suchman, 1995). Treating legitimacy as a distinct analytical dimension makes it possible to analyze situations in which audiences accept information without fully endorsing the institution that delivers it, or conversely, trust institutional authority

while finding limited personal relevance in specific messages. Moreover, this distinction highlights how crisis communication outcomes emerge through the interaction between message reception and institutional evaluation.

The importance of separating these dimensions becomes particularly evident in public-sector crisis contexts. Johansson et al. (2021) found that IDEA-based messaging during the COVID-19 pandemic enhanced affective and cognitive learning among Swedish audiences, while behavioral uptake was moderated by social norms surrounding governmental responsibility. This finding suggests that communicative effectiveness in public crises is shaped not only by message design but also by broader institutional expectations and evaluations of public leadership. In state-oriented risk cultures, citizens' responses are influenced by assumptions regarding governmental responsibility for crisis management (Cornia et al., 2016), indicating that behavioral outcomes cannot always be fully explained by the instructional components of the IDEA model alone.

Rather than modifying the core structure of the IDEA model, this dissertation extends its analytical application by incorporating legitimacy as a complementary interpretive dimension. While the IDEA model emphasizes audience learning processes (Sellnow et al., 2023), the inclusion of legitimacy enables analysis of how stakeholders interpret and evaluate crisis leadership practices. In this perspective, legitimacy reflects collective assessments of credibility, transparency, responsiveness, and trustworthiness inferred from institutional communication (Badu et al., 2023; Berg et al., 2021; Diers-Lawson, 2019; Györfy, 2018; Suchman, 1995). This extension broadens the framework from a model primarily

focused on instructional message design toward one capable of capturing the relational and institutional dynamics central to public-sector crisis leadership communication.

Finally, this framework addresses a broader tension in crisis communication scholarship between sender-oriented models of strategic communication and stakeholder-centered approaches emphasizing audience needs. Specifically, the framework developed in this dissertation elucidates the dynamic interplay between stakeholder engagement and institutional authority, which is a communicative imperative that becomes particularly salient during prolonged public-sector crises.

3. Research Methods

This chapter discusses the methodological choices made in the study. First, I elaborate on the ontological and epistemological stance I adopt in the research, specifically a critical realist stance. I then discuss the selection of quantitative and qualitative methods, followed by this thesis's comparative case study, and the specific methods employed, including content analysis and thematic analysis.

3.1 Philosophical Stance

In this thesis, I address both the material and conceptual aspects of risk and crisis communication. This dual focus aligns with a critical realist (CR) paradigm, which acknowledges the existence of material risks while exploring the interpretive frameworks that shape our understanding of them. CR emphasizes a balance between ontological realism, epistemological relativism, and judgmental rationality (Walker, 2017). This approach allows this study to position risk and crisis communication as grounded in material realities and constructed through communication.

The threats crisis leaders seek to address, such as pandemics, floods, chemical spills, etc., can be seen as manifestations of mind-independent "objective ontological facts" (Jenkins, 2010), based on probabilistic and dangerous phenomena (Ayotte et al., 2020). These dangers are not seen as mere discursive phenomenon; they are "real" physical threats that "exist" independently of individual belief systems (e.g., Bhaskar, 2013; Sayer, 1992). If one accepts the existence of an objective ontological reality (that there is a world that exists independently of our perceptions) then it follows that the potential hazards of COVID-19 possessed a material existence

regardless of whether they were recognized or acknowledged. In other words, the coronavirus caused flu-like symptoms regardless of worldview.

Risk communication, similarly, often rests on an implicit assumption of an objective world of dangers that can be accurately perceived and neutrally represented, which presupposes an epistemological stance that the "true" nature of risk is both knowable and communicable with clarity and precision (Ayotte et al., 2020). Consequently, public responses that deviate from expert risk assessments are often framed as misunderstandings, irrational fears, or cognitive biases (Ayotte et al., 2020). For example, during the COVID-19 pandemic, public hesitancy toward vaccination was frequently portrayed as irrational as, empirically, vaccines were found to be a safe and efficacious methods for managing the COVID-19 pandemic (Beladiya et al., 2024; Magarini et al., 2021).

However, the audience is not merely recipients of sense data, and their perception of vaccines as harmful can derive from factors such as past adverse reactions, fear of needles or pain, or a deep-rooted mistrust of pharmaceutical companies and government institutions (Freeman et al., 2023). These views are thus not entirely irrational; instead, they are rooted in broader historical and social contexts. Indeed, Foucault (2005) argues that there is a complex relationship between knowledge and risk, developed through a discursive history of risk. In this perspective, knowledge is not a neutral reflection of reality but an active force that shapes how events are understood and governed. As such, risk communication becomes a process that conveys and reinforces patterns of meaning already influenced by both material and epistemic conditions.

Take, for instance, this sentence: "Danger. Shallow Water Ahead."

This sentence includes a warning, mentions shallow water, and direction. However, for an experienced diver, it signals a life-threatening hazard of spinal injury from diving headfirst into shallow water.

To that end, CR asserts that the world exists independently of our perceptions while also acknowledging that our access to the world is mediated through theory, language, and social context; thus, this dissertation addresses both the "real" and the conceptual aspects of risk and crisis communication.

3.1.1 Critical Realism

CR emerged in the 1970s with scholars such as Bhaskar (1975), to contest traditional reductions of ontology to epistemological inquiries (Bhaskar & Hartwig, 2016; Hoddy, 2019). Instead, CR argued for a transition towards investigating the fundamental essence of social phenomena and their characteristics, while also identifying these phenomena through their measurable and observable traits. That is, CR posits that the world comprises natural and social entities and structures that feature specific 'causal' or 'generative mechanisms' that bring events into existence (Bhaskar, 1998, 2013; Bhaskar & Hartwig, 2016; Sayer, 1992). In line with philosophers like Kant, this viewpoint holds that perceptions are shaped by the mind's cognitive structures—*transcendental idealism*—while acknowledging that real entities exist independently of those perceptions—*empirical realism* (Heidemann, 2021). Similarly, scholars such as Walker (2017), building on Lonergan's (1957) theory of cognition, argue that "knowing" begins with sense experience but matures through questioning and insight, as we do not passively receive information; we actively interpret it, seeking coherence and depth of explanation, thus moving from

the observable toward a deeper understanding. Hence, CR separates ontology and epistemology into distinct dimensions, while treating them as closely intertwined.

CR is comprised of structures and mechanisms that, according to Sayer (1992), are composed of internally related objects or practices that generate causal powers and tendencies that operate irrespective of our awareness but result in effects that depend on context and interaction. As such, reality under CR is organized into three domains: the 'real' domain (composed of these natural and social entities, structures, and their mechanisms), the 'actual' domain (encompassing events, meaning what occurs when mechanisms are activated), and the 'empirical' domain (about our perceptions and experiences of these events) (Bhaskar, 1975; Bhaskar, 1998, 2013; Bhaskar & Hartwig, 2016; Sayer, 1992).

As CR does not fit within either the positivist view, which asserts that the social world can only be understood through a natural science framework, or the constructivist viewpoint, which highlights the significance of human interpretation in influencing social phenomena (Howitt, 2013), it allows researchers to acknowledge both the presence of real dangers, be they shallow waters or viral pathogens, while also recognizing that our perceptions of these threats are interpretative and situational. By merging ontological realism with epistemological humility, CR thus enables examination of both the dangers and outcomes of a crisis, as well as the communication that shapes public perceptions of the danger.

3.2 Multi-Method Approach

Adopting a CR perspective enables the use of methodological pluralism to better understand the complex, layered nature of pandemics as social phenomena. Specifically, this dissertation combines complementary approaches to enhance explanatory power, using both quantitative methods to identify empirical regularities, such as statistical relationships between communication objectives and public engagement, and qualitative methods to illuminate the meanings, institutional logics, and power relations that generate and sustain these patterns.

Starting with quantitative methods, this dissertation adopts a structured, systematic approach to assessing communication phenomena, in line with CR's ontological realism, which holds that an independent reality exists and can be partially understood through careful observation and measurement (Jenkins, 2010). While complete objectivity is unattainable (Levitt et al., 2022), striving for objectivity is essential for the validity and reliability of quantitative research (Polas, 2025).

Following quantitative analysis, this dissertation employs a qualitative approach to offer valuable insights into the psychological, cultural, and societal contexts that shape communicative practices and public responses, thus revealing hidden causal mechanisms and institutional dynamics (Britten, 2011; Ndlela, 2019).

By integrating both quantitative and qualitative methodologies, this combination not only allows for a more nuanced understanding of the research subject but also facilitates a multi-method comparative research

design to examine the communication of PHAs during the COVID-19 pandemic in Denmark, Norway, and Sweden.

3.3 Research Design

In adopting a CR perspective, this dissertation assumes that reality exists independently of our perceptions, while our understanding of reality is partial and socially constructed. This entails that research must continually move between theory and data to refine explanations about the mechanisms that produce observable phenomena. As such, this dissertation adopts an iterative research design, engaging in stages of observation, interpretation, and theoretical refinement rather than a single, linear progression (see Figure 3). Specifically, as CR distinguishes between the empirical (what we observe), the actual (what happens), and the real (the underlying mechanisms), by adopting an iterative design, this dissertation engages in data collection and analysis in stages, with each stage seeking to probe deeper into potential causal structures, e.g., from observed communication patterns (empirical domain) to institutional logics or cultural norms (real domain) (e.g., Bhaskar, 2013; Bhaskar & Hartwig, 2016; Sayer, 1992).

As illustrated in Figure 3, the overarching aim of this dissertation guides the sequential development of the research questions and corresponding publications. Publication I addresses the first research question, and its findings inform the formulation of the second research question, which is addressed in Publication II. Building on insights from Publications I and II, the third research question is developed and explored in Publication III.

Finally, the combined results from Publications I–III lead to the formulation of the fourth research question, which is investigated in Publication IV.

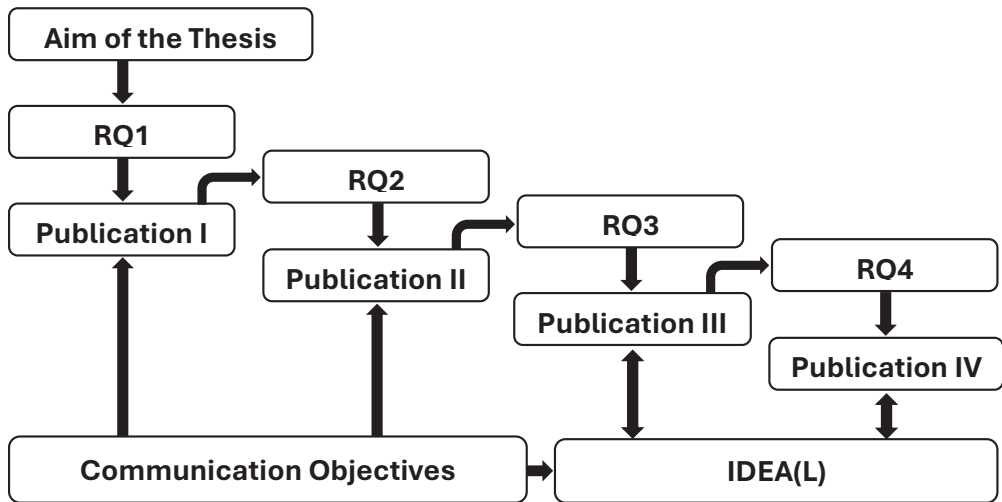


Figure 3
Iterative Research Design

Specifically, as illustrated in Figure 3, Publication I addresses RQ1 by examining the crisis communication strategies used by Scandinavian PHAs on social media, focusing on instructive, supportive, and reputational messaging during the COVID-19 pandemic (Lindholm et al., 2023; Sturges, 1994). Findings from RQ1 inform RQ2, which investigates how these strategies influenced public engagement, highlighting the interplay between institutional priorities and audience responses.

Building on this, RQ3 challenges the assumptions made by Publications I and II concerning reputational management by integrating social media findings with expert insights, leading to an updated understanding of how PHAs adopted strategies for instructional and legitimacy purposes in line with scholars such as Sellnow et al. (2023) and Christensen et al. (2018).

These insights are then empirically examined in RQ4, which examines how instructional messaging and legitimacy can be systematically applied in press conferences. Thus, the iterative design progresses from messaging strategies to engagement, lessons learned, and finally model application.

3.3.1 Double Comparative Approach

In addition to adopting an iterative design, given Scandinavia's cultural and technological similarities, comparable risk cultures, high trust levels, and varied responses to the pandemic, this dissertation adopts a double comparative analysis to explore a) cultural and political factors shaping public health communication, b) temporal dynamics by assessing communication practices across different phases of the pandemic, and c) channel-specific analysis that compares platform usage and press conference usage. As noted by Esser and Vliegenthart (2017), comparative communication research functions as the analysis of contrasts between macro-level units, such as countries, regions, or cultural contexts, across time and space.

Specifically, this dissertation first analyzes social media messaging strategies in Denmark, Norway, and Sweden, exploring both the content and structure of posts across platforms and over time, alongside patterns of public engagement with these messages. By systematically analyzing social media content published between 2020 and 2022, this dissertation examines the distribution and evolution of instructive, supportive, reputational management, and interaction-seeking objectives throughout the pandemic as a prolonged crisis. This longitudinal perspective enables evaluation of whether communication objectives adhere to the sequential progression implied by Sturges' (1994) phase-based model, from

instructive to supportive to reputational messaging, or whether the complex, overlapping, and recurring dynamics of a prolonged crisis disrupt this linear trajectory. Furthermore, incorporating social media engagement metrics enables analysis of how stakeholder dynamics in a prolonged crisis, particularly crisis fatigue (Diers-Lawson & Omondi, 2024), influence message visibility and uptake.

Second, following a comparative analysis of social media, this dissertation employs expert interviews with public health crisis specialists in Norway and Sweden to provide qualitative insights into institutional decision-making and strategic considerations. Respondents from Norway and Sweden were included because of the selected countries' distinctive approaches, with Norway serving as an outlier in crisis communication (e.g., Ihlen et al., 2024) and Sweden serving as an outlier in pandemic mitigation strategies (e.g., Johansson & Vigsø, 2021).

Finally, the dissertation examines PHA messaging through press conferences, comparing strategies, timing, and presentation across Denmark, Norway, and Sweden, seeking to offer insight into differences in communication approaches by country.

By employing country comparisons from both a strategic and temporal standpoint, this dissertation aims to offer a more nuanced understanding of their respective approaches that reflect the sociotechnical and political contexts in which PHAs operate.

3.3.2 Country Comparison of Scandinavia

This dissertation employs a most similar systems design (MSSD) approach, selecting Denmark, Norway, and Sweden as comparable cases situated

within a common state-oriented risk culture, democratic corporatist media system, high-trust welfare-state model, and mutual language intelligibility (Bendixsen et al., 2018; Gooskens et al., 2018; Nordstrom, 2023; Sjøvaag et al., 2019). By holding these structural and cultural conditions relatively constant, the study enables the identification of how differences in crisis leadership arrangements, political involvement, and communicative strategies (e.g., Sandberg, 2023) influence variations in messaging trajectories.

Comparative analysis of countries must account for the structural and institutional contexts that shape communicative strategies. This approach draws on research in political communication comparison, which examines transnational trends that yield structurally similar though not identical outcomes across nations (Wirth & Kolb, 2004). By focusing on variation within a shared institutional context rather than across divergent risk cultures, this design strengthens causal inference about communication strategies and crisis leadership dynamics. Although individual national studies are occasionally cited to contextualize specific institutional practices or communication dynamics within each country, the comparative claims in this dissertation are based on cross-national empirical analysis of Denmark, Norway, and Sweden. As such, country-specific literature is used to contextualize and interpret the cross-national findings by explaining institutional or communicative features that may account for observed differences between Denmark, Norway, and Sweden.

Specifically, the comparative research in this dissertation seeks to uncover patterns that mirror political cultures, institutions, and situations (Wirth & Kolb, 2004), hence analyzing transnational trends and similarities.

3.3.2.1 Denmark

Denmark follows the West Nordic administrative model, grounded in ministerial governance and relatively unified executive authority (Sandberg, 2023). Individual ministers are formally and legally responsible for instructing and intervening in subordinate agencies. Although Danish public authorities enjoy practical autonomy in routine administration, the legal mechanisms for ministerial intervention are comparatively strong, reinforcing political accountability and centralizing responsibility within ministries (Sandberg, 2023).

This institutional structure facilitated centralized crisis leadership during COVID-19. As the pandemic emerged in late February 2020, Prime Minister Mette Frederiksen rapidly centralized crisis management within the Prime Minister's Office and implemented measures that exceeded recommendations from the Danish Health Authority (Nord & Olsson Gardell, 2023). The government prioritized a precautionary approach over the proportionality paradigm initially advocated by health authorities, and a prime minister's dominance in public communication with Frederiksen was significantly more visible than that of the health agency director (Nord & Olsson Gardell, 2023). Denmark's response thus exemplifies a politically centralized, precaution-driven model characterized by strong executive leadership and visible tension between political and expert perspectives.

3.3.2.2 Norway

Norway, similarly to Denmark, follows the West Nordic tradition of ministerial governance (Sandberg, 2023). Ministers possess formal authority over subordinate agencies, but Norwegian governance stands out for its administrative professionalism and collaborative relationships

between political leaders and expert authorities. Although ministers retain intervention powers, political steering generally operates through formal mechanisms, such as legislation and regulatory frameworks, rather than through direct interference (Sandberg, 2023).

During COVID-19, Norway adopted a precautionary approach similar to Denmark's but exhibited stronger institutional cohesion. The cabinet made key decisions in close partnership with the Norwegian Directorate of Health and the Norwegian Institute of Public Health (Nord & Olsson Gardell, 2023). Although the government sometimes implemented stricter measures than health agencies initially advised, public communication emphasized alignment and consensus rather than disagreement. Prime Minister Erna Solberg was the most prominent media figure, yet messaging consistently reflected coordinated communication between political and expert actors (Nord & Olsson Gardell, 2023). Norway thus exemplifies a politically led yet expert-aligned model, balancing centralized authority with institutional consensus and unified public communication.

3.3.2.3 Sweden

Sweden represents the East Nordic administrative model, characterized by a dualistic structure separating political leadership from administrative decision-making (Sandberg, 2023). Swedish government agencies enjoy high constitutional autonomy; ministers are prohibited from intervening in specific agency decisions; and executive authority is vested collectively in the cabinet rather than in individual ministers. Agencies are subordinate to the government rather than individual ministries, reinforcing a somewhat detached and independent relationship between politics and administration (Sandberg, 2023).

This structure shaped Sweden's COVID-19 response. The government largely deferred to the Public Health Agency, whose Director General publicly emphasized that the agency was at the forefront of crisis management (Nord & Olsson Gardell, 2023). Unlike Denmark and Norway, Sweden's early response was marked by depoliticization and limited political initiative, consistent with its tradition of a political ceasefire during national crises. Therefore, in public crisis communication, the state epidemiologist, Anders Tegnell, was often more visible than the prime minister, and the visibility gap between political and expert actors was narrower than in the other Nordic cases (Nord & Olsson Gardell, 2023). Sweden's strategy emphasized voluntary compliance and individual responsibility rather than strict regulatory enforcement, exemplifying an expert-driven and responsibility-oriented leadership model.

3.3.3 Digital and Traditional Media Comparison

This thesis not only compares country differences but also examines the relationship between digital media and traditional media. It focuses on social media platforms and press conferences as key areas for analyzing media usage, viewing these channels as distinct yet complementary components of crisis communication.

Comparative media research has a long and established tradition (Matassi & Boczkowski, 2023), and its enduring relevance lies in revealing how media environments differ in their structures, functions, and implications for information flow and data production. Comparative media research is particularly significant when analyzing public communication in crisis contexts, where institutional logics, platform architectures, and socio-

political conditions interact to shape both communication strategies and audience responses.

A critical consideration in comparative media analysis is the material and structural character of communication environments. Social media platforms, for instance, are not neutral conduits, but socio-technical systems with architectures that determine what constitutes a communicative unit, how information circulates, and how engagement can be observed and measured (Heft et al., 2024). In other words, the design choices embedded in social media platforms condition the production and visibility of content, as well as the methodological possibilities for analysis (Rogers, 2013).

Hallin and Mancini (2004, 2014, 2017) argue that media systems are deeply embedded in broader political and institutional structures, and stress that research of these media systems should recognize the path dependence of national trajectories, with aspects such as digitalization serving as "critical juncture", that steers systems along specific paths (Capoccia, 2016; Esser & Vliegenthart, 2017), including temporal, spatial, institutional, and technological factors (Tilly & Goodin, 2006).

For this dissertation, media comparison includes consideration of: (1) systemic factors such as national political cultures, institutional practices, and platform architectures; and (2) situational dynamics (Liu et al., 2020).

3.3.3.1 Social Media Comparison

This dissertation includes a cross-platform comparison of PHAs crisis messaging on Facebook, Instagram, and Twitter, as these platforms

constitute important channels for interaction during the COVID-19 pandemic in Scandinavia.

In 2022, Instagram was the most popular platform in Sweden, with a usage rate of 60%, followed by Facebook at 54% and Twitter at 12% (Ohlsson, 2023). In Norway, Facebook led with a usage rate of 69%, while Instagram had a usage rate of 45%, and Twitter had only 8% (Ipsos, 2023). In Denmark, Facebook dominated with 84%, followed by Instagram at 56% and Twitter at 13% (Danmarks Statistik, 2023).

In addition to considering the popularity of the platforms included, this dissertation further considers that Facebook, Instagram, and Twitter each operate according to different platform affordances, capabilities that platforms enable or limit, which play a crucial role in shaping communication strategies, content forms, and user practices on each platform (Hase et al., 2023; Vicari & Ditchfield, 2025).

Facebook's affordances, linking, sharing, commenting, and reacting, enable high levels of interactivity and hypertextuality, and its algorithmically curated feed fosters a logic of "engaging news" that rewards interaction and virality (Hase et al., 2023). Consequently, Facebook's architecture encourages communicative practices centered on user participation and shareability, which influences how content is framed and disseminated (Hase et al., 2023; Vicari & Ditchfield, 2025).

Instagram is characterized by high visuality, strong algorithmic curation, and limited hypertextuality, with linking within posts restricted to methods like Stories or bios. Interactivity is comparatively constrained, limited to likes and comments, and its affordances support the notion of a "brand-

building news" logic focused on visually appealing, passively consumed narratives (Hase et al., 2023).

Twitter, in contrast, offers low algorithmic curation, allowing chronological feeds as a standard option, and high interactivity through replies, retweets, likes, polls, and embedded links, which facilitate rapid dissemination of breaking news and direct access to external sources (Hase et al., 2023). This communicative logic, described as "continuous, breaking news" is particularly catered to elites and news enthusiasts (Hase et al., 2023; Vicari & Ditchfield, 2025), which would explain why Twitter, while it had a relatively low user penetration in all three countries, still held strategic importance among media and political actors (Rega, 2021; Russell et al., 2023).

Considering both differences in platform popularity and platform affordances, this comparative research sheds light on differences in message positioning.

3.3.3.2 Press Conferences Comparison

In addition to social media, this dissertation includes an analysis of press conference appearances of PHAs in Denmark, Norway, and Sweden, as press conferences during COVID-19 served both as a means of delivering information and validating government measures (Esaiasson et al., 2021), 2021).

Press conferences serves as an important tool for PHAs to build public confidence and unity (Nihlén Fahlquist, 2021), and act as a mechanism for "nudge" interventions, e.g., instilling fear or using peer pressure, to encourage adherence to public health guidelines (Dodsworth, 2021; Gill &

Lennon, 2022), while reinforcing official narratives (Allen et al., 2024; He et al., 2023) by educating the public and influencing media coverage by providing visual elements for news reports (Allen et al., 2024).

In Scandinavia, throughout the pandemic, press conferences played a crucial role in sharing announcements, addressing media questions, clarifying government actions, alleviating uncertainties, and fostering a sense of urgency among the public (Kjeldsen, 2023). PHAs in Sweden conducted daily briefings to keep the public informed about ongoing developments (Johansson & Vigsø, 2021), while Norwegian PHAs adopted a coordinated approach, with frequent conferences held between PHAs and government officials. Similarly, in Denmark, the Government officials and PHAs used a press conference to announce significant policy changes (Kjeldsen, 2023), and as the situation evolved, Danish PHAs used live streams on social media platforms to provide updates and engage directly with the public.

Considering the central role press conferences served during COVID-19 as a platform for accountability, providing media access, and as a form of strategic public relations (Scacco & Wiemer, 2019), contrasting the Scandinavian use of press conferences, therefore, provides insight into the overarching differences in pandemic strategies.

3.4 Data Selection

This dissertation uses a triangulated dataset to analyze public health crisis communication in Scandinavia during the COVID-19 pandemic. It combines social media posts, expert interviews, and press conference recordings to examine PHAs pandemic communication.

3.4.1 Social Media Sample

The selection process for social media data started by identifying relevant accounts on Facebook, Instagram, and Twitter from which to extract messages. Data retrieval was conducted by Anders Olof Larsson, who selected which PHAs to include based on prior research (Almlund et al., 2023; Ihlen, Just, et al., 2022; Lindholm et al., 2023). The final selection of PHAs includes:

- Denmark: The Danish Medicines Agency (*Lægemiddelstyrelsen*) and the Danish Health Authority (*Sundhedsstyrelsen*). The former regulates medicines, medical devices, and vaccines, while the latter provides central public health guidelines and recommendations related to health protection, prevention, and treatment.
- Norway: The Norwegian Institute of Public Health (*Folkhelseinstituttet*) and the Norwegian Directorate of Health (*Helsedirektoratet*). The Institute serves as the expert body on public health and infectious disease control, while the Directorate operates as an executive agency under the Ministry of Health, translating scientific recommendations into operational guidelines and coordinating national crisis responses.
- Sweden: The Public Health Agency of Sweden (*Folkhälsomyndigheten*), the Swedish National Board of Health and Welfare (*Socialstyrelsen*), and the Swedish Civil Contingencies Agency (*Myndigheten för Samhällsskydd och Beredskap*). The Public Health Agency is the primary authority responsible for controlling infectious diseases and conducting epidemiological surveillance.

The National Board of Health and Welfare is tasked with healthcare system preparedness, social services, and resource allocation. The Civil Contingencies Agency focuses on civil protection, emergency management, and crisis preparedness.

A total of 4,569 posts were collected from the official accounts of these seven Scandinavian PHAs between February 1, 2020, and February 1, 2022. Of these, 2,087 were tweets, 1,832 were Facebook posts, and 650 were Instagram posts. Data was gathered using CrowdTangle for Facebook and Instagram and the Twitter Academic API for Twitter.

3.4.2 Interview Sample

To complement the social media dataset, this dissertation includes semi-structured interviews with subject matter experts. Participants were chosen for their expertise and influence in public health communication and crisis management during the COVID-19 pandemic in Norway and Sweden. Representations were chosen from Norway and Sweden for two main reasons:

1) In terms of pandemic mitigation strategies, Sweden operated as an outlier by relying on PHAs as the primary source for crisis communication. In contrast, Norway, in line with Denmark, employed a combination of political actors and PHAs. Therefore, expert insight sheds light on two diverse approaches to crisis leadership.

2) Norway adopted a distinct approach to social media-based crisis communication, as shown in previous research conducted during the first wave of the pandemic, while Sweden operated more in line with Denmark in terms of social media communication (e.g., Lindholm et al., 2023).

Therefore, expert insight sheds light on two diverse approaches to crisis communication, as indicated by social media.

Eight individuals were invited to participate, and five agreed, reflecting a targeted selection rather than a representative sample (Bogner et al., 2009). The final sample comprises three senior public health officials (internal experts) and two academic researchers (external experts) (von Soest, 2022). Each interview lasted approximately 45 minutes and explored topics such as communication planning and development, stakeholder engagement, platform and channel strategies, and post-pandemic reflections on communication practices.

Strict anonymization protocols were applied, contextual framing was provided for all quotations, and external validation procedures were implemented to minimize bias and ensure a balanced representation of perspectives. These methodological safeguards enhance both the rigor and ethical integrity of the qualitative component of this study.

3.4.3 Press Conference Sample

The data selection for press conferences includes recorded press conferences and briefings from Denmark, Norway, and Sweden. To enable meaningful cross-national comparison, the press conference sample was constructed around four key phases of the COVID-19 pandemic, defined by major WHO announcements regarding the virus's trajectory or global policy guidance. For each phase, press conferences held within one week following the announcement were selected as the analytical timeframe. The included dates and corresponding events are as follows:

- 11 March 2020: WHO declared COVID-19 a global pandemic.

- 21 December 2020: The European Union approved the first COVID-19 vaccine.
- 2 February 2021: A coronavirus mutation was identified that could reduce vaccine effectiveness.
- 31 May 2021: WHO introduced the Greek alphabet naming system for SARS-CoV-2 variants.

In response to these four events, Danish PHAs held five press conferences (with an average duration of 29 minutes), Norwegian PHAs held seven (with an average duration of 44 minutes), and Swedish PHAs held ten (with an average duration of 45 minutes). The final dataset comprises 22 press conferences, totaling approximately 15 hours of material.

3.5 Method of Analysis

This dissertation uses a multi-method comparative research design to investigate how PHAs communicated during the COVID-19 pandemic in Denmark, Norway, and Sweden. It analyzes a dataset comprising social media messages, expert interviews, and press conference recordings, employing two methods: Content Analysis (CA) and Thematic Analysis (TA).

3.5.1 Content Analysis

Content Analysis, CA, which the first part of this thesis employs, is a suitable method for a systematic and replicable examination of social media content (Krippendorff, 2018; Manganello & Blake, 2010; Riffe et al., 2023). Fundamentally, CA entails the identification and quantification of specific components of communication, including themes, frames, rhetorical strategies, or message types, within a defined set of texts,

videos, or other media. It enables researchers to detect patterns, trends, and correlations across extensive datasets, making CA especially valuable for examining how communication progresses over time or varies across different platforms and contexts (e.g., Riffe et al., 2023). When combined with a solid theoretical foundation and strict methodological practices, such as Sturges' (1994) crisis communication objectives model, CA significantly enhances the empirical examination of communication phenomena (Manganello & Blake, 2010).

Starting from RQ1: What crisis communication strategies did Scandinavian public health authorities employ on social media during the COVID-19 pandemic?

Publication I, which is co-authored with Anders Olof Larsson, addresses this research question with findings that are presented in two formats: first, as overall proportions categorized by country and platform; second, as temporal data that breaks down the results by country, platform, and specific communication objectives (instructive messaging, supportive messaging, reputational management, or soliciting interaction).

For RQ2: How does public engagement correspond to crisis communication strategies by public health authorities across the Scandinavian nations?

Publication II, co-authored with Anders Olof Larsson, builds on the findings from Publication I by contrasting the initial findings with engagement metrics, specifically Likes. The findings include differences in Likes across platforms, countries, and communication objectives, as well as changes in public engagement over time.

Research of social media content in Norwegian academia, under which this dissertation is conducted, adheres to the ethical standards outlined in the 2019 Guidelines for Internet-Based Research by the National Committee for Research Ethics in the Social Sciences and the Humanities (NESH, 2019). This guideline underscores the ethical complexities of public versus private online communication, and according to NESH, ethical internet research must adhere to two guiding principles:

1. Private information must not be collected or used without consent.
2. Public content should not be used indiscriminately, particularly when it involves vulnerable individuals or sensitive topics.

Crucially, the determining factor is not the sensitivity of the information itself, but its accessibility within the public sphere (NESH, 2019). The included studies of social media data, therefore, only include content intended for public dissemination and thus appropriate for academic scrutiny (Elgesem, 2015). However, efforts are still made to anonymize private user identities, and findings avoid quoting or reproducing identifiable content of private citizens but do include quotes by official institutional sources.

3.5.1.1 Operationalization

Based on the work of Sturges (1994), Lindholm et al. (2023), and Chen et al. (2020), the analysis of social media began with me as the first author developing a theory-driven codebook (see Appendix E). This codebook includes four dichotomous variables representing key communication objectives: (1) Instruct, (2) Support, (3) Manage Reputation, and (4) Solicit Interaction. Each variable is coded as either present (1) or absent (0),

allowing posts to reflect multiple objectives simultaneously. Further, a variable of whether the message alludes to COVID-19 is included in the codebook, and the presence of this variable includes both direct references to the pandemic and indirect references to its associated impacts, such as increased feelings of loneliness, strain on healthcare personnel, or vaccine hesitancy.

After I constructed an initial codebook, I coded approximately 30% of the social media dataset to test the variables and values. Following this preliminary analysis, I refined and rephrased variables where necessary.

Building on findings from Publication I, in Publication II, the 'Like' function was used as a dependent variable in a negative binomial regression model constructed by Anders Olof Larsson, with results displayed as incidence rate ratios (IRR). Like was chosen as a representative of public engagement as this function is available on all platforms investigated (Facebook, Instagram, and Twitter). Although 'Like' does not explicitly mirror active public engagement, nor necessarily entails public interests, in this dissertation it functions as a proxy for indicating public interest. Moreover, the Like function serves as an interactive mechanism that increases a post's visibility, thereby contributing to what is often called post amplification (e.g., Larsson, 2019; Larsson, 2025; Zhang et al., 2017).

An IRR greater than 1 signifies a positive correlation; for example, an IRR of 1.4 indicates a 40% increase in the number of likes. Conversely, an IRR below 1 indicates a negative correlation, such as an IRR of 0.7, which represents a 30% decrease in likes (de León et al., 2023).

3.5.1.2 Quantitative Research Standards

Part of constructing codebooks includes reliability checks such as intercoder reliability, which measures the extent to which independent coders consistently apply the coding scheme (Lombard et al., 2002). High reliability enhances the validity of the findings by ensuring that the results reflect a shared analytical framework rather than individual coder bias. In this study, intercoder reliability was assessed by having me first code the dataset according to the finalized codebook, followed by the second author, Anders Olof Larsson, who independently coded a randomly selected 10% subsample of the dataset. Reliability was measured using Krippendorff's alpha (α), a robust coefficient suitable for various data levels and tolerant of missing values. Krippendorff's α values for the five coded variables all exceeded the commonly accepted threshold of 0.80, indicating strong agreement according to established guidelines (e.g., Lombard et al., 2002; Riffe et al., 2023), and considered sufficient for drawing valid inferences in CA. These results affirm the consistency of the coding process and underscore the reliability and reproducibility of the study's analytical approach.

Notably, the coding process incorporated both manifest and latent variables, as some codes did not explicitly reflect communicative objectives. Manifest content refers to what is directly observable, surface-level features such as word counts or visible actions, assuming an objective, easily recognized truth within the data. In contrast, latent content involves interpreting meanings beneath the surface, such as emotional tone or sarcasm, requiring contextual understanding and subjective interpretation (Kleinheksel et al., 2020). Here, the researcher

actively co-creates meaning with the text, drawing on theoretical frameworks. While inter-coder reliability was high, the interpretive nature of latent coding may still influence results.

Moreover, dichotomous coding determines only whether a feature is present or absent, overlooking the degree or nuances of its appearance. This approach streamlines analysis and enhances reliability, but it fails to capture variations in intensity, tone, or emphasis (e.g., Krippendorff, 2018). Consequently, comparative analysis is restricted to simple counts and misses richer qualitative differences. This approach simplifies complex communication practices as it provides a transparent and replicable basis for cross-national comparison, however, while binary coding is effective for identifying patterns and facilitating statistical comparisons, it risks oversimplifying complex communication.

3.5.2 Thematic Analysis

In addition to CA, this dissertation employs Thematic Analysis, TA, to explore the meanings and logics underpinning communication practices, drawing on semi-structured interviews and press conference materials. TA is a systematic method for identifying, analyzing, and interpreting patterns, known as themes, within qualitative data. It is particularly well-suited to a CR orientation due to its flexibility, as it can be positioned within both realist and post-positivist frameworks due to its systematic coding process, which facilitates the identification of patterns across datasets in relation to the research questions (Clarke & Braun, 2014).

Braun and Clarke (2006) emphasize that TA serves as an analytical method rather than a strict methodology, meaning it does not adhere to specific

theoretical frameworks, research questions, or data collection strategies. The process of TA can adhere to deduction (codes derived from theory or concepts), induction (codes derived from data), or abduction (a combination of empirical observations with theoretical frameworks) (Khurshid et al., 2025; Proudfoot, 2023) but generally begins with generating codes, labels that capture significant features within the dataset (Clarke & Braun, 2014), similarly to CA. These codes are essential for identifying themes that reflect broader and more meaningful patterns in the data. In contrast to CA, TA enables the exploration of both semantic (surface-level) and latent (underlying) meanings, providing a deeper understanding of the data (Clarke & Braun, 2014).

It is important to understand that themes are not simply taken from the data; rather, they are shaped by the researcher's interpretive choices and insights, which highlights the active role of the researcher in creating codes and themes, which in turn influences the narrative constructed from qualitative data in meaningful and insightful ways (Clarke & Braun, 2014).

Addressing RQ3: What lessons can be drawn from subject-matter experts on Scandinavian crisis communication strategies during the COVID-19 pandemic?

Publication III utilizes TA to examine the perspectives of experts in public health and crisis communication on public leadership and pandemic communication in Scandinavia.

As for RQ4: How can the IDEA(L) framework be applied to understand public health authorities' crisis communication strategies?

Publication IV uses TA to derive themes from press conferences, drawing inspiration from the analytical findings discussed in Publication III.

3.5.2.1 Operationalization

To address RQ3, I conducted interviews with experts in public health and crisis communication to explore the complex challenges related to policy and communication (Goldstein, 2002; Tansey, 2009). I specifically focused on the communicative approaches of Norway and Sweden, as these two countries portrayed two contrasting responses to the pandemic; Norway responded to the pandemic by emphasizing the importance of collaboration, community service, and collective effort in managing the pandemic (Christensen & Lægreid, 2020; Nord & Olsson Gardell, 2023); and in contrast, Sweden adopted a strategy that prioritized individual responsibility over extensive government intervention (Johansson & Vigsø, 2021; Ludvigsson, 2020; Nord & Olsson Gardell, 2023; Rasmussen et al., 2023).

For RQ4, I analyzed full-length video recordings of press conferences conducted by national PHAs. These recordings included both prepared statements and spontaneous responses to journalists, offering a comprehensive view of institutional discourse. Press conferences were delivered either by solely PHAs, as in Sweden and later Denmark, or jointly with government representatives, as in Norway and Denmark's earlier briefings.

The specific TA approach utilized in this dissertation was a six-phase iterative process based on the framework proposed by Naeem et al. (2023):

1. Familiarization: The first step involves carefully reviewing the transcribed materials to identify initial themes and key quotations relevant to the research questions.

2. Open Coding: The second step includes a systematic coding process aimed at uncovering recurring patterns, language choices, and significant issues within the material.

3. Code Development: In the third step, initial codes are refined into concise analytical units that effectively capture the distinct thematic elements emerging from the data.

4. Axial Coding: The fourth step involves organizing these analytical units into broader categories, which helps illuminate conceptual relationships and patterns that align with the study's objectives.

5. Interpretation: The fifth step interprets the emerging themes within the context of established frameworks, in this case, in crisis communication and public health messaging, providing a deeper understanding of the findings.

6. Model Construction: The final step involves developing a conceptual model to synthesize the findings into a coherent analytical framework, reflecting the discursive strategies and institutional dynamics that influenced responses during the pandemic.

Transcripts and relevant documents were reviewed to identify preliminary patterns and noteworthy passages, which were then uploaded to NVivo for coding and analysis. The focus was on frequently used terms, recurring challenges, and shared conceptual concerns. Initial codes were distilled

into concise analytical units that captured meaningful statements, rationales, or judgments. These codes were later organized into broader categories and emerging themes. The identified themes were compared with theoretical dimensions, ultimately leading to the development of an extended conceptual framework.

3.5.2.2 Qualitative Research Standards

As emphasized by Blaikie and Priest (2019), advancing scholarly knowledge is a core objective of scientific inquiry, but it must never compromise the rights, dignity, or well-being of research participants, reminding researchers of the essential ethical principles governing all human subjects research, including voluntary participation, informed consent, transparent communication of the study's aims and procedures, the right to withdraw without consequence, protection of privacy, and respect for participant autonomy. In line with these principles, ethical approval for this publication was obtained from the Norwegian Agency for Shared Services in Education and Research (SIKT) before collecting data involving human participants. Moreover, the interview procedure was developed to ensure compliance with both national and international ethical standards, including GDPR, and all interview participants received clear and detailed information about the study's purpose, scope, and the voluntary nature of their participation. Informed consent was obtained in accordance with the ethical guidelines of the Norwegian National Committee for Research Ethics in the Social Sciences and the Humanities (NESH, 2024). Anonymity was safeguarded through careful pseudonymization, the removal of identifying details, and secure data-handling procedures throughout the research and publication processes.

Analyzing press conferences was similarly conducted in accordance with established ethical protocols (NESH, 2024). The press conferences were organized by PHAs and government officials and broadcast through official channels to provide public information to citizens and the media.

Consequently, public administrations both produced the video materials included in the dissertation and archived these recordings publicly for research availability, allowing their analysis within established ethical standards for research using publicly accessible materials.

Alongside the ethical standards applied, the TA was approached through both abductive and retroductive reasoning (e.g., Clarke & Braun, 2014; Danermark et al., 2019). Abduction facilitated iterative engagement between empirical observations and theoretical frameworks related to crisis communication objectives and IDEA-based messaging, while retroduction supported the identification of potential underlying mechanisms shaping communicative practices across the pandemic context. These analytical processes were guided by qualitative research quality criteria, including credibility, confirmability, and reflexivity (e.g., Bryman et al., 2008).

Credibility in this context refers to offering explanations that sufficiently account for observed phenomena, rather than asserting unmediated access to reality. In the context of press conference analysis, this entails approaching them as strategically crafted public events influenced by institutional interests, rhetorical goals, and media dynamics (e.g., Kjeldsen, 2023). The analysis interprets patterns in leadership performance as indicative of deeper institutional logics and constraints and presents these interpretations as theory-informed and provisional,

that is, open to revision as new perspectives or evidence emerge, rather than as fixed representations of institutional reality. The findings are therefore anchored in context and informed by theory, without aiming for universal generalization. Rather, the objective is to construct plausible, theoretically warranted explanations of the underlying communicative mechanisms that can advance understanding across similar institutional contexts. Although such mechanisms are not directly observable, they are posited as explanatory inferences, derived from recurring empirical patterns identified across diverse data sources.

The study's limited timeframe produced a dataset of 22 press conferences. Although relatively small, the dataset retains analytical strength through a qualitative, theory-driven approach that prioritizes depth of analysis over numerical breadth. Moreover, the chosen period encompasses a pivotal phase of the pandemic, characterized by heightened communicative activity and institutional adaptation, enabling a close examination of evolving communicative practices.

The interview component utilized purposive elite sampling, selecting five participants with direct experience in crisis communication and governance. In qualitative research, sample adequacy is determined by analytical contribution rather than statistical representativeness (Mason, 2010). The objective was not to generalize expert views to a broader population but to obtain informed institutional perspectives that contextualize observed communicative strategies. Recognizing that elite actors may retrospectively rationalize decisions or frame narratives in alignment with institutional interests (Bogner et al., 2009), interview

accounts are treated as situated interpretations that inform explanatory inference rather than as objective reconstructions of causal processes.

To enhance confirmability and deepen understanding of the underlying mechanisms identified in this dissertation, findings were triangulated across interviews, public discourse, and social media content. This triangulation provided multiple independent lines of evidence, thereby strengthening the explanatory robustness of interpretations by examining their coherence across multiple empirical domains rather than attempting to eliminate subjectivity. The approach enabled a multidimensional analysis of communicative practices and facilitated nuanced comparisons among institutional messaging, expert interpretations, and observable communication patterns over time.

Finally, reflexivity in this study denotes the extent to which the research process was critically and transparently examined for methodological limitations and the diversity of possible interpretations of the data (Bryman et al., 2008). Self-reflexive scrutiny was maintained throughout, evaluating how the researcher's normative commitments, particularly those rooted in Eastern Scandinavian norms and traditions (e.g., Douglas, 2016; Cheek & Øby, 2023), may have shaped interpretive judgments. Reflexive attention was also given to the influence of theoretical frameworks on pattern identification, the emphasis on certain communicative features, and the inference of underlying mechanisms, acknowledging that analytical outcomes are partly shaped by theoretical and methodological choices. The methodological limitations and boundary conditions are discussed in Section 6.1.

4. Publications

This chapter summarizes the findings from each study included in this dissertation. All findings are based on the following publications:

- I. *Hasselström, A. E., & Larsson, A. O. (2024). Managing the Pandemic in Digitized Spaces: Assessing the Social Media Approaches of Scandinavian Public Health Authorities. Social Media + Society, 10(3). <https://doi.org/10.1177/20563051241269283>*
- II. *Hasselström, A. E., & Larsson, A. O. (2025). Crisis? What crisis? Assessing over-time public engagement with crisis communication on social media during COVID-19 in Scandinavia. Information, Communication & Society, 1–18. <https://doi.org/10.1080/1369118X.2025.2498691>*
- III. *Hasselström, A. E. (Accepted). Public Leadership during Prolonged Crises: Multisectoral and Community-Centric Approach. In A. Diers-Lawson & A. Björck (Eds.), Research handbook on the management of risk and crisis communication. Edward Elgar Publishing.*
- IV. *Hasselström, A. E., (Accepted) Distributing Instructive and Legitimate Crisis Communication: COVID-19 Press Conferences in Scandinavia. Mediální Studia ECREA Summer School Special Issue.*

I briefly present trends in crisis communication objectives (Publication I) and public engagement patterns (Publication II), which are connected to themes derived from expert interviews (Publication III) and later press conferences (Publication IV).

4.1 Publication I - Managing the Pandemic in Digitized Spaces

This publication (see Appendix A), co-authored with Anders Olof Larsson, examined how Scandinavian PHAs employed crisis communication objectives on social media during the COVID-19 pandemic, focusing on variations across countries, platforms, and time. Findings are presented in two formats: overall temporal trends and proportions by country and platform across the four communication objectives—to instruct, to support, to manage reputation, and to solicit interaction, which addresses

RQ1: What crisis communication strategies did Scandinavian public health authorities employ on social media during the COVID-19 pandemic?

Sturges (1994) proposed that crisis communication should follow a sequential trajectory beginning with instructive messaging, then supportive communication, and culminating in reputational management. However, this linear model is insufficient for understanding the realities of prolonged crises, such as the COVID-19 pandemic, which exposes the limitations of phase-based frameworks. Prolonged crises are characterized not only by ongoing uncertainty and repeated disruptions, but also by a continuous sequence of overlapping, interconnected events (Diers-Lawson & Omondi, 2024).

In line with the prolonged crisis context, our findings reveal that communication objectives were pursued concurrently. Instructional messaging was consistently prioritized across all platforms throughout the study period, highlighting a persistent need for behavioral guidance amid ongoing uncertainty. Reputational communication was also evident

throughout, demonstrating that institutional interests were advanced alongside instructional messaging rather than surfacing only in the later stages, as Sturges (1994) suggested.

On a platform-specific contrast, Facebook maintained relatively high levels of instructional and reputational communication throughout 2020, with fluctuations aligned to major pandemic developments. Supportive messaging was moderately present, while interactive engagement remained limited. Instagram activity was lower overall, however, in Sweden there was a notable spike in supportive communication during the second quarter of 2020 suggests targeted efforts to convey empathy and reassurance during a critical phase. On Twitter, reputational communication dominated, peaking multiple times during 2020–2021, while instructional and supportive content appeared at lower but stable levels.

An aspect of the crisis communication that did follow a discernible trajectory was the overall volume of messaging, rather than its thematic progression. Across Denmark, Norway, and Sweden, messaging activity was most intensive during the early phase of the pandemic in 2020, followed by a gradual decline through 2021 and 2022.

Swedish PHAs communicated less frequently about the pandemic overall, aligning with Sweden's voluntary mitigation strategy and portrayal of COVID-19 as a relatively lower-level societal threat (Johansson & Vigsø, 2021). In contrast, Danish PHAs, who operated under stricter pandemic rules and regulations, referenced the pandemic most frequently, reflecting a more proactive communication approach.

Taken together, these patterns suggest that crisis communication during COVID-19 was characterized not by a linear progression of communication objectives through phases but by addressing simultaneous, recurring events. Messaging was most diverse and intensive during the initial crisis phase, after which both frequency and variety declined as the pandemic progressed.

4.1.1 Communication objectives by country and platform

Comparative findings reveal that across all three countries, Facebook functioned primarily as a hybrid dissemination channel combining instructional and reputational communication. Danish PHAs relied heavily on instructional (61.3%) and reputational (46.3%) messaging, accompanied by moderate supportive content (36.5%) and limited interactive engagement (9.2%). Norwegian PHAs demonstrated a similar pattern, with reputational (59.4%) and instructional (55.2%) messaging most frequent, while supportive (29.9%) and interactive (3.9%) communication remained secondary. Swedish PHAs placed even stronger emphasis on instructional messaging (72.6%), alongside moderate reputational (36%) and supportive (32.6%) content, with interaction remaining minimal (3.7%). These similarities suggest that Facebook was consistently used as a primary public-facing platform for delivering guidance and reinforcing institutional authority.

Instagram exhibited greater cross-national variation, with Danish PHAs primarily using Instagram for instructional (86.8%) and supportive (50%) messaging, with minimal focus on reputational (7.4%) or interactive (1.5%) content. Norwegian PHAs combined instructional (64.4%) and reputational (48.9%) messaging, while supportive (25.2%) and interactive (5.9%)

content played a smaller role. In contrast, Swedish PHAs prioritized supportive communication (77.8%).

Twitter displayed the clearest cross-national convergence, functioning predominantly as a reputational and elite-oriented communication arena. Danish (68.5%), Norwegian (74.1%), and Swedish (60%) PHAs all prioritized reputational management on the platform, complemented by instructional messaging at lower levels (Denmark: 38%; Norway: 36.7%; Sweden: 45.5%). Supportive and interactive communication remained limited across all three countries, indicating that Twitter was used primarily to signal institutional credibility, coordinate narratives, and engage with media and policy elites rather than foster direct public interaction.

4.1.2 Crisis Leadership Communication Objectives

Denmark's PHAs demonstrated a clear preference for Facebook, the country's most widely used social media platform (Danmarks Statistik, 2023), suggesting a deliberate strategy oriented toward direct public engagement. The prominence of political leadership in Denmark positioned PHAs as secondary crisis leaders, which may explain their emphasis on disseminating guidance and practical information to the general population rather than engaging in more politically oriented communication aimed at promoting institutional authority or reputation.

By contrast, Norwegian and Swedish PHAs favored Twitter, a platform used by only around 15% of the population but disproportionately accessed by societal elites, journalists, and policymakers (Ipsos, 2023; Larsson & Christensen, 2017; Larsson et al., 2017; Ohlsson, 2023). This platform choice indicates a more elite-oriented communication strategy targeting

opinion leaders, facilitating interorganizational coordination, and supporting reputation management. The comparatively stronger crisis leadership roles assumed by Norwegian and Swedish PHAs appear to create greater incentives for political positioning and strategic reputation-building than in the Danish case. This dynamic is particularly evident among Norwegian PHAs, which emphasized reputational communication across the platforms, likely reflecting institutional efforts to maintain trust and demonstrate transparency during prolonged crisis conditions (Fiskvik et al., 2023; Ihlen, Just, et al., 2022).

4.1.3 Overall Message Patterns

Scandinavian PHAs adopted platform-sensitive and adaptive crisis communication strategies on social media during the COVID-19 pandemic. Their approaches reflected not only national governance contexts and platform-specific affordances but also the shifting demands of a prolonged crisis.

Platform differences underscored the strategic adaptation of communication objectives. Facebook primarily served to deliver instructional and reputational messages to the general public, whereas Twitter functioned as an elite-oriented channel focused on reputational management. Instagram showed greater variation, with Sweden notably emphasizing supportive messaging, underscoring the platform's role in conveying empathy and reassurance through visuals.

Explicit efforts to solicit interaction were rare across all countries and platforms. Despite scholarly recommendations that interactive communication fosters trust and engagement (Chen et al., 2020), PHAs

generally refrained from directly inviting dialogue. This reluctance reinforces previous findings that public institutions often approach social media interactivity with caution (Magin et al., 2017).

The timing of communication objectives suggests that PHA messaging followed campaign-like rhythms, diverging from the staged progression of traditional crisis communication models (Sturges, 1994). Instructional and reputational messages remained consistently prominent, reflecting the dual need to guide public behavior and protect institutional reputation under sustained scrutiny and shifting blame-attribution during a prolonged crisis (e.g., Carlsen et al., 2021; Diers-Lawson & Omondi, 2024; Fiskvik et al., 2023; Ihlen & Vranic, 2024).

4.2 Publication II - Crisis? What crisis?

Building on Publication I, this publication (see Appendix B), co-authored with Anders Olof Larsson, examined trends in public engagement with crisis communication objectives by analyzing the "Like" function on Facebook, Instagram, and Twitter as a proxy for engagement. This analysis aimed to address:

RQ2: How does public engagement correspond to crisis communication strategies by public health authorities across the Scandinavian nations?

This publication employed a negative binomial regression model to predict the number of Likes on Facebook posts by PHAs in Denmark, Norway, and Sweden. The model considers communication objectives (instructional, supportive, reputational, and interactive) along with temporal and

platform-related variables (* $p < .05$, ** $p < .01$, *** $p < .001$; McFadden Pseudo $R^2 = .071$; AIC = 52288.18; BIC = 52397.44).

4.2.1 Engagement with Communication Objectives

Concerning instructional messages, the findings show that these messages consistently drove engagement across all three countries, with Sweden reporting the highest engagement (IRR = 1.50***), followed by Denmark (IRR = 1.43***) and Norway (IRR = 1.36***), supporting the notion that instructional content is necessary for stakeholder consideration during crises (e.g., Al-Hasan et al., 2020; Cascini et al., 2022; Han & Baird, 2024; Liu & Ni, 2022; Pfattheicher et al., 2020; Sellnow et al., 2023; Sturges, 1994). Sweden, which saw the strongest engagement with instructions and where mitigation relied heavily on voluntary compliance, suggest that when state measures are less coercive, citizens may be more actively engaging with instructive content.

Supportive messages yielded more diverse outcomes. Danish and Norwegian audiences responded positively, while Swedish audiences did not, indicating unique cultural expectations about messages that promote well-being and empathy. Specifically, Sweden exhibited a negative effect (IRR = 0.92*), in contrast to Denmark (IRR = 1.16***) and Norway (IRR = 1.27***), both of which showed significantly higher engagement.

Reputational messaging, by contrast, was generally met with weak or negative engagement. Specifically, reputational content produced negative effects in Sweden (IRR = 0.86***) and Denmark (IRR = 0.88***), while Norway showed a positive but non-significant effect (IRR = 1.08). While Sturges (1994) emphasizes the importance of reputational practices, and

while Publication I does indicate a preference for PHAs to engage in reputational management, these findings indicate that audiences in Denmark and Sweden were not interested in such content. Further, while the findings from Norway show a different trend, these findings were not significant. One explanation for the different result in Norway could be Norwegian culture, which places a strong emphasis on trust and cooperation with institutional actors (e.g., Ihlen, Just, et al., 2022). These cultural and political factors may explain why Norwegian citizens engaged with this content, while Danish and Swedish audiences generally did not.

At the same time, cross-national differences in engagement may also reflect broader contextual conditions. Variations in pandemic severity, differences in policy responses, political leadership visibility, and the role of national media systems may all shape the communication environment in which public health messaging is received.

Finally, messages soliciting interaction did not produce significant effects in Sweden (IRR = 0.96) or Denmark (IRR = 0.98). However, Norway showed a significant positive effect (IRR = 1.13***), demonstrating that the Norwegian public was especially responsive to the PHAs' appeals for engagement.

4.2.2 Engagement across Platforms

Beyond differences in communication objectives, engagement levels varied markedly across social media platforms. Facebook consistently generated the highest engagement in all three countries, reflecting its prevailing role during the pandemic. In Denmark and Norway, it was the most widely used platform (Danmarks Statistik, 2023; Ipsos, 2023), while

in Sweden, it ranked second (Ohlsson, 2023). This pattern suggests that PHAs leveraged Facebook's broad reach to effectively engage diverse public audiences during the crisis.

More surprising, however, was the comparatively low engagement observed on Instagram. Despite its overall popularity among Scandinavian users, particularly in Sweden (Ohlsson, 2023), Instagram consistently recorded lower engagement levels than both Facebook and Twitter. This finding indicates that platform popularity alone does not determine engagement with crisis communication. Instead, audience composition appears to play a critical role. Although Twitter had relatively low user penetration during COVID-19, its users were more likely to include journalists, politically engaged individuals, and institutional actors who actively interact with public health information (e.g., Rega, 2021; Russell et al., 2023; Larsson & Christensen, 2017; Larsson et al., 2017). By contrast, Instagram audiences may have engaged less frequently with institutional crisis messaging, suggesting differences in platform expectations and communicative norms.

4.2.3 Engagement across Time

Temporal comparative analysis, measured in days since February 1, 2020, revealed a significant negative association ($IRR = 0.70^{***}$), with engagement steadily declining as the pandemic progressed. This trend indicates that public responsiveness to PHA social media communication diminished over time, likely driven by pandemic fatigue (Hassan et al., 2021). This decline mirrors global research documenting a waning in public attention to official health messaging during prolonged crises due to drawn-out exposure, emotional exhaustion, and evolving risk perceptions

erode engagement (e.g., Abdul Rashid et al., 2023; Diers-Lawson & Omondi, 2024; Torales et al., 2023).

Importantly, this temporal pattern does not simply reflect a failure of communication strategy; rather, it underscores the structural limits of sustaining digital engagement during prolonged crises. As such crises unfold, audience receptivity may fluctuate independently of message quality or frequency, highlighting the need for crisis communication to adapt not only to shifting informational needs but also to diminishing public attention and capacity for engagement over time.

As such, engagement with crisis communication on social media may be influenced by contextual factors beyond message design, including shifts in pandemic severity, major policy announcements, and broader changes in public attention during the prolonged crisis.

4.2.4 Overall Engagement Patterns

Instructional messaging drove the highest public engagement across Denmark, Norway, and especially in Sweden. Supportive messages increased engagement in Denmark and Norway but decreased it in Sweden, while reputational messaging was mostly ineffective except in Norway. Interactive messages raised engagement in Norway but had little impact elsewhere. Facebook was the most effective platform for generating engagement, while Instagram and Twitter played more niche roles.

Overall, engagement declined over time in all countries, reflecting pandemic fatigue and the challenges of sustaining public attention during a prolonged crisis.

4.3 Publication III - Public Leadership during Prolonged Crises

Drawing on insights from both Publication I and II, this publication, Publication III, draws insight from internal experts (practitioners) and external experts (researchers) (von Soest, 2022) on the communicative practices of Norwegian and Swedish PHAs (see Appendix C), to address:

RQ3: What lessons can be drawn from subject-matter experts on Scandinavian crisis communication strategies during the COVID-19 pandemic?

Analysis of expert interviews revealed five interrelated dimensions of PHAs communicative leadership during COVID-19: interagency collaboration, political legitimacy performance, openness, stakeholder worldview alignment, and adaptive communication distribution.

4.3.1 Practicing Interagency Collaboration

In Sweden, the experts noted several shortcomings in the PHAs' interagency collaborations. First, with press conferences serving as a primary source of pandemic information, this form of communication excluded local health and education authorities, who were essential to implementing policy and public health recommendations at the regional level. As a result, many sectors and institutions received information simultaneously with the public, leaving them insufficient time to plan their own communication strategies and hindering their ability to respond to stakeholders. Second, the strategy lacked clear mandates, leading to rivalry among sectors, institutions, and actors, leaving each institution uncertain about its decision-making powers. Furthermore, because there

were no effective crisis and pandemic rehearsals before the COVID-19 pandemic, health and communication professionals had differing views on which communication strategies to adopt, further complicating cross-sector collaboration. Therefore, the experts advocated for better pandemic communication plans and pandemic rehearsals, as practicing pandemic scenarios can improve crisis outcomes, clarify each PHA's responsibilities, and resource allocation.

Experts from Norway indicated that during the Swine flu epidemic, failures in communicative leadership led to significant issues with vaccine communication. Consequently, there was a strong desire for inclusivity during the COVID-19 pandemic. This desire, combined with clear hierarchies among PHAs and government officials, led to the creation of more adaptive and dialogic interagency networks, supported by flexible communication mechanisms and real-time feedback channels. These structures allowed PHAs to align their messaging with that of political leaders while remaining responsive to emerging concerns, demonstrating that pre-crisis learning and institutionalized dialogue can enhance coordination capacity.

Together, these cases demonstrate that interagency collaboration is not solely a structural issue, but a communicative process shaped by clarity of mandates, pre-crisis rehearsal, and institutional learning.

4.3.2 Performing Political Legitimacy

In both Norway and Sweden, experts found that implementing pandemic policies was not simply a matter of administration, but a visible performance of governance. Public perceptions of legitimacy were shaped

by whether institutions demonstrated ethical conduct, cultivated meaningful relationships, and shared responsibility. Policy implementation thus became a test of legitimacy, with political implications that extended well beyond practical outcomes. Pandemic messaging, in this context, requires not just a clear justification for measures but also a symbolic affirmation of leadership and values. Lockdowns and vaccination campaigns, for example, acted both as concrete interventions and as signals of coordinated governance. Legitimacy was therefore established through both the substance of messages and the transparent, coordinated processes behind them.

At the heart of these performances were established patterns of leadership, with trust and authenticity emerging as central to shaping public perception. As experts emphasized, authenticity is not improvised in a crisis; it is built beforehand, maintained through consistent action, and reinforced by transparent communication and effective sense-making. Ultimately, the legitimacy of PHAs depended on their capacity to balance the needs of stakeholders with those of the organization itself.

4.3.3 Embracing Openness

In addition to the political aspect of legitimacy-building, the experts highlighted that openness was essential in both Norway and Sweden, encompassing transparency and inclusion as metrics of legitimacy.

In Sweden, while the principle of openness was recognized as crucial, its implementation was often hindered by overly technical communication practices and limited collaboration, particularly between health experts

and communication specialists, leading to inter-agency discontent and doubt about the PHAs efficacy.

In contrast, Norway adopted openness as an intentional strategy to build legitimacy, using transparency and inclusion to demonstrate procedural fairness and epistemic humility. By openly acknowledging both the limits and strengths of their knowledge, the PHAs fostered trust and created space for shared learning with politicians, media, and the public. Thus, rather than withholding information out of concern for public panic, they prioritized continuous updates and open dialogue. This proactive openness not only reassured stakeholders but also strengthened media relations and public engagement, reinforcing their legitimacy as public health experts.

4.3.4 Considering Stakeholder Worldview

According to experts, a recurring challenge during COVID-19 in Norway and Sweden was reaching minority populations effectively. While both countries quickly adopted multiple communication channels and translated information into several languages to cater to the diverse linguistic needs of minority groups, they overlooked the cultural expectations and past experiences of these communities, which would have shaped minorities' perceptions of, and responses to, risk. These findings challenge deficit-model assumptions by demonstrating that translation alone is insufficient without cultural and relational alignment.

For example, while many individuals from majority communities followed official guidelines, some, particularly younger adults and migrants, did not

respond as positively, as the messages failed to convey an adequate sense of personal threat to motivate behavioral change.

Another significant challenge mentioned by the experts was the absence of unified "target groups." Communities often consist of diverse subgroups with varying needs, which complicated the tailoring of messages during the pandemic.

As a result, experts recommend implementing more proactive communication strategies, built on pre-existing relationships, before a crisis arises, rather than relying on the reactive methods used during a pandemic.

4.3.5 Tailoring Communication Distribution

Both Norway and Sweden broadened their communication strategies during COVID-19 to engage a broader range of audiences. Specifically, the PHAs used both digital and traditional distribution channels, including social media, podcasts, emails, and press conferences.

Furthermore, as openness became a core principle in Norway, Norwegian PHAs invited media figures and journalists to meet with experts and instructed them to provide as much information as requested. As a result, media professionals acted as intermediaries, translating and amplifying information, thus broadening the reach of health advice. Similarly, Facebook served both as a broadcasting tool and as an interactive platform where comments could prompt real-time policy adjustments, as the comments section became a forum for dialogue between PHAs and the public.

A significant shortcoming in the communication distribution networks in both Norway and Sweden was reaching vulnerable groups, such as migrants, people with disabilities, and those dealing with substance use issues. This difficulty was compounded by the mistaken assumption that everyone accessed information through traditional news channels or government websites. To address these shortcomings, experts emphasized the value of a two-step flow of communication, in which trusted intermediaries, such as influencers, religious leaders, or community representatives, relay and contextualize information to hard-to-reach groups. Such influencers could play a similar role in expanding the reach of information and providing legitimacy to health advice when the perceived expertise of PHAs alone is insufficient.

4.3.6 Implication for Communicative Leadership

Lessons from Norway and Sweden demonstrate that effective pandemic communication depends on interagency collaboration, political legitimacy, openness, consideration of stakeholder worldviews, and tailored dissemination. Taken together, these findings suggest that communicative leadership in prolonged crises involves continuous legitimacy performance, relational engagement, and adaptive coordination rather than static crisis messaging strategies. Moreover, these findings challenge the assumption in Publications I and II that institutional interests are best served by reputational management rooted in credibility and authority. Instead, expert opinion suggests a broader evaluative framework in which legitimacy is shaped by public perceptions of institutional actions as appropriate, fair, and aligned with shared societal values. Legitimate crisis leadership is built through ongoing relationships and sensitivity to the

ethical and political dimensions of public health. This legitimacy shapes how messages are received and whether citizens follow health advice, as leadership legitimacy reinforces public trust and compliance.

Finally, the pandemic underscored the importance of institutional learning. For instance, although both Norway and Sweden entered the pandemic with robust communication infrastructures, future preparedness must extend to vulnerable and minority populations to ensure communicative equity and responsiveness. Continuous engagement with these stakeholders, built before rather than during crises, strengthens community resilience.

Moreover, Norway's application of lessons from the Swine flu crisis fostered inclusive and adaptive communication, whereas Sweden's lack of rehearsed coordination exposed structural weaknesses. Regular scenario-based exercises that integrate both health and communication professionals can clarify institutional roles, enhance responsiveness, and solidify interagency networks before the next crisis arises.

These findings underscore the need for messaging that meets stakeholder-centric needs (affective, cognitive, and behavioral) through strategies targeting internalization, explanation, and action, while also advancing institutional priorities such as legitimacy.

4.4 Publication IV - Distributing Instructive and Legitimate Crisis Communication

Publication IV (see Appendix D) expanded on the findings from Publications I–III by analyzing how PHAs in Denmark, Norway, and Sweden communicated during COVID-19 press conferences. The study examined

spoken communication during the briefings as well as visual elements to answer:

RQ4: How can the IDEA(L) framework be applied to understand public health authorities' crisis communication strategies?

The iterative analysis revealed four thematic dimensions: internalization, explanation, and action in line with the IDEA model, in addition to legitimacy.

4.4.1 Internalization

Internalization emerged as a multidimensional construct, encompassing personalization (references to individuals), contextual anchoring (locations and timing), perceived severity, acknowledgment of broader consequences, and expressions of empathy.

Norway was found to place the greatest emphasis on internalization, consistently blending emotional resonance with contextual specificity. Danish briefings also highlighted personalization and empathy, often acknowledging affected individuals and broader societal impacts. In contrast, Swedish spokespersons focused mainly on factual personalization, mentioning individuals and locations, and describing impacts, while less frequently expressing empathy or referencing broader consequences. This pattern suggests Sweden adopted a more informational than affective approach to internalization.

4.4.2 Explanation

Explanation emerged as a cognitive dimension encompassing references to scientific information, credible sources, government measures,

international comparisons, and contextual framing through analogous events.

Sweden was found to have prioritized explanation most strongly, consistently integrating scientific evidence, institutional responses, and international perspectives into the briefings. Norway displayed a similar pattern, emphasizing clarity and credibility through scientific grounding and coordinated government narratives. Danish briefings, while always including scientific information, placed comparatively less emphasis on comprehensive contextual explanation, with fewer references to international developments or similar events and more variability in communicative clarity.

4.4.3 Action

Action-oriented communication reflected the behavioral dimension of crisis messaging, including guidance around current events, preparation for potential future events, and illustrative examples of recommended behavior.

Norway and Denmark consistently provided explicit behavioral guidance, reinforcing expectations of public compliance and self-efficacy. Denmark particularly emphasized preparatory actions, suggesting a proactive orientation toward behavioral readiness. Sweden included action-oriented guidance in most appearances but placed relatively less emphasis on preparatory framing, reflecting a more informational rather than directive communicative style.

4.4.4 Legitimacy

Legitimacy emerged as an institutional dimension encompassing demonstrations of expertise, capacity to act, transparency of resources, inter-organizational cooperation, acknowledgement of uncertainty, and expressions of accountability.

Norway displayed the most consistent integration of these elements, frequently highlighting collaboration and institutional readiness while openly addressing uncertainties. Danish briefings emphasized expertise and accountability while foregrounding governmental authority and resource capacity. Swedish communication consistently addressed known and unknown facts and operational capacity but referenced accountability less frequently, suggesting a communicative focus on institutional competence rather than legitimacy performance.

4.4.5 Comparative Interpretation

Taken together, the findings reveal distinct communicative configurations that reflect each country's governance traditions and crisis leadership norms. Norwegian communication demonstrated the most integrated approach, combining affective engagement, cognitive explanation, behavioral guidance, and institutional legitimacy performance. Danish communication similarly balanced behavioral instruction with authoritative leadership, prioritizing clear action-oriented guidance alongside legitimacy signaling. Swedish communication, by contrast, emphasized cognitive explanation, privileging informational clarity and scientific grounding while placing comparatively less emphasis on affective engagement and behavioral activation.

Collectively, these results provide empirical support for the relevance of the IDEA model in prolonged crisis contexts such as the COVID-19 pandemic, while also demonstrating the importance of integrating institutional considerations into IDEA-based messaging. The findings suggest that crisis communication effectiveness depends not only on message design but on alignment with political and institutional contexts that shape public leadership. Legitimacy thus emerges as a central communicative resource through which crisis messages gain authority and credibility, sustain trust, and facilitate normative claims over prolonged periods of uncertainty.

5. Discussion

This chapter elaborates on the dissertation's central argument through the lens of crisis communication research. It first discusses how prolonged crises create overlapping and co-occurring communication objectives, balancing stakeholder-focused goals, such as IDEA-based instructional messaging, with institutional aims such as legitimacy. Next, it presents empirical findings on cross-country differences in crisis communication strategies, including channel selection and message design. The chapter concludes by outlining practical implications drawn from both theoretical and empirical insights for effective public crisis communication.

As outlined in Figure 4, each publication addressed a research question to address the aim of the dissertation.

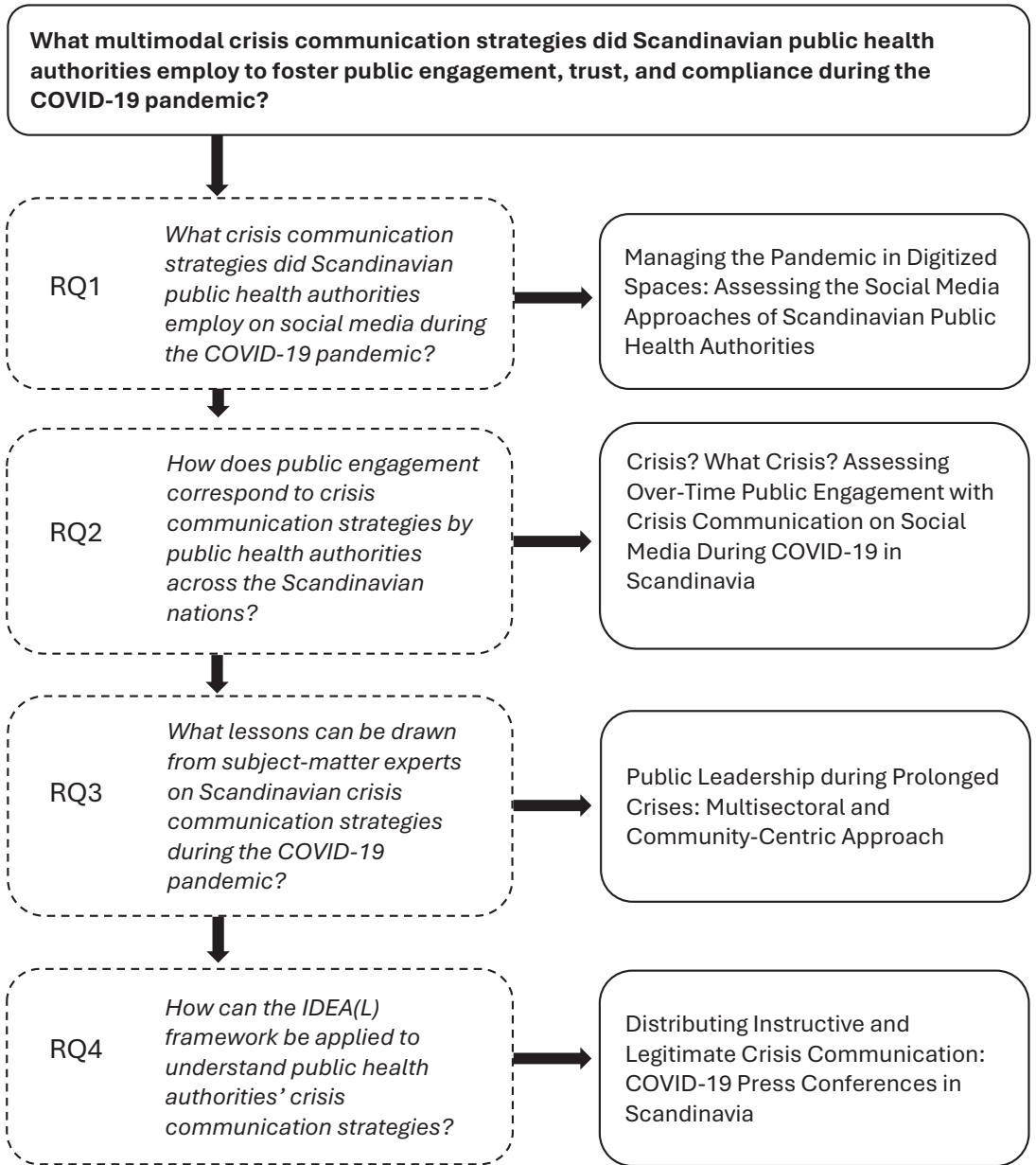


Figure 4
Included Research Questions and Publications

5.1 Objectives for Prolonged Crisis Communication

Building on Lindholm et al. (2023), who examined Scandinavian PHAs' communication on Twitter in the first phase of the pandemic by distinguishing tweets per instructive (behavioral guidance), supportive (well-being-focused), and reputational (credibility-enhancing) content, this dissertation extends the scope of analysis to show whether the Scandinavian PHAs maintained or updated their crisis communication objectives as the pandemic progressed. While Lindholm et al. (2023) found that, at the beginning of the pandemic, the focus was on instructional content, this dissertation found a dual strategy throughout the COVID-19 crisis, as the findings from Publication I demonstrated that reputational management was consistently used alongside instructional content.

From a prolonged crisis perspective, which emphasizes understanding stakeholder experiences, recognizing long-term societal impacts, and engaging in proactive, integrated, and adaptive strategies (e.g., Diers-Lawson & Omondi, 2024), the continuous provision of instructions and the maintenance of reputation on social media support the argument that communicative objectives must be pursued concurrently, rather than sequentially, to address multiple events simultaneously.

Furthermore, because social media serves as direct communication channels that bypass the gatekeeping and editorial framing of traditional media, PHAs were able to communicate instructions and justify their credibility and authority in their own terms. This pattern suggests that establishing informational correctness and institutional authenticity constituted central communicative priorities. Moreover, the comparatively limited emphasis on supportive messaging indicates that addressing the

public's emotional needs was treated as a secondary concern. Thus, consistent with their role as public health experts, PHAs primarily prioritized the delivery of accurate, evidence-based guidance and the maintenance of institutional credibility.

Regarding public engagement, Publication II indicates, in line with prior research (Al-Hasan et al., 2020; Cascini et al., 2022; Han & Baird, 2024; Liu & Ni, 2022; Pfattheicher et al., 2020; Sellnow et al., 2023; Sturges, 1994), that instructional messages achieved significantly higher levels of engagement. While reputational management was a prominent feature of PHA communication, as shown in Publication I, engagement metrics suggest that such messages were generally less favored by Scandinavian audiences, indicating a tension between institutional priorities and audience preferences in digital crisis communication. In other words, from the audience's perspective, clear instructional messages have been demonstrated to not only motivate protective actions but also reduce uncertainty and confusion (Bean et al., 2016; Frisby et al., 2013; Sellnow et al., 2023). Meanwhile, maintaining organizational credibility was less of a priority for the audience.

However, engagement metrics such as likes should be interpreted cautiously, as they function primarily as proxies for visible interaction rather than definitive indicators of communicative objective preference. Audiences may still process and internalize information and thus develop more favorable perceptions of PHAs, without expressing this attitudinal change through measurable platform interactions. Consequently, low engagement does not necessarily imply limited communicative impact.

The prolonged nature of the crisis presented PHAs with complex challenges, including navigating competing narratives and managing an "infodemic" characterized by widespread misinformation and conspiracy theories (Cinelli et al., 2020; Diers-Lawson & Omondi, 2024; Liu & Baur, 2025). In such contexts, prioritizing information that safeguards organizational credibility, i.e., reputational protection and minimizing operational disruptions, aligns with established crisis communication principles (e.g., Maor & Sulitzeanu-Kenan, 2015; Seeger et al., 1998; Wæraas, 2020). In other words, in cases with heightened public scrutiny and criticism of the PHAs' efforts, PHAs are expected to engage in communicative acts that defend and justify their competence and advice (Ihlen & Vranic, 2024).

Through expert interviews with practitioners and scholars in crisis and health communication, Publication III revealed five critical dimensions of pandemic communication in Norway and Sweden: interagency collaboration, political legitimacy, openness, stakeholder worldview, and tailored message distribution. In other words, as the PHAs had a dual role as both crisis leaders as well as crisis communicators, the combined strategy of instructive messaging with reputational management, as shown in Publication I, Publication III indicate that this combined strategy constituted strategies to coordinate messaging, tailor messaging to address diverse audiences' cultural perspectives and risk perceptions, embrace processes based on transparency and inclusivity, and provide legitimacy to policy implementations, as disseminated via multiple distribution networks.

Additionally, the social media findings revealed a lower emphasis on addressing the public's emotional needs, to which Publication III confirms that emotional support was treated as a secondary concern. Specifically, Publication III suggest that PHAs prioritized instructional messaging and reputational communication, focusing on translating information into accessible formats and maintaining openness about scientific uncertainty and evolving knowledge, while devoting comparatively less attention to cultural and contextual factors shaping how different audiences interpreted and emotionally processed the information.

However, according to expert opinion, this limited emphasis ultimately undermined communicative coherence, as insufficient attention to affective engagement risked rendering messages detached or technocratic. To that end, experts cautioned against relying solely on health professionals for communication and advocated broader involvement of communication specialists capable of addressing cognitive clarity and emotional acknowledgment as mutually reinforcing components essential to coherent crisis communication.

Therefore, while Publications I and II suggested that the PHAs adhered to Sturges' (1994) model for social media, their overall communication strategy aligned more closely with the IDEA model (Sellnow et al., 2017), which emphasizes internalization, explanation, action, and distribution. Further, while reputational management was a prominent feature, particularly on Twitter, Publication III suggests that the credibility efforts engaged in by the PHAs were aimed at building legitimacy (Christensen et al., 2018; Jann, 2016; Suchman, 1995).

5.1.1 Instructive and Legitimate Communication Strategies

According to the findings in Publication III, crisis communication leadership is not primarily a reactive function triggered by crises, but rather an institutional capacity built through ongoing communicative and relational practices well before a crisis occurs. Expert accounts emphasized that preparedness relies not just on operational planning but also on sustained communication efforts, including strategic coordination, trust-building, development of cultural competence, transparency between institutions, and the establishment of clear interagency responsibilities. These insights recast preparedness as a fundamentally communicative endeavor, suggesting that crisis leadership is rooted in continuous relationship-building rather than sporadic response. This perspective underscores that effective crisis leadership requires the ongoing negotiation of relational and ethical commitments, both prior to and during crisis situations.

Consistent with scholarship on context-sensitive and audience-centered communication (Berg et al., 2021; Tambo et al., 2021), the COVID-19 case demonstrates that trust-building, mutual learning, and adaptive communication were essential in fostering protective behaviors (e.g., Duncan & Salvi, 2022). Notably, the findings reveal that dialogic practices did not merely complement instructional efforts but fundamentally shaped how instructional messages were understood and acted upon. This highlights the importance of developing iterative communication strategies that can respond to shifting expectations regarding instruction, emotional support, and institutional credibility (e.g., Diers-Lawson, 2019; Sellnow & Sellnow, 2024).

The analysis further demonstrated that pre-existing communicative relationships functioned as interpretive infrastructures through which crisis messages gained meaning and acceptance. Rather than assuming a direct causal relationship between communication strategies and compliance, the findings indicate that institutional trust serves as an enabling condition that shapes message reception. Institutions that cultivated sustained engagement prior to crises encountered greater public receptivity, whereas the absence of such relationships contributed to skepticism and reduced responsiveness. This was especially noticed by the expert in terms of gaps in stakeholder understanding regarding migrant and youth populations, which illustrate how insufficient pre-crisis engagement negatively impacted the communicative effectiveness during COVID-19 (cf. Publication III). These findings shift attention away from universal messaging models toward context-sensitive communication grounded in cultural awareness, historical experience, and institutional trust.

Viewed through this lens, proactive engagement becomes not only a preparedness activity but a mechanism for organizational learning. As demonstrated in Publication III, Norwegian PHAs drew on institutional memory from earlier health emergencies, including the H1N1 pandemic, to inform COVID-19 strategies emphasizing transparency, inclusivity, and communicative coherence. This continuity strengthened perceptions of preparedness by aligning communicative practices with established expectations of institutional competence.

Importantly, these findings should not be attributed solely to communication strategies themselves. Rather, the findings demonstrate

that administrative arrangements shape the communicative environment in which leadership is performed, mediating both the opportunities and constraints faced by crisis communicators. In contrast to the Norwegian approach, Swedish PHAs functioned within a more decentralized governance structure that afforded agencies greater autonomy. Experts observed that insufficient pre-pandemic rehearsal and coordination led to ongoing challenges with mandate clarity, interagency coordination, and resource alignment. These contrasts highlight that governance structures influence both the design and real-world execution of crisis communication leadership. As such, crisis communication leadership is deeply institutionally embedded, with governance arrangements shaping the coherence, authority, and responsiveness of leaders in practice.

The findings also refine the relationship between reputational management and legitimacy. While Publications I and II examined reputational strategies, Publication III shows that public crisis leadership operates within a broader democratic and institutional context (e.g., Andersen, 2010; Peters & Pierre, 2012). Legitimacy, as evidenced in the empirical material, functioned not merely as organizational reputation or sender credibility, but as a process of public evaluation of institutional actions. Drawing on Ihlen and Vranic (2024), Masłowska et al. (2025), and Suchman (1995), legitimacy encompasses perceptions of procedural transparency, competence and credibility, reliability, and normative alignment. Accordingly, legitimacy became an evaluative outcome inferred from communicative practices, including nonverbal communicative practices.

Furthermore, findings from Publication II demonstrate that while instructional communication is associated with greater engagement,

expert insights highlight that clarity of information alone does not suffice, and suggest that instructional communication should be sensitive to the worldview and emotional needs of the stakeholder (e.g., Sellnow et al., 2023; Johnston, 2018), alluding to the necessity of the IDEA-model as a blueprint for constructing messages, in combination with institutional aspects. Building on these implications, Publication IV demonstrates that PHAs used press conferences to provide internalization, explanation, action, and legitimacy. These findings indicate that, during prolonged crises, PHAs should ensure messages are relevant, accurate, and actionable, while justifying PHAs crisis leadership to strengthen public trust and compliance amid uncertainty (e.g., Badu et al., 2023; Ihlen & Vranic, 2024; Sellnow et al., 2023).

5.1.2 Model development

Empirical findings from this dissertation suggest that within the state-oriented risk cultures of Denmark, Norway, and Sweden, public responses are shaped not only by message clarity and emotional resonance but also by expectations regarding institutional responsibility and public leadership (e.g., Cornia et al., 2016). Therefore, building on the IDEA model (Sellnow et al., 2017), which conceptualizes instructional crisis communication through the components Internalization, Distribution, Explanation, and Action, this dissertation develops an extended analytical framework, IDEA(L), by introducing Legitimacy as a distinct interpretive dimension. This extension emerges from both theoretical developments and empirical findings demonstrating that instructional message design alone cannot fully explain how crisis communication operates within public-sector

contexts characterized by institutional authority, political accountability, and collective expectations of leadership.

The IDEA model has been widely validated as a framework for understanding how crisis messages promote affective, cognitive, and behavioral learning (Anthony et al., 2013; Frisby et al., 2013; Sellnow et al., 2023; Soares et al., 2022). However, recent conceptual developments expand the notion of internalization to include relational qualities such as empathy, compassion, and perceived trustworthiness (Sellnow & Sellnow, 2024). While this evolution strengthens the model's sensitivity to audience engagement, it also risks blurring analytical boundaries by incorporating elements traditionally associated with institutional legitimacy.

With that in mind, following Sellnow et al. (2017), argument that the acronym IDEA serves as a pedagogical heuristic that helps crisis managers quickly structure effective instructional messages based on internalization, distribution, explanation, and action, extending this logic, the extended acronym IDEA(L) distinguish legitimacy from internalization, thus highlighting an additional communicative task: crisis managers must not only ensure that audiences internalize message content, but also actively construct and reinforce their own legitimacy as senders. As such, the distinction is one of dimension: internalization becomes a psychological learning process, while legitimacy becomes a relational-institutional evaluation process. By making legitimacy an explicit focus, the extended acronym encourages crisis managers to address perceptions of credibility, authority, and moral justification as primary communicative objectives, rather than treating them as implicit prerequisites for internalization.

Rather than modifying the structure of the IDEA model, this dissertation reframes it by incorporating legitimacy as a parallel analytical layer, as derived from broader institutional and relational contexts, including historical trust, governance structures, normative expectations of leadership, and perceptions of procedural fairness (Suchman, 1995; Christensen et al., 2018). This integration transforms IDEA from a model focused mainly on instructional message effectiveness into a framework that also explains why stakeholders perceive the sender as empathetic, trustworthy, authoritative, and credible, especially in prolonged crises, where communicative leadership must be earned and sustained rather than assumed (see Figure 5).

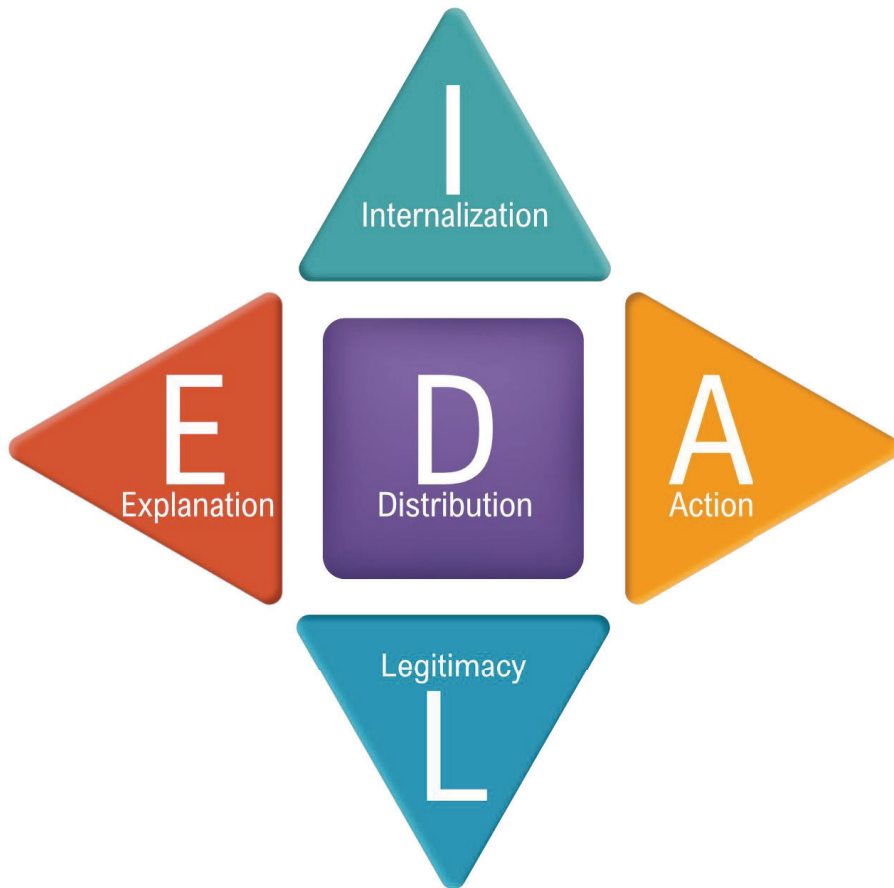


Figure 5
IDEA(L) Model

5.2.2.1 Internalization

Internalization refers to the degree to which messages resonate personally with audiences, engaging emotional learning that underpins attention and involvement (Sellnow et al., 2017). Prior research identifies proximity, urgency, and social significance as critical factors in fostering audience engagement (e.g., Bean et al., 2016; Frisby et al., 2013; Mileti & Peek, 2000; Sellnow et al., 2023). Building on these insights, this dissertation demonstrates that effective Internalization requires sensitivity to cultural

expectations, risk perceptions, and the diverse characteristics of the target audience. Messages that explicitly address identifiable individuals, relevant locations, timing, impact severity, and empathy are more likely to capture attention and motivate engagement.

5.2.2.2 Distribution

Distribution involves delivering messages through reliable, accessible, and diverse channels to maximize reach, timeliness, and reinforcement (Sellnow et al., 2017). Prior research highlights the importance of repeated exposure and cross-platform engagement in enhancing learning (e.g., Engebretsen, 2023; Esaiasson et al., 2021; He et al., 2023; Sellnow et al., 2023). This dissertation further illustrates that social media played a crucial role during the COVID-19 pandemic, acting as an interactive forum, while press conferences served as key mechanisms for maintaining a coherent national crisis narrative. Additionally, Publication III demonstrates that distribution goes beyond one-way messaging. It includes two-way dialogue and a two-step flow of communication through intermediaries, such as journalists and influencers, who act as both trusted sources and amplifiers of information.

5.2.2.3 Explanation

Explanation refers to the provision of clear, contextually relevant information that supports cognitive learning by helping audiences situate crises within broader frameworks and assess their significance (Sellnow et al., 2017). Prior work emphasizes clarity, accessibility, and attention to health literacy to enhance the explanatory power of messaging (e.g., Sellnow-Richmond et al., 2018; Taylor, 2018). This dissertation shows that effective explanatory messaging does not merely translate technical

content but also contextualizes information, justifies recommendations, and facilitates understanding. Specifically, Publications III and IV illustrate that successful Explanation incorporates scientific expertise, credible sources, government responses, cross-country comparisons, and relevant historical examples.

5.2.2.4 Action

Action translates awareness into behavioral change by providing specific, feasible, and actionable guidance (Sellnow et al., 2017). Prior research underscores the importance of prescriptive recommendations for promoting behavioral uptake (e.g., Frisby et al., 2014; Richmond et al., 2016; Sellnow et al., 2023). This dissertation extends this principle by demonstrating that Action can be iterative and responsive, incorporating audience dialogue to refine or fill gaps in recommendations. Publication IV further highlights that effective Action includes prescriptive measures to address concurrent risks, as well as preparatory guidance for potential future scenarios.

5.2.2.5 Legitimacy

Legitimacy, the fifth and novel element of the IDEA(L) model, addresses the justification for crisis leadership, thus the institutional dimensions of crisis communication. Drawing on Christensen et al. (2018), Legitimacy encompasses input legitimacy – responsiveness to citizens' needs; Throughput legitimacy – transparent, inclusive, and accountable processes; and Output legitimacy – effectiveness of outcomes.

5.2 Cross-Country Differences in Media Use

Drawing on research that underscores the value of participatory meaning-making for enhancing risk understanding and shared accountability (Sellnow et al., 2023), this dissertation demonstrates that Scandinavian pandemic communication integrated instructional learning with the performative assertion of institutional legitimacy. In these state-oriented risk cultures, defined by robust welfare-state traditions and high institutional trust, effectively managing prolonged crises requires treating Internalization, Explanation, Action, and Legitimacy as simultaneous, coexisting dimensions (Cornia et al., 2016; Christensen & Læg Reid, 2005; Johansson, Ihlen, et al., 2023; Rodin, 2025).

However, the comparative analysis of Scandinavian PHAs' cross-platform and press conference communication during the COVID-19 pandemic demonstrates how variations in institutional governance arrangements, leadership configurations, and platform-specific communicative logics shaped national crisis communication strategies. Rather than reflecting a unified regional model, the cases of Denmark, Norway, and Sweden illustrate that even within broadly similar welfare-state contexts and high-trust environments, crisis communication practices diverged according to administrative traditions, role expectations surrounding public leadership, and assumptions about audience engagement. Taken together, these findings suggest that Scandinavian crisis communication cannot be adequately understood by examining platform choice or message content in isolation. Instead, communication strategies emerge from the interaction between institutional leadership models, risk-culture expectations, and the communicative affordances of different platforms.

5.2.1 Swedish PHAs

The findings in this dissertation indicate that Swedish PHAs preferred press conferences (cf. Publication IV) over social media (cf. Publication I). This is noteworthy as social media provided a symbolic and emotional space for collective learning and sensemaking, as well as providing an opportunity for the public to challenge the PHAs official narratives, resulting in a space of competing narratives and little room for error (Fiskvik et al., 2023; Karunakaran, 2024; Liu & Ni, 2022; Meadows et al., 2019), requiring active, continuous participation in public health discourse. In contrast, press conferences enabled PHAs to shape crisis narratives while projecting competence and control in a cost- and time-efficient manner (Allen et al., 2024; Hayek, 2024; He et al., 2023; Kjeldsen, 2023). As such, Swedish PHAs' reliance on formal briefings over interactive communication channels underscores a commitment to stable, expert-driven crisis messaging, with limited interactivity and direct scrutiny.

Given that the Swedish PHAs operated with considerable autonomy under a comparatively relaxed government strategy (Johansson & Vigsø, 2021; Ludvigsson, 2020; Sandberg, 2023), one might expect that this delegated authority would translate into visible crisis leadership and a stronger public-facing role, with greater responsibility for community resilience (cf. Teo et al., 2017); however, the findings of this dissertation challenge this assumption. Although the Swedish PHAs assumed responsibility for conveying information and defending their technical decisions, they seemingly did not adopt a more political or symbolic leadership posture (e.g., Wodak, 2021). Instead, their communication strategy remained within the domain of technocratic explanation and procedural justification

(cf. Publication IV). This suggests that, in the Swedish case, institutional autonomy did not result in communicative leadership practices beyond expert messaging. Instead, it reinforced a bureaucratic model that favored an administrative approach, driven by a reluctance to assume political accountability, even while exercising significant practical influence. Indeed, Rasmussen et al. (2023), who studied the communicative leadership by political leaders and public health officials in Scandinavia during March and April in 2020, argued that press conferences enabled the Swedish spokespersons to emphasize evidence-based justification for the measures taken, i.e., express the need for evidence, explain the economic risks of lockdowns, and promote a voluntary public-health tradition to support a strategy that tolerated some infection and anticipated natural immunity.

In terms of social media usage, Publication I revealed that although Instagram was the most popular platform in Sweden, with a user penetration rate of 60%, followed by Facebook at 54% and Twitter at only 12% (Ohlsson, 2023), PHAs primarily relied on Twitter, followed by Facebook, while using Instagram much less frequently. These preferences suggest that, rather than focusing solely on popularity, the PHAs adopted a social media strategy informed by platform affordances as Facebook's features allow for high interactivity and virality, while Instagram emphasizes "brand-building news" (Hase et al., 2023), making Facebook more suitable for disseminating health advice. This preference indicates that, while the Swedish PHAs interacted less frequently than their Danish and Norwegian counterparts, they still prioritized some level of interaction and targeted information dissemination. Moreover, as Publication II illustrated that Facebook generated higher public engagement than

Instagram, despite Instagram's larger user base, Facebook may have been a more logical choice for public interaction.

Twitter, on the other hand, was instrumental for media outlets (Rega, 2021; Russell et al., 2023) and facilitated a rapid dissemination of breaking news and direct access to external sources (Hase et al., 2023), suggesting that the Swedish PHAs primarily oriented their communication toward elite intermediaries rather than the general public, as further supported by their preference for press conferences.

5.2.2 Danish PHAs

In contrast to Swedish PHAs, Danish PHAs operated within a more centralized system (Nord & Olsson Gardell, 2023; Rasmussen et al., 2023), under a pandemic strategy often described as the "hammer and dance," which combined rapid government action with measures informed by Scandinavian cultural values emphasizing respect for personal boundaries (Mens et al., 2021; Olganier & Mogensen, 2020). As such, the PHAs in Denmark operated with less autonomy than those in Sweden. Consequently, while the Swedish PHAs were most active in holding press conferences and least active on social media, the Danish PHAs were the opposite: they were most active on social media and least active in press conferences.

The preference for social media over press conferences can be understood in light of prior research indicating that social media enabled PHAs to engage more actively as crisis leaders (e.g., Engebretsen, 2023; Fiskvik et al., 2023), whereas press conferences often positioned PHAs in a supportive, expert role (e.g., Kjeldsen, 2023). Specifically, research on

press conferences at the onset of the pandemic shows that, to reflect a collaborative, yet hierarchical, crisis management structure, government officials became the primary figures (Bjørkdahl et al., 2021; Kjeldsen, 2023). As such, primarily government figures in Denmark used press conferences to frame COVID-19 as a serious crisis requiring precautionary measures, and assuming direct responsibility for infection-control decisions (cf. Mens et al., 2021; Olganier & Mogensen, 2020; Rasmussen et al., 2023). This placed PHAs in a supportive, expert role (cf. Kjeldsen, 2023; Rasmussen et al., 2023).

Hence, social media, particularly Facebook, provided a channel through which PHAs could exercise symbolic and political leadership (Teo et al., 2017; Wodak, 2021) by directly communicating policy measures, guidance, and justifications to the public. The strategic use of social media allowed PHAs to engage citizens interactively, increase the visibility of their messages, and improve the perceived authority of the PHAs.

Contrasting platform usage, while the Swedish PHAs were most active on Twitter, the Danish PHAs were most active on Facebook. At the time of the pandemic, Facebook was the most popular platform in Denmark, with 84% user penetration, followed by Instagram at 56% and Twitter at 13% (Danmarks Statistik, 2023). Moreover, Facebook's architecture encourages user participation and shareability (Hase et al., 2023; Vicari & Ditchfield, 2025), resulting in the highest levels of public engagement, as shown in Publication II. Hence, the Danish approach reflects a responsive communication strategy that combines hierarchical governance with participatory elements, grounded in rapid engagement and broad accessibility.

Concerning the Danish PHAs' use of Twitter, although they utilized the platform less than Facebook, they were still quite active on the platform, indicating a priority for targeted communication with elites, journalists, and decision-makers, similar to the social media patterns observed in Sweden (Hase et al., 2023; Larsson & Christensen, 2017; Vicari & Ditchfield, 2025).

5.2.3 Norwegian PHAs

Norwegian PHAs, which operated under metrics similar to those in Denmark, occupied a middle ground between Denmark and Sweden in terms of frequency of press conference appearances and social media engagement (see Publications I and IV).

At the onset of the pandemic, previous research shows that press conferences in Norway, similarly to Denmark, positioned government officials at the forefront while projecting a unified front with PHAs, reflecting a collaborative yet hierarchical crisis management structure (Bjørkdahl et al., 2021; Kjeldsen, 2023). However, in contrast to Denmark, Norwegian politicians advocated stricter measures than those recommended by the Norwegian Institute of Public Health, thereby occasionally creating tension between policymakers and experts (Christensen & Lægreid, 2023; Rasmussen et al., 2023). As this dissertation demonstrates, the Norwegian PHAs seemingly adopted a pluralistic communication strategy, combining press conferences with interactive social media formats, indicating that the Norwegian PHAs sought to provide both support for policy recommendations and address scrutiny.

In terms of platform preference, Publication I shows that, although Facebook was the most-used platform in Norway (69%), followed by Instagram (45%) and Twitter (8%) (Ipsos, 2023), Norwegian PHAs primarily used Twitter, followed by Facebook, as did the Swedish PHAs. As Facebook enabled PHAs to achieve greater interactivity, virality, and broader reach (Hase et al., 2023), the preference for Twitter is noteworthy. According to an analysis by Fiskvik et al. (2023) of Norwegian public tweets discussing the trustworthiness of the Norwegian PHAs and political leadership during the COVID-19 pandemic, tweets were generally positive but were overshadowed by a significant number of negative comments and competing narratives grounded in lay expertise. By actively engaging on Twitter, the PHAs were therefore able to address these competing narratives and interact with, and possibly influence, other elite actors (e.g., Margolin, 2019).

The Norwegian strategy seemingly led to higher public engagement, as Publication II showed that Norwegian audiences were more engaged than their Danish and Swedish counterparts. However, this engagement with public health messaging could also be explained by cultural factors. Indeed, previous research shows that, in response to COVID-19, key government figures consistently emphasized the seriousness of the pandemic, similarly to the Danish spokespersons (Fiskvik et al., 2023). However, the Norwegian approach also sought to foster a collective sense of responsibility, linking cultural values such as trust and *dugnad*—the tradition of voluntary communal work— as key aspects of their crisis management (Shapiro et al., 2023).

In other words, while Norway implemented stringent public health measures, these measures were shaped through cultural norms of voluntary participation and a belief that the common good aligns with individual interests (Nilsen & Skarpenes, 2022). "Dugnad," according to Nilsen and Skarpenes (2022), is a uniquely Norwegian expression derived from the verb "duge," which means "to be able to," "to be of use," or "to be appropriate". When Prime Minister Solberg appealed to the public's sense of dugnad during COVID-19, dugnad came to encompass actions such as washing hands, avoiding close contact with others, and adhering to self-isolation rules, something the people seemed to embrace remarkably well, even going so far as to participate in social control mechanisms by criticizing those undermining the sense of collective solidarity (Nilsen & Skarpenes, 2022).

As demonstrated in Publication II, higher rates of public engagement contributed to greater algorithmic visibility (Bucher, 2012; Jost, 2023), making social media users active participants in spreading public health messages, a phenomenon that may be attributed to the adoption of dugnad.

5.3 Practical Implications

This thesis builds on existing literature regarding organizational learning and crisis leadership, highlighting the critical importance of continuous learning throughout all phases of a crisis (Antonacopoulou & Sheaffer, 2014). According to Antonacopoulou (2008) and Antonacopoulou and Sheaffer (2014), crisis leadership requires intentional, habitual, and spontaneous practices to create a continuous cycle of action, which

involves rehearsing, reviewing, refining, and adapting both actions and relationships. In other words, they emphasize that leadership failures often arise from a lack of coordination among human, technological, organizational, and external subsystems. Therefore, this dissertation offers best practices for future public health crises, drawing on lessons from successful and unsuccessful communication and leadership efforts in Scandinavia during COVID-19.

From a community engagement perspective, a notable shortcoming in Scandinavia was the weaker relationships between PHAs and minority populations, such as youths and migrants, which showed that messages that failed to resonate with diverse audiences or justified the threat, risked dismissal from these stakeholders. With especially migrant populations across Scandinavia facing comparatively higher infection rates and worsened overall pandemic outcome compared to the majority populations (Diaz et al., 2021; Herzig van Wees et al., 2023; Islamoska et al., 2021), future pandemic communication should:

1. *Ground communication in the audiences' communicative expectations.* These considerations include respect for cultural differences and an understanding of different audiences' risk histories. For example, while a 70-year-old may have regarded the coronavirus as a serious threat to their health, a 17-year-old would have needed more convincing to fully understand and internalize the threat. Further, a migrant with a history of outbreaks may be more willing to engage in risk behaviors during an outbreak. If these stakeholders do not trust authorities or find their advice credible, the likelihood of adherence diminishes.

2. *Distribution of messages must be multifaceted.* Different audiences are reached in different ways; therefore, a combination of several communication channels, including press conferences, social media, websites, radio, podcasts, etc., is required. Moreover, crisis leaders should ensure that the distribution network aligns with their audiences' media consumption habits. For example, platforms like Instagram, which are particularly popular in Scandinavia, were found to be underutilized in this dissertation, representing a missed opportunity to disseminate information. Furthermore, for segments that are not easily reached due to limited access to institutions or broadcast channels, intermediaries such as journalists, faith leaders, community leaders, social media influencers, and others can aid in spreading information.

Further, engaging with audiences via interactive platforms and forums allows PHAs to identify any gaps in recommended actions. While managing interactive platforms like Facebook can be challenging and resource-intensive, this dissertation highlights that the comments sections allow PHAs to engage directly with the public, who can express concerns and ask for clarification (cf. Publication III), offering crisis leaders valuable insights into the information gap in their crisis messaging.

3. *Establish long-term relationship with the audience pre-crisis.* As tailoring communications is essential for equitable and meaningful outreach, understanding the social realities of the audience

becomes key, requiring pre-crisis dialogue. Moreover, as the audience must both trust and accept the crisis leaders as trustworthy and authoritative actors, pre-crisis dialogue with audiences can establish pathways for collaborative sensemaking during crises, thereby fostering community resilience.

Furthermore, according to Hobbins and Enander (2015), engaging in misconceptions and stereotypes about citizens' reactions can lead to the misallocation of resources and to the ineffective dissemination of crisis information. Addressing the unique characteristics and needs of diverse audiences, including their risk perceptions and cultural learning processes, not only allows PHAs to broaden their reach but also establishes greater public adherence to crisis messaging.

Finally, this dissertation challenges Sturges' (1994) claim that institutional internalization, i.e., the work to restore an organization's reputation and credibility, is primarily a post-crisis concern. Instead, this dissertation demonstrates that public organizations' reputations and credibility must be continuously cultivated before, during, and after crises and, ultimately, be understood in terms of legitimacy.

6. Conclusion

This thesis examined the crisis communication strategies employed by PHAs in Scandinavia during a prolonged crisis. In this chapter, the main findings of the study are revisited, its limitations are reflected upon, and recommendations for future research are provided.

This dissertation explored how PHAs in Denmark, Norway, and Sweden navigated crisis communication throughout the prolonged COVID-19 pandemic, demonstrating how institutional messaging across textual, visual, and video modes evolved in response to differing governance arrangements and crisis dynamics. Situated within high-trust Scandinavian welfare-state contexts characterized by state-oriented risk cultures and strong institutional traditions (Adawy, 2023; Forthun et al., 2024; Ihlen, Just, et al., 2022; Johansson, Sohlberg, et al., 2023; Skogerbø et al., 2024), the comparative and iterative analysis reveals how communicative practices were shaped by national policy frameworks, communicative arenas, and shifting crisis conditions, thereby advancing understanding of public crisis communication as both stakeholder-responsive and institutionally grounded.

A central finding of this dissertation is that, from a longitudinal perspective, crisis communication during COVID-19 did not adhere to the linear progression proposed by phase-based models such as Sturges (1994). Rather, communication objectives often overlapped and were pursued concurrently throughout the crisis. Instructional messaging and reputational management practices coexisted across all stages of the pandemic, reflecting the complexities of a prolonged crisis characterized by recurring uncertainty, evolving scientific knowledge, and shifting public expectations.

Expanding on these findings, the primary theoretical contribution of this dissertation is the argument that crisis communication in prolonged public-sector crises operates as both a stakeholder-focused instructional tool and a strategy for establishing institutional legitimacy. Drawing on the IDEA model (Sellnow et al., 2017), this study introduces the extended IDEA(L) framework, which preserves Internalization, Distribution, Explanation, and Action as core instructional elements while adding Legitimacy as a complementary analytical dimension. This additional dimension encompasses institutional evaluation, public leadership expectations, and the relational dynamics between authorities and the public. Rather than replacing IDEA, this extension clarifies that communicative effectiveness in public-sector crises depends not only on message design, but also on the degree to which institutions are perceived as justified and trustworthy sources of crisis messages.

Beyond the specific context of COVID-19, the IDEA(L) framework offers analytical value for understanding crisis communication in other prolonged or complex crises where institutional authority, uncertainty, and sustained public engagement are central challenges. These implications are most directly transferable to high-trust, state-oriented public sector contexts. While the findings are grounded in high-trust Scandinavian contexts and should therefore be generalized cautiously, they suggest that integrating legitimacy into instructional communication frameworks provides a more comprehensive approach to analyzing public-sector crisis communication.

Regarding cross-national findings, the dissertation revealed Norwegian PHAs, who operated per collaborative relationships between political leaders and expert authorities (Sandberg, 2023), emphasized emotional resonance alongside explanatory clarity and institutional transparency,

illustrating a communicative approach grounded in openness, collaboration, and relational trust-building. Danish PHAs, by contrast, prioritized actionable guidance and professional expertise, reflecting a structured communicative style oriented toward clarity, institutional decisiveness, and public self-efficacy, in line with their role as supporters of politicians with public health expertise. Swedish PHAs demonstrated a stronger emphasis on explanatory and analytical framing, consistent with Sweden's administrative tradition of expert-led governance and rational-technical communication styles (e.g., Bjørkdahl et al., 2021; Kjeldsen, 2023; Rasmussen et al., 2023). These patterns were especially apparent in the PHAs use of press conferences, which operated as multimodal arenas that integrated spoken discourse, visual cues, and institutional performance.

In terms of cross-platform analysis, it revealed how different communicative arenas shaped crisis communication objectives. Facebook, the most widely used platform among the general population, primarily served as a channel for instructional messaging and recorded the highest engagement. Twitter, despite having a smaller user base, became a space for reputational positioning and interaction with elite stakeholders such as journalists and policymakers. Instagram, although popular, played a comparatively modest role in crisis communication, demonstrating that effectiveness depends not only on platform reach but also on the alignment of audience expectations and platform-specific affordances.

Taken together, the findings show that crisis communication effectiveness during prolonged crises arises from the interaction between instructional messaging and legitimacy performance. Communication therefore

functions as both a public learning process that support understanding, engagement, and behavioral guidance, and as a performative practice through which institutions justify authority, demonstrate competence, and sustain public trust.

In conclusion, this dissertation advances crisis communication research by showing that effective communication during prolonged crises cannot be reduced to message transmission. Instead, it emerges from the dynamic interplay between instructional design, institutional legitimacy, communication environments, and evolving risk-cultural expectations. By positioning legitimacy as a complementary dimension alongside instructional communication objectives, the proposed IDEA(L) framework provides both theoretical refinement and practical guidance for understanding and developing crisis leadership communication in future emergencies.

6.1 Research Agenda for Future Research

This study primarily focused on public leadership, analyzing the multimodal social media and traditional media strategies used by PHAs during COVID-19. The findings led to the proposal of the extended IDEA(L) model, which incorporates how audiences resonate with, understand, and adhere to crisis messages, as well as how it improves perceptions of authorities as legitimate crisis leaders. However, to properly evaluate the IDEA(L) model, further research is needed to include a broader range of stakeholder perspectives, cross-cultural contexts, and methodological diversity.

6.1.1 Stakeholder Perspectives

A central limitation of the extended IDEA(L) model concerns its empirical grounding in predominantly sender-oriented data. This dissertation primarily examines crisis communication from an institutional perspective, with Publications I, III, and IV focusing on how PHAs designed, framed, and delivered crisis messages through social media and press conferences. Consequently, the theoretical development of the IDEA(L) framework is chiefly informed by patterns observed in institutional communication practices rather than by systematic evidence of audience reception or interpretation.

Although Publication II adopted an audience-oriented dimension by analyzing social media engagement metrics, this perspective was confined to observable patterns of Likes. While such metrics offer insights into interaction tendencies and relative audience responsiveness, they cannot reveal how messages were interpreted, emotionally processed, or critically evaluated by diverse publics. Nor do they capture how audiences internalized, resisted, or reinterpreted institutional narratives within various social or cultural contexts. Although the dissertation argues that stakeholder interests should be considered alongside institutional priorities, the primary analytical focus on PHAs inevitably risks re-introducing an institutional perspective, a tendency increasingly critiqued within contemporary crisis communication research.

Hence, framing legitimacy as enacted through institutional performance may have led the analysis to emphasize coherence and alignment rather than contestation or resistance, thereby shaping what was brought to the analytical foreground. This institutional-centric perspective has important

implications for the extended IDEA(L) model. While the framework clarifies how legitimacy is enacted and signaled through communication practices, it does not fully account for how legitimacy is granted, negotiated, or withheld by audiences. In other words, this dissertation demonstrates how institutions attempt to communicate legitimacy but cannot determine how legitimacy is ultimately constructed in public discourse. The model proposed should therefore be understood primarily as an analytical framework for examining legitimacy performance rather than legitimacy attribution.

Moreover, contemporary crisis communication scholarship increasingly emphasizes participatory, dialogic, and community-centered approaches, particularly in contexts involving marginalized or historically distrustful groups (e.g., Berg et al., 2021; Tambo et al., 2021). By focusing on institutional outputs and expert perspectives, this study necessarily excludes counter-communication, grassroots meaning-making, and alternative interpretive practices that occur outside official channels. This limitation is particularly relevant given evidence that vulnerable and minority populations experienced the pandemic differently and may have engaged with institutional messaging in ways not captured by the present analysis.

Despite these limitations, this dissertation offers insight into the communicative mechanisms of Scandinavian PHAs and into how PHAs can integrate internalization, explanation, action, and legitimacy across textual, visual, and audio communication modes. Although this study does not claim causality between specific communicative strategies and societal outcomes, it shows that IDEA(L)-consistent practices were

present during a period marked by a significant rally-around-the-flag effect (Ihlen, Johansson, et al., 2022; Johansson, Sohlberg, et al., 2023; Skogerbø et al., 2024), high institutional trust (Helsingen et al., 2020; Nielsen & Lindvall, 2021), relatively low excess mortality, and high vaccination coverage (Adawy, 2023) in Scandinavia. Rather than asserting direct effects, the findings highlight the coexistence of these communicative practices and favorable societal conditions, suggesting their potential interrelation without overstating causal claims.

Future research should extend beyond sender-focused analyses by directly investigating audience perspectives. Such approaches would complement the present work by examining legitimacy not only as an institutional performance but also as an emergent relational outcome shaped through interaction between authorities and publics. Furthermore, it would shed light on the balance of promoting stakeholder needs with institutional needs.

More broadly, the sender-centric orientation of this dissertation reflects longstanding tendencies within crisis communication research to prioritize organizational strategy, message design, and managerial concerns (Fraustino & Kennedy, 2018). Future scholarship may therefore benefit from additionally integrating dialogic, relational, or critical perspectives that foreground reciprocity, equity, and power dynamics in crisis communication processes. Expanding analytical attention to audience agencies and diverse knowledge systems would contribute to a more comprehensive understanding of how legitimacy and effectiveness are negotiated in complex, multicultural crisis environments.

6.1.2 Cross-Cultural Context

This dissertation focused exclusively on Scandinavian countries, each characterized by well-developed welfare states, merit-based bureaucracies, and semi-autonomous public agencies (Sandberg, 2023). These nations share political cultures marked by low power distance and consensus-oriented governance (Johansson, Ihlen, et al., 2023), in addition to state-oriented risk cultures (Christensen & Lægreid, 2005; Cornia et al., 2016; Johansson, Ihlen, et al., 2023; Rodin, 2025). While these features provided a somewhat unique context for examining PHAs' crisis communication strategies, they also limited the generalizability of the findings, as the recommendations emerging from this research may not directly apply to settings with different political, cultural, or institutional configurations.

Nonetheless, this focus enabled an in-depth comparative analysis of how similar welfare states and shared cultural norms, yet operating under divergent crisis strategies, approached communicative leadership during COVID-19. Specifically, the Scandinavian context provided a unique opportunity to analyze communication design while controlling for broader socio-cultural similarities.

However, it should be noted that Sweden is the birthplace of the freedom of information law, and consequently, the Scandinavian countries have a long-standing tradition of government transparency and respect for individual liberties, with civic engagement, direct participation, and public-private partnerships promoted within the societies (Kassen, 2017). Future research should therefore evaluate the concept of legitimacy in contexts with lower institutional trust, polarized political environments, or less

resilient health systems. Such studies would refine the IDEA(L) model across different socio-political and cultural contexts, including nations with fatalistic or individualistic risk cultures (Cornia et al., 2016). Such research could reveal how citizens with greater self-reliance or greater skepticism toward government institutions interpret and respond to crisis communication aimed at improving institutional legitimacy. Furthermore, such research would provide more comparative and cross-cultural understanding of the IDEA(L) model (e.g., Diers-Lawson, 2017; Upadhyay & Upadhyay, 2023).

6.1.3 Methodological Diversity

This dissertation adopts a mixed-method research design that combines quantitative content analysis of social media communication (Publications I and II) with qualitative analyses of expert perspectives and press conference discourse (Publications III and IV). This design enables triangulation across different types of empirical material, including social media posts, engagement patterns, expert reflections, and official statements, allowing the study to capture both institutional messaging strategies and their broader communicative context. By integrating these approaches, the research design provides a multidimensional perspective on how crisis communication objectives and leadership practices were enacted across platforms during the COVID-19 pandemic.

The qualitative components of the dissertation contribute analytical depth by examining institutional perspectives and communicative performances that cannot be fully captured through quantitative content analysis alone. Publication III draws on expert interviews to illuminate how crisis communication strategies were understood and rationalized by actors

involved in crisis governance. These perspectives provide valuable insight into institutional reasoning, strategic considerations, and leadership dynamics that inform communicative practices. Similarly, Publication IV analyzes press conferences as highly visible arenas of communication in which institutional authority, accountability, and crisis leadership are performed before both journalists and the public. Examining these briefings enables analysis of how PHAs framed risk, explained evolving scientific knowledge, and sought to maintain legitimacy during the prolonged crisis.

At the same time, these approaches also entail methodological limitations. Press conferences represent highly structured communicative events shaped by institutional agendas, rhetorical strategies, and media expectations (e.g., Kjeldsen, 2023). As such, they reflect strategic leadership performance rather than spontaneous communication practices. Similarly, expert interviews rely on elite perspectives that may retrospectively rationalize decisions or frame narratives in ways that align with institutional interests (e.g., Bogner et al., 2009). While these data sources provide valuable insight into institutional reasoning, they cannot capture the full diversity of perspectives present in broader public discourse.

In terms of data, this dissertation included press conferences held within specific periods, resulting in a total of 22 briefings. Although relatively small, the dataset retains analytical value through a qualitative, theory-driven approach that prioritizes interpretive depth over numerical breadth (e.g., Clarke & Braun, 2014). The selected period encompasses a pivotal phase of the pandemic characterized by intense communicative activity

and evolving institutional responses, enabling a focused examination of leadership performance and communicative adaptation. Similarly, the interview component included five expert participants selected through purposive elite sampling, each possessing direct experience with crisis communication and governance during the pandemic. While the limited number of interviews restricts the breadth of perspectives represented, the interviews were not intended to achieve statistical representativeness but to provide informed institutional insights that could contextualize observed communicative practices. The relatively small sample, therefore, reflects a common characteristic of elite interview research: access to highly specialized actors is often limited, yet their perspectives offer valuable interpretive depth for understanding institutional reasoning and strategic communication decisions (Bogner et al., 2009; Mason, 2010).

Regarding the evaluation of social media communication, the empirical analysis was limited to three platforms: Facebook, Twitter, and Instagram. While these platforms represent major communication channels for public institutions, the exclusion of other widely used platforms such as TikTok, Snapchat, and WhatsApp (Danmarks Statistik, 2023; Ipsos, 2023; Ohlsson, 2023) restricts the scope of the analysis. Moreover, these platforms differ significantly in their sociotechnical architectures: Facebook supports longer posts and mixed media, Twitter primarily operates as a microblogging platform with character limits, and Instagram emphasizes visual communication. Such differences may influence communicative strategies and engagement dynamics, suggesting that future research could benefit from comparing platforms with similar user penetration and functionality.

In addition to architectural differences between platforms, the types of data available from each platform vary considerably. Engagement metrics such as likes, comments, and shares provide useful indicators of interaction patterns and message visibility, but they cannot capture how audiences interpret, emotionally process, or critically evaluate crisis communication. More comprehensive insights into public interaction with institutional messaging would therefore require access to comment section discussions or other forms of audience discourse. However, such data were not accessible through the application programming interfaces (APIs) used in this research.

In addition, engagement metrics on social media platforms are shaped by platform architectures and algorithmic curation that determine which posts become visible to users. Consequently, observed engagement patterns may reflect not only audience responses to message content but also platform dynamics that amplify or suppress particular messages. Future research could further disentangle these influences by combining communication analysis with data on media coverage, epidemiological developments, and platform visibility mechanisms.

Future research could further strengthen the understanding of IDEA(L)-based crisis communication by incorporating longitudinal and mixed-method designs that directly examine audience perspectives. For instance, studies could combine pre- and post-crisis surveys measuring cognitive, affective, and behavioral responses with panel studies tracking public attitudes across different phases of a crisis. Additional qualitative methods, such as interviews or focus groups with citizens, could complement institutional analyses by exploring how crisis messages are

interpreted and negotiated by diverse publics. Implementing these approaches would expand the empirical basis of the IDEA(L) model and enhance its applicability across different crisis contexts and communication environments.

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Appendix A – Publication I

Publication 1: Managing the Pandemic in Digitized Spaces: Assessing the Social Media Approaches of Scandinavian Public Health Authorities.

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Managing the Pandemic in Digitized Spaces: Assessing the Social Media Approaches of Scandinavian Public Health Authorities

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Abstract

In response to the COVID-19 pandemic, health- and civil-contingency agencies—referred to here as public health authorities (PHAs)—in Sweden, Norway, and Denmark turned to social media to disseminate pandemic recommendations and information. This study explores the social media crisis management strategies employed by Scandinavian PHAs. Specifically, we apply a multiplatform research approach to assess communication objectives (Instruct, Support, Manage Reputation, and Solicit Interaction) across three social media platforms—Facebook, Instagram, and Twitter (currently known as X). Introducing a series of hypotheses based on previous scholarship, we detail the prevalence of different objectives across platforms and countries. The results indicate prominent use of reputational management, particularly on Twitter, while instructive information emerged as a highly used communication objective in Sweden and Denmark. Overall, the communicative trends remained parallel across nations, despite Sweden implementing a more relaxed crisis management strategy. The main distinction in Sweden's approach manifested in a relatively lower emphasis on the pandemic by its PHAs compared to Denmark and Norway. National differences in crisis communication objectives indicate that Norwegian PHAs stand out in terms of using reputational management, while Sweden stands out in employing more supportive information on Instagram.

Keywords

public crisis communication, Scandinavia, COVID-19, social media, public health risk communication

Introduction

Crises related to health, especially pandemics, generate significant levels of uncertainty and fear in populations. Government institutions and public actors tasked with managing the resulting confusion need strategic and effective communication strategies to foster cognitive, emotional, and behavioral learning to encourage individuals to adopt evidence-based self-protective measures and mitigate risks (Soares et al., 2022). Indeed, effective strategic crisis communication from public health authorities (PHAs), while operating as health experts, can be a vital aspect of public crisis management—especially as information and guidance increase citizen empowerment and the public's self-efficacy, thereby reducing the overall threat (Ihlen & Vranic, 2024; Palttala et al., 2012). During the COVID-19 pandemic, online platforms and hyperpartisan sources became important channels for news consumption (Larsson, 2023; Nord

et al., 2021). Social media, in particular, emerged as a preferred tool for information dissemination and social interaction (Lilleker et al., 2021; Piltch-Loebet al., 2021)—especially so, it would seem, in Denmark, Norway, and Sweden—three countries that are often described as high-choice media environments or hybrid media systems (Nord et al., 2021). To be precise, platforms such as Facebook, Instagram, and Twitter (currently known as X) became important channels where authorities could disseminate information regarding COVID-19 mitigation measures, including mandates, recommendations, and outbreaks. These platforms also served as a tool

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for PHAs to engage with the public (Lindholm et al., 2023) and solidify their status as trusted sources of information.

Although the three Scandinavian countries are often viewed as quite similar, they adopted different approaches to managing the COVID-19 pandemic. Sweden adopted a more lenient strategy, avoided strict lockdowns, and primarily relied on voluntary guidelines (Ludvigsson, 2020). In contrast, Norway and Denmark implemented stricter lockdowns, closed non-essential businesses, and restricted mobility (Ihlen, Johansson, & Blach-Ørsten, 2022). As alluded to previously, public health agencies and civil contingency agencies (collectively referred to as PHAs) in the three Scandinavian countries used social media to disseminate information on infection control, quarantine, vaccination, and related topics (Ihlen, Just, et al., 2022). They also used interactive platforms to maintain credibility and legitimacy, engage public interest, and encourage compliance with public health measures. Building on this, this study explores how Scandinavian PHAs communicated crisis mitigation information on social media during the COVID-19 pandemic and investigates the extent to which different communication objectives (Inform, Support, Manage Reputation, and Solicit Interaction) were employed. Specifically, we apply a double comparative analysis across countries and platforms to assess communication objectives across three social media platforms—Facebook, Instagram, and Twitter. We take a longitudinal approach, studying these issues during a 2-year time period starting in February 2020—the start of the pandemic.

Exploring the use of social media as tools for crisis communication during a public health emergency, the study presents the following research questions:

RQ1. What types of communication objectives were featured across different social media platforms?

RQ2. What types of communication objectives were featured across different countries?

Thus, the study presents a comparative understanding of public health crisis communication on social media, and how Scandinavian PHAs communicative patterns evolve over a protracted crisis. As such, it provides insights regarding crisis communication prioritizations and practices of use for researchers as well as practitioners.

The remainder of the article is organized as follows. After this introduction, our literature review introduces previous research on crisis communication objectives, public health management in Scandinavia, stages in crisis communication, and multiplatform communication. Based on this, we introduce our hypotheses. Next, we discuss our methods and analytical approach, followed by a presentation of our findings. These findings are subsequently discussed, leading into a final section presenting limitations of the work performed and suggestions for future research.

Literature Review

Objectives of Crisis Communication

Effective crisis communication, led by credible sources, is essential for preventing and alleviating the various challenges that emerge during pandemics. A well-planned communication strategy can reduce public anxiety and fear, promote adherence to mitigation measures, lighten burdens, and enhance the management of a crisis (Coombs, 2023). According to Sturges (1994), crisis communication has three core objectives. First, at the beginning of a crisis, the primary goal is to offer instructive information that guides the public on recommended behaviors and actions and explains the current situation. After, crisis managers should provide adjusting information, that is, information that provides psychological coping, emotional support, sense-making regarding the crisis, and encouraging resilience. Finally, toward the end of the crisis, the objective is to provide internalizing information designed to repair reputational damage caused by the crisis, thus restoring trust and credibility (Lindholm et al., 2023; Sturges, 1994).

Sturges' (1994) foundational approach as laid out above emphasizes the need for a broader understanding of crisis communication. So far, crisis communication literature has primarily focused on the third objective as key findings from scholars such as Coombs (2023), Zheng et al. (2018), and Christensen and Lægread (2020) emphasize how critical reputation is in crisis communication due to its potentiality in eliciting positive responses from stakeholders, thereby maintaining relationships. However, authors like Olsson (2014), in line with Sturges (1994), argue for the necessity of a more comprehensive approach, rather than solely focusing on reputation and blame avoidance. For example, research by Domschat et al. (2023) on the impact of blame attribution during terrorist attacks on brand image underscores the importance of ethical and instructive communication. Their findings indicate that providing sympathy, guidance, information sharing, effective organizational rhetoric, and demonstrating systemic organizational learning can lead to positive public responses. Indeed, they argue that appropriate communication immediately after a terrorist attack can enhance brand image, even surpassing the pre-attack level image, which highlights the importance of instructions in crisis communication. Ozanne et al. (2020) adds to this notion by arguing that instructive information is particularly effective in crises where stakeholders attribute little responsibility to the organization, such as in natural disasters or "victim crises." Schoofs et al. (2022) further highlight the role of empathy in crisis responses, suggesting that a crisis communication strategy that resonates with stakeholders' mental states through sensitivity and concern can alleviate suffering and should be reflected throughout the crisis response.

Beyond Sturges' model, the introduction of social media has made it necessary for contemporary crisis communication

Table 1. Communication Objectives.

Theme	Example post	Definitions	As discussed by
Objective to Instruct	<i>Stay home when you are sick! If you feel sick and/or have a runny nose, cough, or fever, you should stay home and avoid meeting other people^a</i>	Convey crisis intelligence with updates and behavioral advice	Coombs, 2023; Domschat et al., 2023; Lindholm et al., 2023; Ozanne et al., 2020; Sturges, 1994
Objective to Support	<i>Perhaps you or one of your loved ones has experienced that it affects general well-being when you stay at home and can't meet with family and friends as usual. By keeping yourself mentally active, you can do something good for your mental health^b</i>	Sense-making information about guidance, wellness, and mental health	Coombs, 2023; Domschat et al., 2023; Lindholm et al., 2023; Ozanne et al., 2020; Schoofs et al., 2022; Sturges, 1994
Objective to Manage Reputation	<i>MSB is about to kick-start several shorter research projects on the crisis caused by the new coronavirus. "In the midst of all the intensive work of managing all the complex issues, it's equally important to lift our gaze and invest in more long-term knowledge development. There are incredibly many lessons to be learned from the crisis," says Sara Brunnberg, research director at MSB.^c</i>	Promote credibility or collaborations, studies, events, campaigns, or activities. Information aiming at reputational repair	Christensen & Lægread, 2020; Coombs, 2023; Lindholm et al., 2023; Sturges, 1994; Zheng et al., 2018
Objective to Solicit Interaction	<i>Protect yourself and others, and please help us share this important message^d</i>	Encouraging giving feedback, comments, like, share, or discuss	Chen et al., 2020; Coombs, 2023; Madraki et al., 2020; Ngai et al., 2020

^a<https://www.facebook.com/100070775814517/posts/1495728053928287/>.^b<https://www.facebook.com/100068906062707/posts/123836989221664/>.^c<https://www.facebook.com/100064731998861/posts/10156573697481618/>.^d<https://www.facebook.com/100068914222298/posts/2911851215548874/>.

to adapt to the interactive nature of platforms such as those studied here. While experiencing quarantine and lockdown measures, citizens turned to online platforms to seek and share near-instant information about the pandemic (Manias-Muñoz & Reber, 2022), thus interacting within different networks and directly with the PHAs. However, research indicates that interactive communication from government sources often remains superficial, with limited comments and restricted dialogue (Tang & Lee, 2013). Despite this, studies show that user interactions with social media posts, such as likes, play a critical role in determining the algorithmic relevance of messages and their subsequent dissemination on social media platforms (Bucher, 2012; Jost, 2023). Moreover, Chen et al. (2020) suggest that government agencies should utilize social media's interactive features, such as mentions (@) and hashtags (#), to address citizen inquiries and foster more robust interaction.

Starting from the threefold typology suggested by Sturges (1994), Table 1 shows how this initial suggestion has been expanded and complemented in a series of later studies following the original 1994 conception. Taking the influx of social media into account, our typology as presented in Table 1 thus differentiates between four public health crisis objectives: (1) *Instruct* about pandemic intelligence, emergency recommendations, mitigation actions, accessing resources, and safeguarding actions and behaviors; (2) *Support* individuals and organizations with advice on how to adapt and

adjust, encouraging treatment for physical and mental health, offering emotional support, and fostering a sense of community; (3) *Manage Reputation* by promoting campaigns and activities, reinforcing its identity (core values and ethical principles), promoting new or past collaborations or studies, transparency regarding shortcomings or mistakes, and corrective measures; and (4) *Solicit Interaction* by prompting or encouraging responses or discourse by asking for likes, comments, shares, and offline or online discussion regarding the information provided.

With our typology in place, the next section reviews previous, similar scholarship and introduces our hypotheses.

Crisis Mitigation During COVID-19 in Scandinavia

In response to the pandemic, the Scandinavian countries differed in crisis approach. However, Denmark and Norway responded somewhat similarly by implementing swift lockdown measures and enforcing strict infection prevention protocols (Carlsen et al., 2021; Kalsnes & Skogerbo, 2021). Denmark's strategy, often called the "hammer and dance," featured rapid government action and relied on Scandinavian cultural values that emphasize respecting personal boundaries (Mens et al., 2021; Olagnier & Mogensen, 2020). Similarly, in Norway, key government figures highlighted the seriousness of the pandemic (Fiskvik et al., 2023) and encouraged a collective sense of responsibility, linking

cultural values like trust and “dugnad” (voluntary communal work) to effective crisis management (Shapiro et al., 2023).

Sweden, in contrast to Denmark and Norway, took a different approach to the COVID-19 pandemic, relying more on “nudges” and recommendations to “flatten the curve,” focusing on containment rather than outright prevention (Johansson & Vigsø, 2021). At the time, Sweden faced criticism for inconsistency, lack of transparency, imprecise recommendations (Rasmussen, 2022), and a disproportionately high number of deaths among residents in elder care (Carlsson et al., 2020). Altogether, this led to a questioning of the efficacy of the PHAs as trusted health experts.

In the first wave of the pandemic (March 11 to June 10, 2020), Lindholm et al. (2023) observed that Scandinavian health agencies primarily delivered instructive messages on Twitter, aligning with Sturges’ (1994) model to instruct in the initial stage of a crisis. However, when contrasting the findings from each Scandinavian country, the Danish Health Authority focused more on providing emotional support in comparison to its counterparts, while Norwegian health authorities concentrated on managing their reputation more than Denmark and Sweden. According to Sturges (1994), reputation management is generally best addressed in the later stages of a crisis, making Norway’s early emphasis noteworthy. Lindholm et al. (2023) and Kalsnes and Skogerbø (2021) suggest this focus on reputation management might stem from rumors of disagreements between government officials and PHAs over pandemic management. In addition, Fiskvik et al. (2023) noted that Twitter saw extensive discourse from the Norwegian public concerned with civic responsibility, alternative viewpoints, and questioning of established expertise regarding COVID-19, possibly prompting Norwegian health agencies to take proactive steps to rebuild their reputation. In the case of Sweden, as Seeger and Griffin Padgett (2010) argue while a crisis can have identifiable victims, such as the elderly, the wider audience can also be deeply affected and traumatized. As such, restoring trust in the system is crucial to effective crisis response. Based on the above, we assume that:

H1. Across all three studied countries and throughout the studied time period, PHAs prioritized the objective of managing reputation.

With Sweden’s more relaxed approach, at the onset of the COVID-19 pandemic, the virus was portrayed as a significant threat to high-risk groups (such as the elderly and those with underlying health conditions), and as a lower risk to the general population, and the guidance advocated for self-isolation when exposed, while schools, restaurants, shops, and factories continued their operations (Johansson & Vigsø, 2021). It thus stands to reason that the PHAs in Sweden paid less attention to the pandemic compared to Norway and

Denmark where the pandemic was depicted as an ongoing societal danger and that therefore:

H2. Swedish PHAs posted less about COVID-19 than their Scandinavian counterparts throughout the studied time period.

Stages of Crisis Communication

Similar to Sturges (1994) and Zhao et al. (2018), our study follows a three-stage approach to crisis development, with an initial phase, a middle or maintenance phase, and an end-stage or resolution phase. Although the COVID-19 pandemic was a public health crisis that lasted for over 3 years, previous scholarship still suggests certain trends. Indeed, as Lindholm et al. (2023) demonstrated, a prioritization of instructing the public about the novel coronavirus occurred in the initial phase of the crisis. Following Sturges’ (1994) recommendations, as the crisis progresses, the PHAs’ focus should shift toward supporting the public, as maintaining motivation becomes crucial. Then, at the resolution of the crisis, we expect to see more emphasis on reputational management to restore stakeholder relations and public trust. Thus, we hypothesize:

H3. Across all three studied countries, PHAs prioritized the objective of instruct during the initial phase.

Cross-Platform Risk Communication

In Sweden, in 2022, Instagram was the most popular social media platform, with 60% of the population as active users (Ohlsson, 2023). Facebook was used by 54% of Swedes, while Twitter had a much smaller user base, at just 12% (Ohlsson, 2023). In Norway, in 2022, Facebook was the leading platform, with 69% of users, followed by Instagram with 45% (Ipsos, 2023). Likewise, in Denmark, Facebook was the most prominent social media platform, with 84% of the population actively using it, followed by Instagram at 56%, and Twitter with a 13% user penetration rate (Danmarks Statistik, 2023). Given that Facebook was the most widely used platform in both Denmark and Norway in 2022, and the second most popular in Sweden, PHAs should likely prioritize Facebook for disseminating information and engaging with a broader audience, and we hypothesize that:

H4. PHAs disseminate COVID-19-related content more frequently on Facebook.

Different social media platforms attract users from various socio-demographic groups, based on factors like gender, age, and income (Wawrzuta et al., 2022). Consequently, no single social media platform attracts a fully representative

Table 2. Overview of Collected Data.

Country	Public health authority (native language name)	Facebook posts N (% of total from authority)	Instagram posts N (% of total from authority)	Tweets N (% of total from authority)	N (%) of total social media from authority
DK	Danish Medicines Agency (Lægemiddelstyrelsen)	252 (45.8%)	0 (0%)	298 (54.2%)	550 (100)
	Danish Health Authority (Sundhedsstyrelsen)	499 (54%)	72 (7.8%)	354 (38.3%)	925 (100)
NO	Norwegian Institute of Public Health (Folkhelseinstituttet)	169 (21%)	119 (14.8%)	515 (64.1%)	803 (100)
	Norwegian Directorate of Health (Helseidrettoratet)	263 (64.5%)	79 (19.4%)	66 (16.2%)	408 (100)
SE	Public Health Agency of Sweden (Folkhälsomyndigheten)	198 (27.4%)	0 (0%)	526 (72.7%)	724 (100)
	National Board of Health and Welfare (Socialstyrelsen)	276 (46%)	191 (31.9%)	132 (22%)	599 (100)
	The Civil Contingency Agency (Myndigheten för Samhällsskydd och Beredskap)	175 (31.3%)	189 (33.8%)	196 (35%)	560 (100)

cross-section of society. This implies that to understand how PHAs communicated with the public via social media during the pandemic, it is necessary to consider how each platform's unique characteristics influenced communication strategies. By comparing communication patterns across platforms and nations, we can obtain a more nuanced view of how crisis communication was perceived and disseminated (as suggested by Liu et al., 2020; Matassi & Boczkowski, 2023). Notably, Facebook and Instagram tend to appeal strongly to younger generations and women (Danmarks Statistik, 2023; Ipsos, 2023; Ohlsson, 2023). Twitter, in contrast, attracts users who are more likely to be men and highly educated (Danmarks Statistik, 2023). Twitter also plays a significant role for media organizations, serving as a key channel for news dissemination and community building (Rega, 2021; Russell et al., 2023). Given that Twitter is a platform where PHAs can connect with the press, media personalities, and organizations (Larsson & Christensen, 2017), we propose the following hypothesis:

H5. Twitter was primarily used to manage reputation.

Methodology

Data Collection

To help illustrate the statements of PHAs, data from three platforms (Facebook, Instagram, and Twitter) are presented. The data consist of content by seven Scandinavian PHAs with public health crisis communication responsibilities, posted between February 1, 2020 and February 1, 2022—a

time frame comprising the most prominent stages of the crisis in Scandinavia (G.S.S.O., N. G. S., & S. O., 2023). Table 2 provides an overview of our data.

The data selection for this study is based on previous research on the communication strategies of health authorities and government actors, including studies by Lindholm et al. (2023) and Almlund et al. (2023). In addition, consideration was made regarding public institutions responsible for disseminating information in cooperation and coordination with the national public health agencies through government press conferences, such as updates on the crisis, vaccination strategies, and recommendations (Ihlen, Just, et al., 2022).

A total of 4,569 posts were retrieved from the selected period. Specifically, 2087 tweets, 1832 Facebook posts, and 650 Instagram posts were downloaded from the official accounts of the Scandinavian PHAs, using CrowdTangle (for Facebook and Instagram) and the Twitter Academic API. Table 2 also shows that despite having Instagram accounts, the Danish Medicines Agency and the Public Health Agency of Sweden did not use this platform during our studied time period.

Data Analysis

This study utilized quantitative content analysis to examine data, where each social media post served as the unit of analysis. A codebook was constructed to guide the coding process. Posts were first coded for their relevance to the pandemic. We employed a broad lens, including references that did not specifically mention the pandemic but alluded to

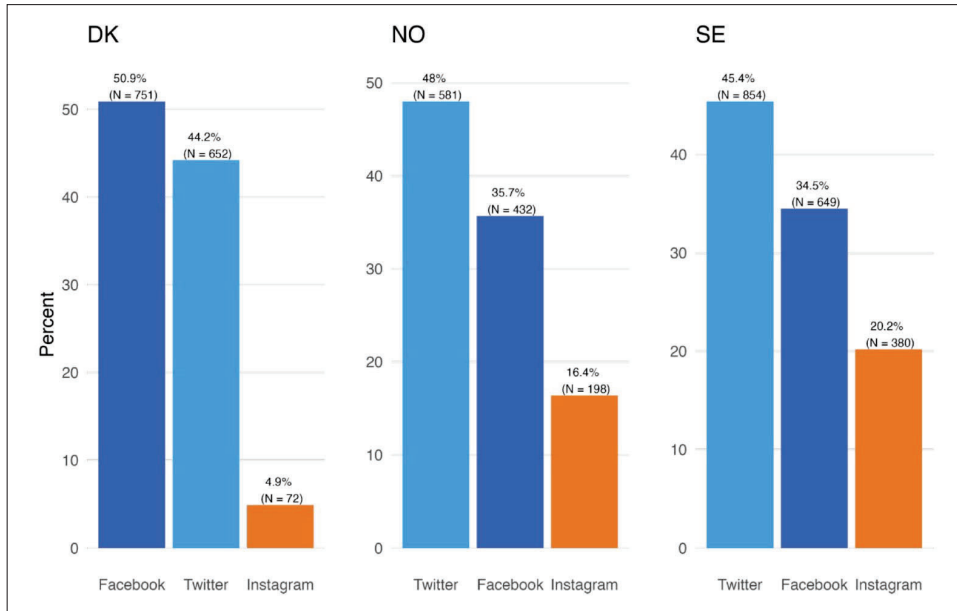


Figure 1. Number of social media posts per platform and country.

a corresponding consequence of the pandemic (e.g., increased loneliness, pressured health care workers, and vaccination hesitancy). After this initial classification, we assessed the use of communication objectives by developing four dichotomous variables—one for each part of our typology (see Table 1). Thus, we coded for the presence or absence of the four mentioned communication objectives—(1) *Instruct*, (2) *Support*, (3) *Manage Reputation*, and (4) *Solicit Interaction*. All posts were coded for these four variables, regardless of the post dealt with the pandemic or not (as decided by the previous variable). Coding was performed so that each post could include any number of objectives. In practice, however, the vast majority of posts contained were found to feature one ($N=3030$, 66.3%) or two ($N=1362$, 29.8%) objectives.

Inter-coder reliability for these variables was assessed by having the first author code all 4,569 social media posts. The second author re-coded a random 10% sample of the full data set. Employing Krippendorff's α (Krippendorff, 2008), α measured reliability at .8 and upward, suggesting a high level of inter-coder reliability.

Findings

For our findings, we turn first to looking at how the PHAs in the three studied countries prioritized between the three studied platforms.

National Uses of Social Media Platforms

As illustrated in Figure 1, the data indicate that in Norway and Sweden, Twitter took precedence over Facebook and Instagram. The Danish PHAs in contrast prioritized Facebook more than Twitter. Instagram emerged as the least utilized social media platform across all three nations. Thus, Sweden and Norway prioritized platforms that are not the most popular among the population, as Instagram was the most popular platform in Sweden and Facebook was the most popular in Norway.

Beyond the assessment of overall use, we now turn to the degree to which the different platforms were used to feature issues related to the pandemic. Figure 2 provides insights in this regard.

Frequency analysis of posts containing COVID-19 information demonstrates that the Danish PHAs were most active in discussing the pandemic, as depicted in Figure 2. Indeed, with 85.1% ($N=751$) of Facebook posts, 80.2% ($N=652$) of tweets, and 94.2% of Instagram posts ($N=72$), the Danish PHAs had their priorities settled. The same steadfastness is apparent in the Swedish case. With 53.5% of Facebook posts ($N=432$), 49.7% ($N=198$) of Instagram posts, and 61.8% of tweets ($N=581$) dealing with the matter at hand, Swedish PHAs posted less about the pandemic than their Scandinavian colleagues. As Figure 2 indicates, Norway falls somewhere in the middle, and the Swedish

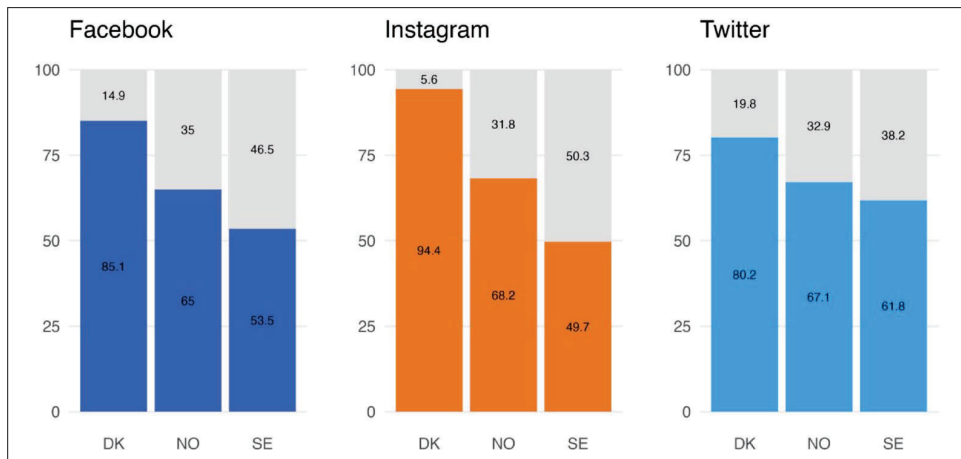


Figure 2. Percent of social media posts depicting COVID-19 per platform and country.

PHAs were least inclined to discuss the pandemic across all three social media platforms.

PHAs Use of Crisis Communication Objectives

Given our interest in the usage of communication objectives concerning the pandemic, the forthcoming analysis will focus on only those social media posts that dealt with COVID-19 as shown in Figure 2. With this in mind, Figure 3 details communication objectives usage in posts across countries and platforms, and Figure 4 details how these objectives were utilized across the pandemic. We have included both figures below and will discuss the results presented in combination.

Findings from the Danish PHAs on Facebook, as shown in Figure 3, indicate prioritization of instructions (61.3%). Figure 4 suggests that this appears to have been a priority primarily at the initial phase of the crisis, a focus that decreased over time. Figure 3 again indicates that both managing reputation (46.3%) and providing support (36.5%) were almost equally utilized, with peaks of use in the maintenance phase and a decrease toward the end of our time period (see Figure 4). Regarding Danish PHAs' use of Instagram, no longitudinal changes are reported as the PHAs only started posting in the later stages of the pandemic. However, the overall use of Instagram reveals similar results to Facebook as seen in Figure 3 (instructions 96.8%; support 50%; managing reputation 7.4%). Finally, for Twitter, unlike Facebook and Instagram, Danish PHAs viewed managing reputation (70.7%) as their primary communication objective (see Figure 3), with a sharp increase in use in the annual quarters in the middle of the pandemic, with a slow decline toward the end (see Figure 4).

Findings from the Norwegian PHAs on Facebook (Figure 3) indicate prioritization of reputational management (59.4%). Giving instructions is almost as commonly used (55.2%), followed by providing support (29.9%). As seen in Figure 4, most communicative objectives emerged in the initial phase, with a steady decline as the pandemic progressed. Moving on to Instagram and starting with Figure 3, instructions emerge as the primary objective (64.4%), followed by reputation management (48.9%) and support (25.2%). Similar to Facebook, the findings indicate primary use in the first stage of the pandemic, followed by a steady decline. Finally, Twitter, similar to Facebook, saw managing reputation (74.1%) as the primary communication objective (see Figure 3), with instructions as the second most used (36.7%). On Twitter, we see a steady use of instructive and supportive objectives across the pandemic, but for reputational management, we see spikes of usage in the initial and middle phases, followed by a lesser spike in the end stage (see Figure 4).

Finally, for Sweden, Figure 3 suggests that the Swedish PHAs were rather similar to Denmark, in that the objective to instruct was most common on Facebook (72.6%). Reputational management emerged as the second most used objective (36%), closely followed by providing support (32.6%). For Instagram, providing support was found to be the most prolific objective (77.8%). Reputational management was the second most used objective (32.8%), closely followed by providing support (30.2%). Per Figure 4, instructive and supportive objectives emerge most frequently in the first three annual quarters and then decline on Facebook. Instagram sees a sharp spike in usage of support in the beginning, and a smaller spike in reputation management and instructions, followed by steady usage for the rest of the period. For Twitter, the same pattern in Figure 3 emerges in the Swedish case as was

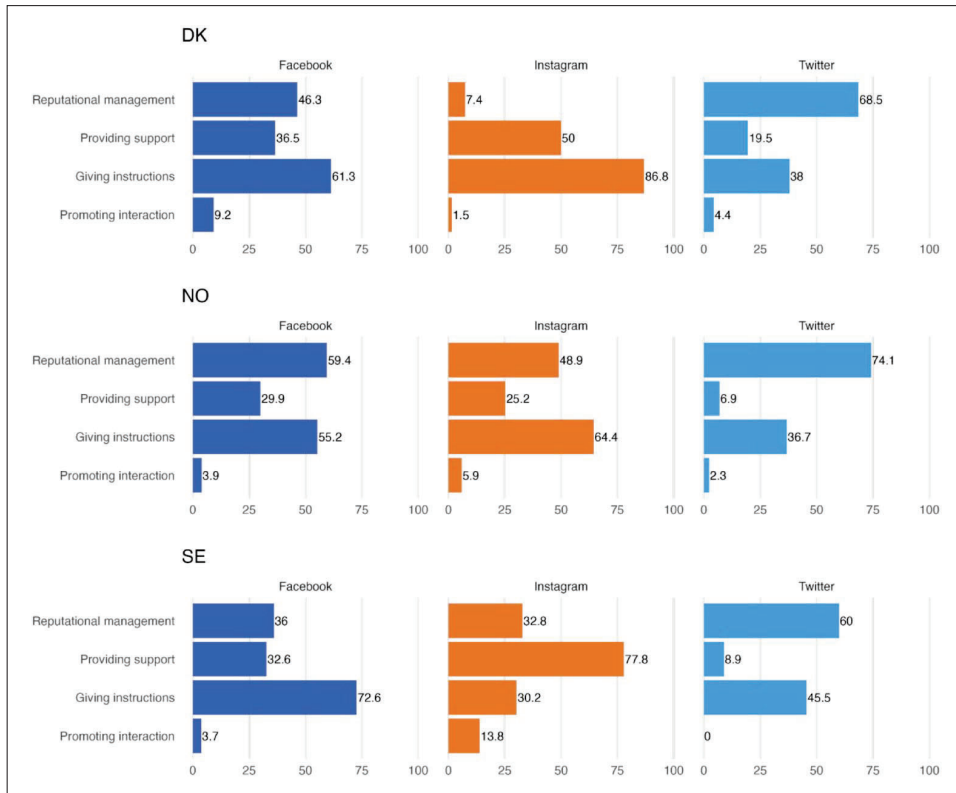


Figure 3. Use of communication objectives across countries and platforms.

evident in Denmark and Norway—with the dominant communication objective as reputational management (60%), followed by instructions (45.5%). As seen in Figure 4, reputational management is most frequent initially, with a spike in usage at the end of the period. Instructions are most frequent in the middle period of the crisis followed by a decline.

Across all countries and platforms, the objective to solicit or promote interaction was scarcely used by the studied PHAs. Thus, while Chen et al. (2020) suggested the usefulness of such communication content to foster trust and engagement, this was not heeded by the organizations studied here—perhaps due to the difficulties associated with handling the comments and responses raised by such efforts (e.g., Koc-Michalska et al., 2021).

In sum, while some similarities could be discerned across countries and platforms—perhaps most notably the tendency for Twitter as mentioned above—the results presented here suggest somewhat differing strategies for our studied PHAs. Overall, we see notable differences in communication priorities per platform and nation, as Instagram is characterized by

a high prevalence of instructions for Denmark and Norway and support for Sweden, whereas Twitter is primarily used to manage reputation. We also see a higher prevalence of instructions on Facebook for Swedish PHAs compared to Norway and Denmark. Furthermore, the findings indicate that the communication priorities of PHAs on social media platforms evolved throughout the pandemic in a sporadic and fluctuating pattern. While Sturges (1994) recommends prioritization of instructions at the beginning of a crisis, followed by support, and reputational management toward the end of the crisis, no country or platform followed such a pattern.

Discussion

This article has presented interesting findings regarding comparative Scandinavian public health crisis communication objectives on social media. Summing up our results, we can see that first, Twitter emerged as the preferred platform for disseminating reputational management content, utilized

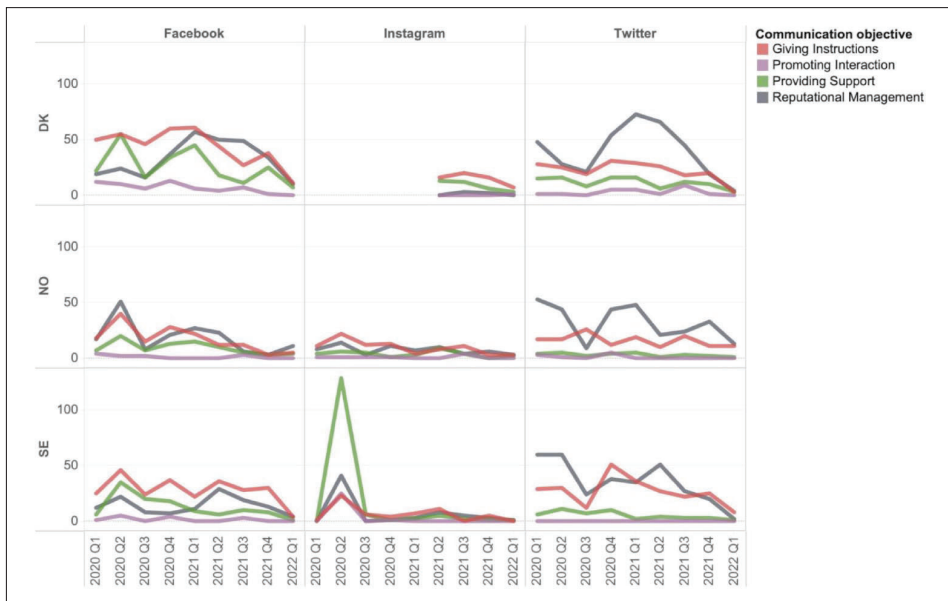


Figure 4. Presence of communication objectives across countries and platforms over time.

sporadically over time, while instructions were more frequently used on Facebook and Instagram. Second, Sweden, whose crisis mitigation approach relied on more voluntary guidelines, mentioned the pandemic less comparably on all three platforms. Finally, despite operating on social media, PHAs rarely engaged in soliciting interactions or asking for feedback from their audiences.

Turning to our first hypothesis, which proposed that PHAs would focus on managing their reputations, the results in Figure 3 indicate that Twitter was used predominantly for this purpose. In addition, Norway's PHAs seem to favor using Facebook for reputation management, with instructions coming in as a close second among their communication objectives, echoing similar results from Lindholm et al. (2023), of Norwegian PHAs utilizing reputational management to a higher degree than their counterparts during the first pandemic wave on Twitter. Considering the sometimes contentious or critical discourse on Twitter in Norway (Fiskvik et al., 2023), it is possible that Norwegian PHAs were trying to address potential issues that could erode trust. However, Ihlen, Just, et al. (2022) argue that Norwegian PHAs exceeded both Sweden and Denmark in perceived transparency. Thus, the Norwegian aim of transparency may explain why findings from Norway include more information about the PHAs' studies, collaborations, planned events, and so on.

Moving on to our second hypothesis, which stated that Swedish PHAs would post less about COVID-19-related

messages than their Scandinavian counterparts. The results presented in Figure 2 do indeed demonstrate that the Swedish PHAs were the least frequent in posting such messages on all three platforms. Considering the prevailing perception of COVID-19 as a low-level threat to low-risk individuals (Johansson & Vigsø, 2021), the PHAs' communication approach indicates a preference for maintaining regular operations over updating the public on developing crisis management measures.

For our third hypothesis, which proposed that PHAs would post more instructions in the first initial stage, looking at longitudinal changes in the communicative patterns of the PHAs (see Figure 4). Our findings support this for the first annual quarter in Sweden and Denmark. However, Norway shows equal use of reputational management and instructions. Looking at how the usage of communication objectives progressed, Figure 4 illustrates a more sporadic and overlapping use of communication objectives contrary to Sturges' (1994) recommendation of delineating the crisis in three distinct stages. Instead, based on the coding process and our findings, we assert that the communication objectives of PHAs may align more closely with communication campaigns, given the peaks of usage of each objective as visible in Figure 4. Furthermore, as was noted by Ihlen and Vranic (2024), PHAs are likely to face scrutiny over their expertise in managing the pandemic, and given the active and occasionally contentious or lacking nature of social

media discourse (Carlsen et al., 2021; Fiskvik et al., 2023), we can suspect a need for the agencies included in our study to continuously attempt to maintain their reputation as public health experts—a suspicion that is seemingly visible in our findings. While this study scrutinizes the broad utilization of communication objectives by PHAs, delving into each peak to ascertain its relation with specific communication campaigns would therefore be an interesting approach for future research.

Our fourth hypothesis suggested that Facebook would be used more to disseminate messages related to COVID-19 than Instagram and Twitter. Findings from the Danish PHAs did show a preference for Facebook over Twitter and Instagram in this regard (see Figure 2). However, both in Norway and Sweden, Twitter was the most utilized platform. Considering Twitter's smaller user penetration (approximately 15%), and its user segment of key public figures, it can be inferred that Sweden and Norway both prioritized positioning themselves with public actors, while the Danish PHAs who were most active on Facebook, the most popular platform among the general public, prioritized direct communication with the public.

Our fifth and final hypothesis suggested that Twitter would primarily be used for reputational management. As has been discussed previously, the findings support the hypothesis. Previous research from Scandinavia has pointed to Twitter as a platform populated by elites, engaging in discussion and critique of societal actors such as government agencies (Larsson & Christensen, 2017; Larsson et al., 2017), making the platform well-suited for providing internalizing information such as promoting websites, sharing statistics and analytical findings, advertising events, or fostering collaboration with other important actors and organizations in the public arena. While in the first wave of the pandemic (Lindholm et al., 2023), tweets from PHAs were found to primarily contain instructions, our findings which span across 2020 to 2022, instead suggest that Facebook and Instagram were the preferred platforms for this aim, with Sweden's approach to Instagram standing out by focusing on support. Given the popularity of Facebook and Instagram in Scandinavia during the pandemic, it can be argued that the PHAs strategically utilized Twitter to engage with the type of stakeholders whom reputational management might be best suited for, such as the media, while Facebook and Instagram were used to directly provide the public with updates on current regulations and behavioral guidance.

Beyond our hypotheses, some other interesting tendencies can be noted regarding the communication objectives under investigation—namely the invitation to interact. Our typology expands on Sturges' (1994) model, which does not include soliciting interaction with those receiving the messages sent. Indeed, the use of social media by the PHAs under scrutiny would suggest an increased adaptation to the interactive affordances of the platforms included, leading to the incorporation of two-way communication during the

pandemic. Despite operating on social media, our findings imply that the PHAs prioritized managing their reputations and disseminating behavioral guidance to the public over soliciting interactions and feedback from the audience. This result mirrors previous studies where the government and other similar actors are shown to be hesitant to adopt the interactive possibilities offered by social media (Koc-Michalska et al., 2021; Magin et al., 2017).

Limitations and Future Research

While this study has provided important insights into PHAs' social media strategies in Scandinavia, it has limitations that should be addressed. First, this study was delimited to Facebook, Twitter, and Instagram, excluding other popular platforms like TikTok, Snapchat, and WhatsApp (Danmarks Statistik, 2023; Ipsos, 2023; Ohlsson, 2023). The three platforms included differ in sociotechnical formats as Facebook typically involves lengthy messages and a mixture of illustrations, whereas Twitter primarily serves as a microblogging platform with a 280-word limit per message. Instagram, on the contrary, relies more on visual communication. Given the differences between the architecture of each platform, future research might benefit from contrasting platforms that are similar in use and with similar user bases. Related to the issue of platform architecture is the issue of what type of data we can get from each platform. Social media data collection opportunities such as those featured here are in constant flux. Further insights into the online activities of PHAs would be possible if data on the activity of those actors in the comment fields of their posts were readily available. However, as such data are currently unavailable via the application programming interfaces (APIs) employed by researchers, such a study remains for now an interesting opportunity for future research.

The theoretical framework employed in this study is focused on what are arguably broader communication approaches. While this allows for a comprehensive, overall examination, it falls short of providing nuanced and specific crisis communication strategies. Effective crisis management requires specified messages aimed at diverse subsets of stakeholders. To expand on the findings from this article, the authors plan to detail user engagement to the studied objectives. Furthermore, additional research should consider analyzing the strategic approaches of the PHAs to target specific stakeholders such as the elderly or school children and dialogue with vulnerable people to address the observed inequities in pandemic outcomes (Altmejd et al., 2023; Backholm & Nordberg, 2022; Gele et al., 2022).

It is important to note that the public organizations included in the study operate under different national health care systems (Sandberg, 2023). They are also affected by external factors such as governmental policies, assignments, and public perceptions, which may have influenced the outcomes of our research. To address this limitation, future

studies should consider conducting a comparative analysis of organizations operating with similar expectations and in similar contexts. Relatedly, similar approaches to those featured here could be used to study the social media use by political actors during the pandemic, providing interesting comparisons of the prioritization of different actors.

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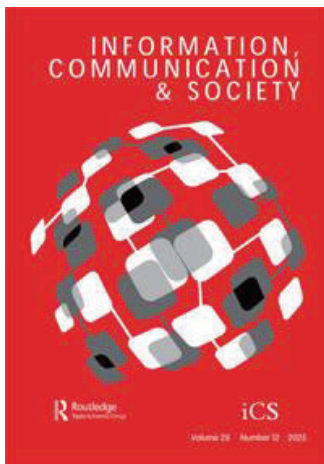
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Appendix B – Publication II

Publication 2: Crisis? What crisis? Assessing over-time public engagement with crisis communication on social media during COVID-19 in Scandinavia.

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Crisis? What crisis? Assessing over-time public engagement with crisis communication on social media during COVID-19 in Scandinavia

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ABSTRACT

During the COVID-19 pandemic, social media platforms became essential for sharing crucial information and encouraging citizen engagement with public health authorities. This paper presents a cross-national and cross-platform analysis, identifying which public health message type drives social media engagement during a public health crisis. Specifically, the study examines engagement dynamics in response to four messaging objectives: instructive, supportive, reputational management, and soliciting of interaction, as disseminated by public health authorities on Facebook, Instagram, and Twitter in Denmark, Norway, and Sweden throughout the COVID-19 pandemic and how these engagement patterns changed as the pandemic progressed. Results show that Facebook garnered the highest engagement regardless of country, with Instagram receiving the least. Instructional messages achieved the most consistently high levels of engagement across platforms, and Norway's health authorities were generally more engaged than those in Sweden and Denmark. A general decline in engagement over time suggests pandemic fatigue. These findings underscore the importance of tailoring instructive crisis communication while accounting for cultural nuances, even among relatively similar countries. These findings indicate that by identifying the different factors that appear to influence audience engagement, practitioners can develop more effective online crisis strategies during public health crises. This includes understanding communication objectives and the necessity for adaptive strategies as public health crises unfold.

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Introduction

Social media platforms are vital for informing and interacting with citizens during public health emergencies like the COVID-19 pandemic. With social media's broad reach, diverse demographics, and central role in communication, governments and public health authorities (e.g., national public health institutions, public crisis organizations,

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government agencies, etc., henceforth PHAs) have utilized platforms like Facebook, Instagram, and Twitter (currently known as X) to manage outbreaks (Soares et al., 2022), disseminate information, foster social trust and capital, and encourage participation in recovery efforts (Shah & Wei, 2022). Using social media for information dissemination became increasingly important for regions such as Scandinavia during the pandemic where online platforms played a crucial role in public discussions about vaccines (Fues Wahl et al., 2022), public leadership (Rubin et al., 2021), and interaction between the public and health authorities (Stjernswärd et al., 2023). For PHAs especially, social media allowed for disseminating vaccination campaigns, mitigation strategizing, and messaging coordination with other public actors.

However, with COVID-19, online platforms also became permeated by what was referred to as an infodemic, i.e., an overwhelming spread of misinformation and alternative facts (Glasdam & Stjernswärd, 2020). Thus, PHAs had to craft compelling and transparent messages to maintain trust and credibility as reliable sources (e.g., Hasselström & Larsson, 2024; Ihlen et al., 2022b), and tailor their messages to ensure resonance with recipients (e.g., Sellnow et al., 2023). Through rhetorical skills and appeals to solidarity, Scandinavian PHAs did indeed manage to largely maintain pre-pandemic public trust and confidence as COVID-19 progressed (Bjørkdahl et al., 2021; Dahlen & Skirbekk, 2021) – despite differences in cultural appeals, administration, and framing of the coronavirus outbreak (Ihlen et al., 2022b). Based on this, we argue that understanding what type of content engaged Scandinavian audiences during the COVID-19 pandemic can help inform the design of future crisis communication strategies, assisting in maximizing both engagement and dissemination during future outbreaks.

To understand what type of content resonates with audiences, a key metric is follower engagement (e.g., Bene, 2023). The term ‘engagement’ denotes users’ behaviors toward online content, including liking, sharing, and commenting (Chen et al., 2020). As communication scholars increasingly adopt a stakeholder-centric model focused on how audiences respond to online messaging during crises (e.g., Shah & Wei, 2022), measuring engagement metrics thus allows for an analysis of the impact and reach of foundational crisis communication objectives, i.e., to instruct, to support, and to foster positive reputation (Sturges, 1994). As such, engagement can be seen as an indicator of what type of information is required to sustain public interest on social media during crises. Further, these metrics can illustrate whether soliciting interaction can increase public engagement with PHAs messaging. With the above in mind, this study employs a double comparative analysis of 4,569 social media posts by PHAs active in Denmark, Norway, and Sweden — three countries that share socio-cultural similarities, yet implemented different crisis responses during COVID-19. In so doing, we clarify the factors driving online engagement with PHAs’ crisis communication efforts across three platforms: Facebook, Instagram, and Twitter. Drawing on the above, our study aims to assess the similarities and differences in what crisis communication objectives drive public engagement between Scandinavian nations per social media platform.

Analyzing the mechanisms driving online engagement on social media during this prolonged crisis advances theoretical insights into the factors that foster dissemination and promote internalization in crises. Our findings show that, overall, the Scandinavian public primarily favored instructional messages, with supportive messages resonating more outside Sweden. Additionally, Facebook generated the highest engagement across

platforms, while Instagram, despite its popularity, underperformed. Therefore, PHAs should benefit from prioritizing instructions, and, depending on whether the cultural and political context mirrors that of Norway and Denmark, provide supportive messages that aid the public in adjusting to the situation they find themselves in during an outbreak. For the Scandinavian public, PHAs should prioritize Facebook for message dissemination, as indicated by public engagement metrics.

Following this introduction, the paper proceeds as follows. We start with a brief background on pandemic management across Scandinavia, followed by a literature review that introduces previous research on social media platforms, crisis communication objectives, and public engagement in our case countries. We follow this by detailing our methods and analytical framework, after which we present our findings. These findings are subsequently discussed, leading to a final section addressing the limitations of our study and proposing directions for future research.

Literature review

Crisis communication objectives

A crisis arises when political-administrative authorities perceive a severe threat to societies core values or life-sustaining systems that demand urgent action under deep uncertainty (Boin et al., 2020; Eisele et al., 2022). A crisis, such as a pandemic, challenges public sector authorities to act swiftly and responsibly, often in rapidly evolving situations where outcomes are difficult to predict (Ndlela, 2019). As societal crises can disrupt the nation's shared norms and values, these events may necessitate the reassessment of legitimacy and renegotiation of normative standards (Eisele et al., 2022).

Eisele et al. (2022) note that research on political crisis legitimation often lacks a comprehensive framework, typically focusing on single cases rather than analyzing public crisis communication across countries, time, or crises. However, Sellnow et al. (2017) argue that there are four critical components of effective risk and crisis communication broadly, which are ensuring personal relevance and timeliness, explaining the crisis and responses, guiding protective actions, and leveraging diverse communication channels like social media to maximize reach.

Building on Lindholm et al. (2023), Cheng et al. (2022), Sellnow et al. (2017), and Sturges (1994), this study conceptualizes crisis communication as a process aimed at achieving three key objectives (see Table 1).

Table 1. Crisis communication objectives.

Objective	Definitions	As discussed by
Objective to Instruct	Convey crisis intelligence with updates and behavioral advice	Lindholm et al. (2023), Sellnow et al. (2017), Sturges (1994)
Objective to Support	Sense-making information about guidance, wellness, and mental health	Lindholm et al. (2023), Sellnow et al. (2017), Sturges (1994)
Objective to Manage Reputation	Promote credibility or collaborations, studies, events, campaigns, or activities. Information aiming at reputational repair	Lindholm et al. (2023), Sturges (1994)
Objective to Solicit Interaction	Encouraging dialogue and public engagement	Chen et al. (2020), Cheng et al. (2022)

First, *Objective to Instruct* pertains to providing clear guidance on recommended behaviors and empowering stakeholders to respond effectively. These instructions are crucial in managing a crisis by clarifying the ‘what’ and ‘why’ is happening, and what actions stakeholders should take to protect themselves (Sellnow et al., 2017; Sturges, 1994). The second – *Objective to Support* – refers to offering emotional support to help stakeholders cope psychologically, foster sense-making, and provide reassurance (Sturges, 1994). Compassionate and supportive messages on social media during crises can significantly boost public engagement and foster positive emotions (Leppert et al., 2022), and help the public adjust to the situation by explaining the impact and relevance of the situation to the public (Sellnow et al., 2017). The third objective – *Objective to Manage Reputation* – focuses on mitigating reputational damage, rebuilding trust, and restoring confidence in advisors for future crises (Sturges, 1994). Public trust in advisors, shaped by organizational reputation and the quality of stakeholder relationships, plays a critical role in driving compliance with health-protective behaviors (Cairns et al., 2013). Indeed, positive organizational information, particularly for public organizations that engage with a diverse array of economic, political, and social stakeholders is vital for building and maintaining trust in public organizations (Bustos, 2021).

Due to the growing portion of Scandinavians relying on online platforms for outbreak information (Madraki et al., 2020), crisis communication has increasingly required interactive and iterative approaches, with social media users demanding rapid, continuous messaging and active public engagement (Cheng et al., 2022). With this in mind, we add a fourth objective – *Objective to Solicit Interaction* – which involves attempting to engage users in the interactive features offered by social media platforms (Landi et al., 2022).

Previous findings of instructive crisis messages by Han and Baird (2022) found that U.S. governors’ informational, instructional, and compassionate social media messages about COVID-19 consistently boosted citizen engagement with government information online and increased offline compliance with orders and advisories. Indeed, governments worldwide used instructions to curb the spread of the virus, advising citizens on physical distancing, handwashing, wearing face masks, conducting extensive testing, and vaccination (Al-Hasan et al., 2020; Cascini et al., 2022). Bo (2013) further argues that governments must communicate promptly and swiftly to address citizens’ information needs.

Supportive messages, as shown by Pfattheicher et al. (2020), with a foundation of pro-social emotional processes, are stronger citizen motivators for adhering to physical distancing and mask-wearing over merely providing information about pandemic measures’ importance. Given that pandemics can have psychological and emotional effects (Liu & Ni, 2022), people often turn to social media for social support and to express their emotions (Meadows et al., 2019), further emphasizing the importance of expressing support and community-building on these platforms to alleviate emotional and psychological strain.

For reputational management, observations from Varela Castro et al. (2023) show the Mexican Health Secretariat, responding to the COVID-19 pandemic, operating with reputational defenses across performative, technical, moral, and legal-procedural domains as an essential part of the crisis management. Moreover, a study by Triantafyllidou and Yannas (2020) on the utilization of Facebook, Twitter, and Instagram for image restoration and post-crisis reputation evaluations found that Twitter is, comparably, an

effective platform in restoring a company's post-crisis reputation, both for triggering positive social media engagement and enhancing offline behavioral intentions of users.

Research on citizen engagement with government social media accounts during crises has revealed that many government actors still view social media primarily as a supplementary platform for information dissemination rather than a tool for fostering citizen engagement (Chen et al., 2020; Neely & Collins, 2018). While government agencies frequently utilize their social media accounts to share updates and guidelines, few employ strategies that actively encourage collaboration and engagement with citizens. For Scandinavian PHAs, Hasselström and Larsson (2024) found little to no evidence of prioritizing soliciting interaction on their main social media channels during the pandemic. Consequently, interactive communication from government sources often remains superficial, characterized by rare comments and similarly restricted dialogue (Tang et al., 2015).

Although PHAs and similar entities may initially be hesitant to engage interactively on social media, research suggests positive outcomes for organizations that embrace platforms for two-way dialogue with citizens. Such engagement facilitates mutual learning processes and prompts both parties to reassess their expectations (Bellucci & Manetti, 2017). It also encourages citizen involvement in public decision-making processes (Manetti et al., 2017; Rowe & Frewer, 2005), allowing citizens to voice their opinions on societal issues. While engaging users on the social media accounts of entities like PHAs may pose challenges (e.g., Larsson, 2013), we nevertheless expect posts that explicitly ask for interaction to receive more engagement (e.g., Larsson, 2021). Our first hypothesis is formulated accordingly.

H1: Posts soliciting interaction yielded more engagement than posts that did not.

Crisis communication on platforms

Effective crisis communication relies on how recipients receive and perceive information (Sellnow et al., 2023). This requires interaction between subject matter experts, such as PHAs, and various audiences in meaningful dialogue about reducing potential threats to life, health, and safety. Crisis communication should therefore be viewed as an interactive process where information and opinions are exchanged among individuals, groups, and institutions (Sellnow et al., 2023). Social media platforms like Facebook, Instagram, and Twitter function as vital facilitators of such interaction between PHAs and the public – while simultaneously enabling data collection and analysis by tracking public responses through supposedly unobtrusive observation. Measuring what types of content resonate with the public by gauging what content reaches comparably higher levels of user engagement – such as likes – allows us to assess what ‘works’ on each platform – insights that should be useful for the future planning of communication work (Jost, 2023). Of course, different platforms have different characteristics, affordances (Mosca & Quaranta, 2021), or ‘platform vernaculars’ (Gibbs et al., 2015) and attract different audiences, making it necessary for those aiming to spread their messages on various platforms to adapt their content accordingly (e.g., Bene et al., 2022).

Looking at Scandinavian audiences, platform preferences differed widely during the pandemic. In Sweden, Instagram led with 60% of daily users, followed by Facebook

(54%) and Twitter (12%) (Ohlsson, 2023). In Norway, Facebook dominated with 69%, ahead of Instagram (45%) and Twitter (8%) (Ipsos, 2023). Denmark featured 84% active users on Facebook, 56% on Instagram, and 13% on Twitter (Danmarks Statistik, 2023). Although Twitter had a smaller user base, it remained an important platform for news dissemination and political discussion, particularly as newsrooms engaged in reciprocal exchanges with the audiences, and broadcasters engaged in branding efforts (Russell et al., 2023). The use of Twitter in political and broader societal debates has resulted in a view of a stomping ground for ‘Twitterati’ (Bruns & Burgess, 2011; Larsson, 2020), i.e., a platform ‘mostly confined to elites’ (Schroeder, 2018, p. 9) to discuss and debate current affairs. Thus, it is still arguably an important platform on which societal actors such as PHAs attempt to interact with and possibly influence other such actors (e.g., Margolin, 2019). Indeed, findings from Hasselström and Larsson (2024) show that despite the larger audiences of Facebook and Instagram, Twitter was the most utilized platform by PHAs to communicate about COVID-19 in Sweden and Norway and the second most utilized platform in Denmark, which they suggest is due to a prioritization of disseminating information to the specific influential demographic of Twitter. However, given the lower user penetration of Twitter compared to Facebook and Instagram, it is reasonable to assume that:

H2: Posts to Twitter saw less engagement than posts to Facebook and Instagram.

Scandinavian public engagement

A characteristic of Scandinavian citizens is their high institutional trust, which served as a critical foundation for the rapid implementation of crisis mitigation measures and for securing public support against the coronavirus (Shah & Wei, 2022; Winters et al., 2022). Given the citizens’ limited prior knowledge concerning COVID-19, individuals needed to acquire evidence-based information from credible sources, such as national public health organizations (Shah & Wei, 2022). However, effective crisis communication involves more than merely building trust; it requires tailored messages that inform, support, and manage reputation. Thus, it follows that the differences in pandemic responses, as outlined by Lindholm et al. (2023) and Hasselström and Larsson (2024) between Sweden, Norway, and Denmark may lead to varying message preferences, which could, in turn, result in different levels of audience engagement.

The Swedish government’s COVID-19 pandemic response aimed to ‘flatten the curve’ by encouraging individuals to adhere to mitigation plans voluntarily and prioritizing individual responsibility over mandated restrictions. Decisions were based on public trust in the government and scientific research along with citizens’ sense of responsibility, which persisted despite criticism from the international community (Johansson & Vigsø, 2021; Winters et al., 2022). Denmark adopted a strategy akin to ‘hammer and dance,’ based on an initial hard lockdown followed by an outbreak control strategy driven by rapid governmental intervention (Mens et al., 2021). Similarly, Norway announced lockdown measures, as political leaders and health authorities called for collective responsibility (Shapiro et al., 2023).

Research by Lindholm et al. (2023) and Hasselström and Larsson (2024) suggest that Norwegian PHAs prioritized reputational management more than their Scandinavian

counterparts on social media. These findings could relate to the generally positive perception of the Norwegian state and its role in safeguarding individual autonomy, with a robust public belief in the state's capacity to solve societal issues (Bendixsen et al., 2018; Vike, 2018). Voluntary participation is integral to the country's welfare state, reflecting a cultural ethos of contributing to the common good as aligning with individual interests. The concept of 'dugnad' exemplifies this moral framework, where collective action for the greater good is seen as personally beneficial. During crises, such as the COVID-19 outbreak, the notion of 'dugnad' mobilizes a sense of responsibility among Norwegians, who are accustomed to actively engaging in their local communities (Nilsen & Skarpenes, 2022). This cultural norm subtly shifts the burden of finding solutions away from politicians or leaders onto individual citizens or groups (Myhre, 2020), and due to the expectation of the public to participate in crisis mitigation efforts voluntarily, we hypothesize that:

H3: Overall, the Norwegian public will engage more with all types of PHAs messages than the Danish and Swedish public.

Engagement during a protracted crisis

The COVID-19 pandemic is understood here as a prolonged crisis with significant medical, economic, psychological, and social consequences (Hassan et al., 2021). Given that the crisis communication spanned the entire duration of the pandemic — approximately three years (2020–2023) — we adopt our methodological approach – described in the subsequent section – to deal with over-time engagement developments across platforms and countries.

The extended duration of the pandemic led to the emergence of a phenomenon known as 'pandemic fatigue', a condition characterized by a mix of demotivation, weariness, and psychological effects that develop gradually, either after infection or from following recommended preventive measures (Torales et al., 2023). Pandemic fatigue denotes the transition from a supposed initial enthusiasm to combat the crisis to a state of exhaustion (Hassan et al., 2021), signifying a decline in motivation to adhere to protective behaviors. The prevalence of pandemic fatigue among multiple national populations in response to COVID-19 has been linked to several factors, including fear of COVID-19, exhaustion from complying with mitigation strategies, fluctuating perceived infection risk, pandemic-related hardships, public complacency, infection-related anxiety, and heavy reliance on social media for pandemic information (Rashid et al., 2023; Torales et al., 2023). Thus, we hypothesize that:

H4: Engagement decreased as the pandemic progressed.

Next, we describe our processes for data collection and data analysis.

Methodology

Data collection

Table 2 provides an overview of the Scandinavian PHA social media accounts included in the study at hand. We detail the activity undertaken by seven Scandinavian PHAs with

Table 2. Overview of collected data.

Country	Public health authority (native language name)	Facebook posts N (% of the total from authority)	Instagram posts N (% of the total from authority)	Tweets N (% of the total from authority)	N (%) of the total social media from authority
DK	Danish Medicines Agency (Lægemiddelstyrelsen)	252 (45,8%)	0 (0%)	298 (54,2%)	550 (100)
	Danish Health Authority (Sundhedsstyrelsen)	499 (54%)	72 (7,8%)	354 (38,3%)	925 (100)
NO	Norwegian Institute of Public Health (Folkhelseinstituttet)	169 (21%)	119 (14,8%)	515 (64,1%)	803 (100)
	Norwegian Directorate of Health (Helsedirektoratet)	263 (64,5%)	79 (19,4%)	66 (16,2%)	408 (100)
SE	Public Health Agency of Sweden (Folkhälsomyndigheten)	198 (27,4%)	0 (0%)	526 (72,7%)	724 (100)
	National Board of Health and Welfare (Socialstyrelsen)	276 (46%)	191 (31,9%)	132 (22%)	599 (100)
	The Civil Contingency Agency (Myndigheten för Samhällsskydd och Beredskap)	175 (31,3%)	189 (33,8%)	196 (35%)	560 (100)

public health crisis communication responsibilities between February 1, 2020, and February 1, 2022. This time period was selected as it included the most prominent stages of the COVID-19 crisis in Scandinavia (G.S.S.O., N. G. S., & S. O, 2023).

The studied PHAs were selected based on previous research on communication strategies of government actors and health authorities (Almlund et al., 2023; Hasselström & Larsson, 2024; Ihlen et al., 2022a; Lindholm et al., 2023). Using the now defunct Crowd-Tangle and Twitter Academic API services, a total of 4569 posts were collected from the identified accounts on Twitter (2087 tweets), Facebook (1832 posts), and Instagram (650 posts). Table 2 presents a basic overview of these posts. Interestingly, the table also shows that while they did have Instagram accounts, the Danish Medicines Agency and the Public Health Agency of Sweden did not use this platform during our studied time period.

Data analysis

Analysis was undertaken utilizing a quantitative content analysis where we coded for the presence (coded as 1) or absence (coded as 0) of specific types of content.

We included four dummy variables concerning each of the four communication objectives discussed previously. Thus, *Objective to Instruct*, *Objective to Support*, *Objective to Manage Reputation*, and *Objective to Solicit Interaction* were used as dichotomous variables detailing the use or non-use of these objectives. Each post could be classified as containing multiple themes.

In total, our studied period yielded 4569 social media posts across all three countries and platforms. Coding was undertaken taking both textual and visual (images, video clips) content into account. The first author coded all posts using the variables described above. To assess the reliability of the content analysis, the second author re-coded a random 10% sample of the full data set which we then used Krippendorff's α to gauge

intercoder reliability. Krippendorff's α for these five variables was gauged at values of .8 and upwards. Following established guidelines for the interpretation of α (e.g., Lombard et al., 2002; Riffe et al., 2019), we conclude that our quantitative content analysis is reliable.

Beyond the variables coded for as described above, our analysis also included other variables necessary to investigate our hypothesis. Specifically, we included dummy variables based on what platform each analyzed post emanated from (per H1), as well as a variable counting the number of days that had passed since the first date in our data set – February 1, 2022 (per H4).

Regarding engagement, we choose to conceptualize the like functionality – common to all three studied platforms at the time of data collection – as our dependent variable. Indeed, as the like is often considered a 'low-cost engagement activity' (Doroshenko & Tu, 2023, p. 288) or a 'low effort form of engagement' (Koc-Michalska et al., 2021, p. 10), for our comparative purposes we consider it functionally equivalent (e.g., Heft et al., 2024) across our studied platforms. With this in mind, using likes as our dependent variable and as an indicator of audience attention will allow us to detail the supposedly easiest and most commonly used form of social media engagement.

As the like variable approximately followed a count data distribution for each platform, we followed the example of similar previous research efforts and investigated the effects of our independent variables on our dependent variable using a negative binomial regression model (as suggested by Jacobs et al., 2020; Koc-Michalska et al., 2021; Trilling et al., 2017). Again, following previous similar research scholarship (e.g., Hilbe, 2011; Klinger & Koc-Michalska, 2022), we assess the influence of our independent variables by presenting corresponding incidence rate ratios (IRR). Essentially, IRR values over 1 indicate a positive effect on the dependent variable, while values under 1 suggest a negative effect. For example, given the binary nature of our independent variables, an IRR of 1.3 suggests an increase in the dependent variable of 30%. In comparison, an IRR of 0.9 indicates a 10% decrease in the dependent variable (as described by de León et al., 2021).

Results

Our first hypothesis suggested that posts soliciting interaction would yield more engagement than posts that did not. Focusing on the three last independent variables visible in Figure 1, we can see that while such solicitation did not yield significant results for Sweden (IRR = 0.96) or Denmark (IRR = 0.98), Norway stands out with a significant and positive result (IRR = 1.13***). While we note an interesting diverging tendency for this latter case in comparison to the previous two, the mixed results lead us to reject the hypothesis.

In our second hypothesis, we expected that Twitter posts would receive less engagement compared to posts on Facebook and Instagram. Using Facebook as our baseline category, the IRRs reported for Instagram (IRR = 0.27***) and Twitter (IRR = 0.89***) variables suggest that across all three studied countries, these platforms both gain less engagement than Facebook. However, as these results further suggest the negative effect for Instagram to be higher than the effect for Twitter, we must reject our second hypothesis.

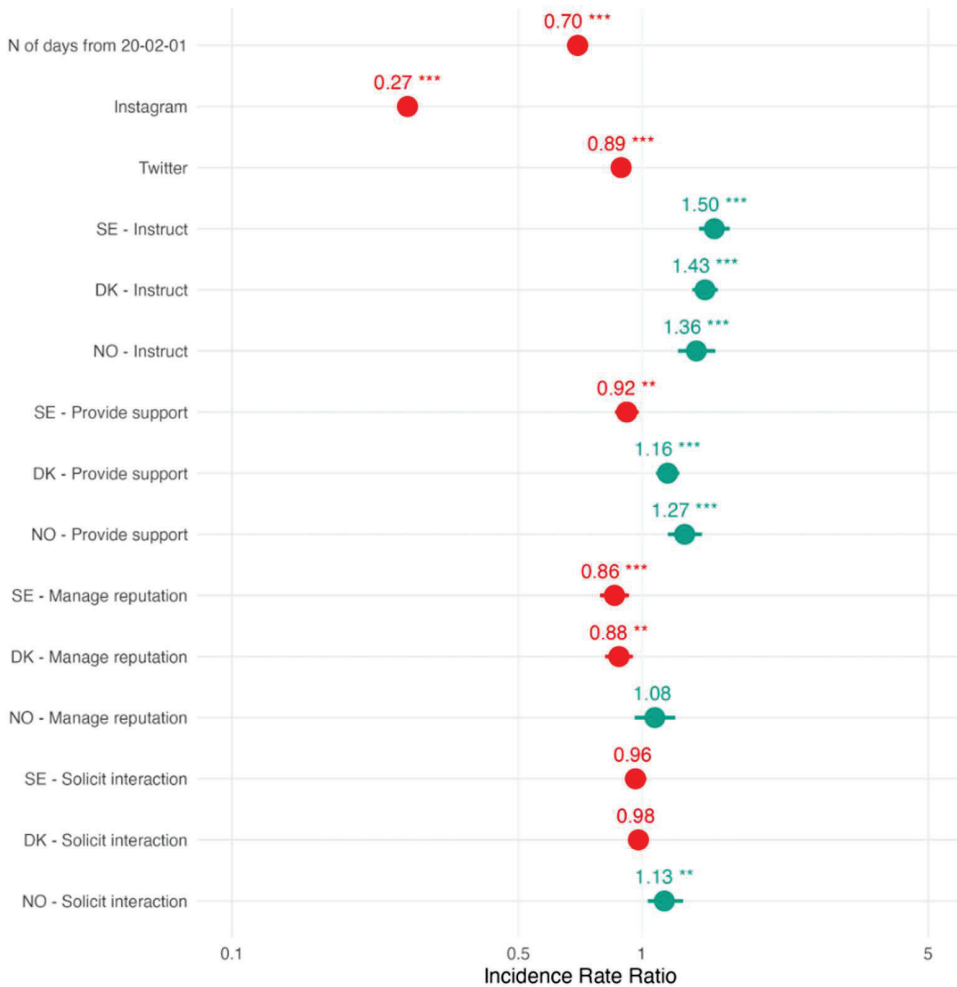


Figure 1. Negative binomial regression predicting likes for PHA Facebook posts across all three studied countries. $*p < .05$, $**p < .01$, $***p < .001$, McFadden Pseudo $R^2 = .071$, AIC = 52288.18, BIC = 52397.44.

The third hypothesis suggested that overall, the Norwegian public would engage more with all types of PHAs messages than the Danish and Swedish publics. The variables detailing the interaction effects of country coupled with the different objectives coded for seem to support this expectation. Granted, for the *Instruct* objective, Sweden comes out on top (IRR = 1.50***), followed by Denmark (IRR = 1.43***), and finally Norway (IRR = 1.36***) – a set of results that disproves the hypothesis. The remaining combinations of country and objective do, however, tell a somewhat different story. Indeed, the *Provide support* variables emerge as negative and significant in the Swedish case (IRR = 0.92*), while they prove to be positive and significant for Denmark (IRR = 1.16***) as well as for Norway (IRR = 1.27***), with the latter country-objective combination reporting the highest IRR. For the *Manage reputation* variables, negative and significant results emerge for Sweden (IRR = 0.86***) as well as for Denmark (IRR = 0.88***), while the

findings reported in [Figure 1](#) show a positive, yet non-significant result for Norway (IRR = 1.08) in this regard. Finally, for these variables, and as discussed concerning our first hypothesis as discussed previously, the combination of soliciting interaction and country only emerges with a positive and significant IRR for Norway. In sum, we argue that the combination of Norway being on top (albeit non-significantly so in one case) across three out of four communication objectives lends support to our third hypothesis.

Finally, our fourth hypothesis suggested that engagement would decrease as the pandemic progressed. To test this, we included a variable counting the number of days since the first date in our data, 20-02-01. The variable, visible at the top of [Figure 1](#), is seen yielding a significant, negative result (IRR = 0.70***). This suggests a decrease in engagement as time and indeed the pandemic progressed and as such, we can confirm our final hypothesis.

Conclusion and discussion

This study examined the drivers of engagement – defined as likes – in relation to the social media content shared by Scandinavian PHAs during the COVID-19 pandemic, focusing on how different types of messages resonated with audiences (e.g., [Hasselström & Larsson, 2024](#); [Ihlen et al., 2022b](#); [Sellnow et al., 2023](#); [Sturges, 1994](#)). Specifically, starting from a stakeholder-centric approach, we measured the impact of crisis communication objectives—namely instructing, supporting, managing reputation, and soliciting interaction—on online engagement during the pandemic. In line with findings by [Sturges \(1994\)](#), [Sellnow et al. \(2023\)](#), [Al-Hasan et al. \(2020\)](#), [Cascini et al. \(2022\)](#), [Liu and Ni \(2022\)](#), [Pfattheicher et al. \(2020\)](#), and [Han and Baird \(2022\)](#), our results indicate that instructional messages achieved significantly higher levels of public engagement, thus further highlighting the critical importance of providing clear instructions during a crisis and helping stakeholders protect themselves in chaotic situations ([Sellnow et al., 2017](#); [Sturges, 1994](#)). Additionally, while [Sturges \(1994\)](#) emphasized the importance of reputational management, our results indicate that on social media, such messages are less favored by audiences as measured by engagement metrics. When contrasting engagement with supportive messages, our findings show that Norwegian and Danish audiences did indeed show a preference for such messages, while the Swedish audience did not, suggesting cultural differences in preference between these otherwise very similar countries. Therefore, we argue that PHAs may benefit from prioritizing pedagogical instructive strategies in their crisis communication efforts on social media with adjustments based on the nations' sociocultural preferences.

From a cross-platform standpoint, our findings show that despite Instagram's popularity, Instagram resulted in less engagement compared to Facebook and Twitter. Thus, the latter of these platforms would appear to have still played an important role during the pandemic concerning societal debate and engagement – at least as defined here. As Instagram is often pointed to as a particularly important channel through which to reach comparably younger citizens, the results presented here suggest that stakeholders have some way to go when it comes to securing engagement from the users of this platform.

Contrary to [Bellucci and Manetti \(2017\)](#), [Manetti et al. \(2017\)](#), and [Rowe and Frewer \(2005\)](#), who suggested that posts encouraging interaction will receive more engagement compared to posts that do not, our findings showed that efforts to encourage interactions

largely did not result in high levels of likes, indicating that the Scandinavian public did not respond well to prompts to interact or to otherwise discuss the subject. The only significant, positive result in this regard was found in Norway – a finding that might relate to the aforementioned ‘dugnad’ cultural peculiarity found primarily in Norwegian society. Based on these findings, PHAs should prioritize message content over seeking interaction to enhance public engagement.

This Norwegian positivity seemingly manifested itself across our included communication objectives. As shown in [Figure 1](#), our study demonstrated that Norwegian PHAs elicited positive engagement across all communication objectives (albeit not all significant), unlike Sweden and Denmark which illustrated varying results. The overall positive result from Norway – taken together with the suggestions made previously – can be attributed to various factors, including the cultural context of Norway with high levels of institutional trust and positive perceptions of the state’s ability to address societal challenges. With Norwegians operating on a cultural ethos of contributing to the common good (Bendixsen et al., 2018; Nilsen & Skarpenes, 2022; Vike, 2018), our findings may reflect the apparent predisposition of Norwegians to actively participate in their local communities (Nilsen & Skarpenes, 2022) – reflected here as comparably more engagement to PHAs social media messages.

When accounting for time, our findings revealed a decrease in public engagement over time, consistent with the phenomenon of pandemic fatigue. Such a shift is characterized by an initial enthusiasm for addressing the crisis, followed by exhaustion (Hassan et al., 2021). This decline suggests a waning interest among the Scandinavian public in pandemic-related information from PHAs and emphasizes the significance of time in generating public engagement, reflecting similar findings of a decline in engagement with government content (e.g., Rashid et al., 2023; Torales et al., 2023). As evident from these findings, keeping immediacy to the situation in mind becomes imperative, as public engagement appears to depend on temporal relevance, aligning with suggestions from Sellnow et al. (2023).

In sum, our results suggest that Facebook posts were more engaged with than posts provided to Instagram or Twitter by the studied PHAs. This finding enhances our understanding of how different platforms influence engagement, especially in crises. Our study further emphasizes the impact of sociocultural factors on public involvement, particularly in Norway, where a sense of community, often referred to as the ‘dugnad’ mentality, plays a significant role. Further, it reveals how public interest evolves during long-term emergencies and lays the groundwork for further research into sustaining engagement. This contribution is important as it highlights the need to analyze engagement throughout crises as these insights can assist public health authorities in allocating resources more effectively to maximize reach and engagement, by prioritizing Facebook for reaching broader audiences in Scandinavia and using Instagram and Twitter selectively based on specific engagement trends in each country.

Limitations and future research

This study examines the correlational aspects of public engagement, specifically in the form of likes. However, the implications of these engagement trends on public response remain somewhat ambiguous. The true meaning behind a ‘like’ cannot be ascertained

within the scope of this study (e.g., Scharlach & Hallinan, 2023). Therefore, we suggest that future research incorporate more qualitative analysis or sentiment analysis of the public comments or discourse, to estimate public engagement with PHAs crisis communication objectives. Additionally, given the sociotechnical differences between Twitter, Facebook, and Instagram, this study uses likes as a consistent engagement metric, as it was the only metric directly comparable across all three platforms at the time of writing. Comments and shares were excluded due to their varied functionalities and usage patterns on each platform. Relatedly, data regarding the number of followers of the studied accounts were not available at the time that this study was conducted – hopefully, data accessibility will become more liberal so that future studies will be able to include such information to more precisely gauge these influences.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Appendix C – Publication III

Publication 3: Public Leadership during Prolonged Crises: Multisectoral and Community-Centric Approach.

Paper is accepted as a book chapter in Research Handbook on the Management of Risk and Crisis Communication.

Title: Public Leadership during Prolonged Crises: Multisectoral and Community-Centric Approach

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Abstract

This chapter presents lessons learned from public health and crisis communication experts in Norway and Sweden during the COVID-19 pandemic, focusing on multisectoral and community-centric crisis communication strategies. Through expert interviews with practitioners and scholars in crisis and health communication, this study offers insights into the communication and leadership strategies used during COVID-19, along with recommendations for communicative leadership in future pandemics.

Lessons from Norway and Sweden demonstrate that effective pandemic communication depends on interagency collaboration, political legitimacy, openness, consideration of stakeholder worldviews, and tailored communication distribution networks.

Establishing public crisis communication leadership involves coordinating and collaborating across sectors, institutions, and actors, while interacting with diverse sets of external stakeholders, either directly or through intermediaries, to enhance community resilience during extended crises such as COVID-19. This process involves creating clear messages that consider internalization, explanation, and actionable guidance, while promoting compliance through ongoing relationship-building and legitimizing processes.

Keywords

Public Leadership, Multisector, Community Engagement, Public Health Crisis.

Public Leadership during Prolonged Crises: Multisectoral and Community-Centric Approach

During a public health crisis like the COVID-19 pandemic, Public Health Authorities (PHAs)—including government officials, healthcare professionals, crisis-related agencies, etc.—serve as the visible face of crisis leadership (Wodak, 2021). During such crises, their responsibilities should go beyond sharing health information to include risk assessment, cross-sector coordination, and aligning political and scientific priorities (Löffelholz & Xu, 2025). As key actors in sustaining community resilience, PHAs are responsible for both interpreting rapidly changing situations and anticipating future developments, while engaging in flexible decision-making and resource allocation of both tangible (e.g., financial and technological assets), and intangible (e.g., social capital) assets (Eaddy et al., 2022; Teo et al., 2017). However, the COVID-19 pandemic revealed several shortcomings in PHAs' communicative leadership, which led to a global death toll in the millions (Liu & Baur, 2025).

Two countries with relatively strong pandemic outcomes were Norway and Sweden, both characterized by maintained high institutional trust and relatively low excess mortality (Abdelzadeh & Sedelius, 2024; Christensen & Læg Reid, 2023; Forthun et al., 2024). Noteworthy though, is that despite these favorable conditions, minority and migrant communities faced disproportionate health and social barriers, revealing persistent gaps in risk communication and community engagement in both countries (Bredström & Mulinari, 2023; Gele et al., 2022).

Recognizing the central role PHAs play in encouraging public compliance during health crises (Badu et al., 2023; Jørgensen et al., 2021), this chapter examines how Norwegian and Swedish PHAs performed their communicative leadership during COVID-19, aiming to provide lessons learned for future pandemic management.

Drawing on semi-structured interviews with subject-matter experts, the analysis identified five interrelated practices of effective crisis leadership: (1) practicing interagency collaboration, (2) performing political legitimacy, (3) embracing openness, (4) considering stakeholder worldviews, and (5) tailoring communication distribution. Together, these practices illustrate how communicative leadership contributes to affective, cognitive, and behavioral change, as well as institutional legitimacy and public trust during prolonged crises.

Scandinavian Public Health Leadership during COVID-19

Norway and Sweden share similar high-choice media environments, language, history, and values (Bendixsen et al., 2018). Both nations feature robust welfare systems and meritocratic bureaucracies (Sandberg, 2023), and their political cultures are characterized by low power distance and a focus on consensus-oriented governance (Johansson et al., 2023).

However, the Swedish constitution limits ministers' direct intervention in administrative decisions, resulting in Sweden operating primarily on non-binding recommendations during COVID-19 (Wenander, 2021), while Norway affords ministers greater oversight of their ministries and public authorities, giving them more legal authority to enforce binding restrictions and direct responses (Sandberg, 2023), which led to stricter public health measures during the pandemic compared to Sweden.

Despite differences in their mitigation strategies, both Norway and Sweden experienced relatively low excess mortality rates (Forthun et al., 2024), achieved high vaccination rates (Adawy, 2023), and Norwegian citizens retained high public trust in healthcare professionals (Skirbekk et al., 2023). Meanwhile Swedish citizens expressed great satisfaction with public health communication, even though overall satisfaction with the government declined as the excess mortality rates surpassed the Nordic average (Abdelzadeh & Sedelius, 2024). This trust and satisfaction illustrate that PHAs can, and do, significantly impact outbreak outcomes and community resilience.

Literature Review

Instructive Crisis Communication

A prolonged crisis, such as the COVID-19 pandemic, is characterized by its durability or persistence; emergence across multiple geographic locations; contributing or triggering factor for multiple event crises; corresponding infodemics; crisis fatigue; changes in attitudes, policies, strategic alliances, and social or work-related practices and institutions; and occasional scapegoating (Diers-Lawson & Omondi, 2024). These overlapping complexities require ongoing and updated communication practices to encourage adherence to changing risk and crisis recommendations (Sellnow et al., 2015).

As such, PHAs must provide informative, tailored, and prosocial messaging (Bartolucci et al., 2023; Pfattheicher et al., 2020) and translate complex scientific information into guidance that is clear and actionable (Reed et al., 2018). To achieve this, the IDEA model (Sellnow et al., 2023) provides a practical framework that focuses on four essential elements:

- (I) Internalization: the degree to which the message is personally relevant to the audience.
- (D) Distribution: ensuring a broad, multi-platform reach.
- (E) Explanation: maintaining the accuracy and credibility of the content.
- (A) Action: offering crisis guidance and promoting compliance.

These components create a structured approach to effectively engage various audiences during prolonged crises, such as COVID-19, ensuring that messaging resonates and encourages adherence, even in times of great uncertainty, as measured via affective (perceived value), cognitive (understanding), and behavioral (action) change (Sellnow et al., 2015)

Legitimate Public Leadership

Communicative leadership in public health crises occurs within political, institutional, and social landscapes, which adds additional complexity to PHAs' leadership capabilities (Liu et al., 2022; Ndlela, 2019). PHAs, who often take on a bureaucratic-scientific ethos—a style of communication grounded in professional competence, procedural transparency, and evidence-based guidance—during crises like COVID-19, are required to provide additional defense of their competence and advice to sustain public trust and institutional credibility (Ihlen & Vranic, 2024). This form of defense includes promotion of trust and perceived expertise (Badu et al., 2023; Diers-Lawson, 2019), as well as transparency, honesty, and consistent cross-agency messaging to demonstrate accountability and ethical stewardship (Schmidt & Wood, 2019).

While earlier studies often frame such practices as strategically crafted reputational management (e.g., Hasselström & Larsson, 2024), for public institutions, these are rather performances that improve or maintain legitimacy in the form of competence, accountability, and adherence to shared societal norms (Jann, 2016; Suchman, 1995).

Legitimacy is not static and can change as a crisis evolves. It is inherently tied to three mutually reinforcing dimensions: (1) input legitimacy, the responsiveness of authorities to citizens; (2) throughput legitimacy, the quality of governance processes in terms of transparency, effectiveness, accountability, and inclusiveness; and (3) output legitimacy, the effectiveness of policy outcomes (Christensen et al., 2018). During prolonged crises, PHAs must engage with all three, while keeping the public updated via crisis instructions.

Expert Insights on Communicative Leadership

Recognizing the need for PHAs to engage in instructive communication and establish legitimate crisis leadership, this study offers expert insights into the health and crisis communication practices, as well as the leadership qualities, of PHAs in Norway and Sweden during COVID-19, based on the following research questions:

RQ1: What lessons do experts draw from the similarities and differences in Norway's and Sweden's approaches to communicative crisis leadership?

RQ2: How do these lessons learned inform best practices for communicative crisis leadership?

Method

This study gathers insights from subject matter experts in Norway and Sweden through qualitative interviews. This method was selected not for its breadth, but for the depth of insight it provides into expert interpretation of complex policy and communication challenges (Goldstein, 2002; Tansey, 2009).

Expert interviews have been shown to reveal subtleties that other methods may overlook (Döringer, 2021). Following principles of expert sampling, this study sought a small, information-rich group of participants whose experience and insight could illuminate conceptual and strategic issues, rather than generate statistical generalizations (Berg et al., 2022; Guest et al., 2006; Pheng & Hou, 2019).

Building on previous research that has employed expert or knowledge-based interviews (Johansen, 2017; Linke & Zerfass, 2011; Schlichting, 2014), as well as recognized expertise in Norway and Sweden (Hasselström & Larsson, 2024, 2025), eight individuals were invited to participate, and five accepted. The final selection included three senior public health officials (internal experts) and two academic researchers (external experts) (e.g., von Soest, 2022), with experience in policy development and crisis communication. All participants provided informed consent in accordance with institutional ethical guidelines.

The interviews were semi-structured and lasted approximately 45 minutes. Three interviews were conducted virtually via Teams, and two were conducted on-site at the interviewees' workplaces. Discussions focused on communication planning and development, stakeholder engagement, channel strategies, and reflections on the post-pandemic communication

landscape. Interviews were recorded, transcribed via Nettskjema (a data collection tool), and anonymized prior to analysis.

Thematic analysis was applied to the transcriptions, following Naeem et al.'s (2023) six-step iterative framework. Initial readings identified patterns and notable passages, followed by NVivo-assisted coding to examine frequently used terms, recurrent challenges, and conceptual overlaps. Codes were then refined into concise analytic units, grouped into broader thematic categories, and compared against dimensions of instructional communication and leadership legitimacy. The final stage synthesized these themes into a conceptual framework capturing expert reflections from Norwegian and Swedish pandemic communication. This approach allowed for an in-depth examination of how experts interpreted communicative leadership during COVID-19.

Findings

Drawing on insights from both internal experts (practitioners) and external experts (researchers), multisectoral crisis leadership and relationship-building with diverse audiences emerged as key.

Multisectoral Crisis Leadership

Expert opinions indicate that communicative leadership during COVID-19 in Norway and Sweden was significantly influenced by multisectoral crisis leadership, which was based on practices and performances of interagency collaboration and political legitimacy.

Practicing Interagency Collaboration

In terms of interagency coordination and collaboration, for the Swedish PHAs, such coordination was primarily done between the Public Health Agency, the Civil Contingencies Agency, and the National Board of Health and Welfare, often through joint press conferences. While the idea of these press conferences allowed the PHAs an appearance of cohesion and cooperation, in practice, the experts noted several shortcomings with these practices.

First, press conferences excluded participation from other local health and education authorities, who were required to participate in enacting policy and public health recommendations at the local level. As a result, many sectors and institutions received information at the same time and in the same manner as the public, leaving them without time to plan their own communication practices, and thus hindering their ability to respond promptly to their stakeholders.

Secondly, this strategy lacked clear mandates, resulting in rivalry among sectors, institutions, and actors, which left each institution uncertain about its decision-making powers. Furthermore, because there were no effective crisis and pandemic rehearsals before the COVID-19 pandemic, health actors and communication actors had differing views on what communication strategies should be adopted, leading to further difficulty in cross-sector collaborations.

The shortcomings in Sweden were explained by outdated pandemic communication plans and a lack of pandemic rehearsals. As one expert stressed, practicing pandemic scenarios can improve crisis outcomes and outline which tasks each PHA is responsible for, in addition to

resource allocation, *"And then also keep track of; where can I get resources, [...], how can I redirect the department the resources I have, which ones can I let go,... To have a much better preparation"* (IN01). Furthermore, one expert underscored the need for practicing communication strategies: *"Communicators need to educate themselves and not just shoot from the hip thinking it's a bit of PR. They should dive deep to understand all dimensions. Practice. Practice writing plans, drafting ready-made messages, and going through this work to address previous questions"* (IN05).

Experts from Norway noted that during the Swine flu epidemic, failures in communicative leadership led to significant shortcomings in vaccination communication. As a result, there was a strong desire for inclusivity during the COVID-19 pandemic. This desire, combined with clear hierarchies between PHAs and government officials, contributed to the development of more adaptive and dialogic interagency networks based on flexible communication mechanisms and real-time feedback channels. These structures enabled PHAs to align their messaging with that of political actors while remaining responsive to emerging concerns, demonstrating that pre-crisis learning and institutionalized dialogue can strengthen coordination capacity.

Performing Political Legitimacy

As PHAs in both Norway and Sweden were responsible for informing about, and enacting, pandemic policies and recommendations, experts noted that these implementations functioned as a form of governance performance and policy justification: *"They had to communicate a message about the risk associated with the pandemic, but also to justify their actions on why they were closing societies, why they were closing schools, why they were closing universities."* (IN03).

These governance performances functioned as defense for why decisions were made, which in turn became justification for the leadership legitimacy of the decision-makers. As one expert noted, measures such as lockdowns or vaccination campaigns functioned as communicative acts: *"Well, what you do is what communicates. That they shut down, for example, France. Money is added. It is also a communicative act. You put a syringe in people's arms. That's communication"* (IN05). As such, pandemic messaging carried inherent political weight, requiring both policy justification and symbolic governance.

Foundational to these performances were long-term leadership performances, as trust and authenticity emerged as crucial factors in how the public perceived such performances. As one interviewee reflected, *"Authorities can also try to remain authentic communicators. People can be trusted before the crisis, so that when the crisis comes in, they are in a better position to be listened to"* (IN03). Such authenticity should be cultivated before a crisis, sustained throughout it, and reinforced through communicative acts and sensemaking processes. To maintain authenticity, responsible institutions should coordinate their messaging to prevent competition and fragmentation that could confuse the public and demonstrate accountability.

Relationship-Building with Diverse Audiences

To reach the heterogeneous populations of Norway and Sweden, the experts argued against a one-size-fits-all approach. Instead, they argued for embracing openness, considering

stakeholder worldviews, and tailoring communication distribution networks to align with the expectations and needs.

Embracing Openness

According to the experts, in both Norway and Sweden, the term openness emerged as essential, which they explained encapsulated transparency and inclusion.

In Sweden, the principle of openness was mentioned as a necessary consideration, but in practice, it was compromised by overly technical communication practices and limited collaboration, particularly inadequate collaboration between health experts and communication experts. Furthermore, as PHAs attempted to provide assurance, they simultaneously operated on limited and evolving information: *"It was hard to know what would happen tomorrow... You had to both reassure and inform—based on very little"* (IN01). This attempt to appear in control resulted in filtered information that took precedence over openness in many cases.

Norway, in contrast, implemented openness as a fundamental strategy: *"It was about managing trust within the population in a proper way, taking people seriously, and trusting that you can be open even when you are unsure"* (IN02). Decision-making processes allowed for internal dissent, creating an environment where minority viewpoints could still be publicly expressed. One expert noted, *"We land on [the recommendation], and then the person representing the minority should still be allowed to present his or her views"* (IN04). Authorities intentionally included dissenting expert opinions in public discussions, resulting in situations where *"two people from the Norwegian Institute of Public Health stood and argued for different views"* (IN04).

Rather than seeing such openness as a weakness, Norwegian communicators embraced it as a tool for building trust: *"Trust was one of the key elements in trying to communicate this uncertainty which we had throughout the period"* (IN03). As such, the PHAs did not act out of fear that the public would panic if they received more information, rather, this process allowed PHAs to openly acknowledge both known and unknown factors around COVID-19, while improving messages explanatory power and audience internalization. With continuous updates, the PHAs invited politicians, media, and the public to learn alongside the health experts: *"We also said, 'We are learning'"* (IN02). Hence, openness, became a stakeholder relation tool: *"That was part of our principled approach. We aimed to share our understanding of the problem with the population, to be transparent about what we knew and what we didn't know. We adjusted our measures and advice whenever we gained new knowledge"* (IN02).

Considering Stakeholder Worldview

According to the experts, a recurring challenge that emerged during COVID-19 in Norway and Sweden was reaching minority populations.

While both countries were quick to adopt multiple communication channels and translate information into several languages to accommodate the diverse languages spoken by minority populations, they failed to consider minorities cultural expectations and past experiences. This oversight resulted in a lack of understanding of the factors impacting how information

was received by minority groups, and as a result, efforts to encourage affective and behavioral change were shown to be ineffective.

While the majority populations in both countries mostly followed official guidance, some—particularly younger adults and migrant communities—did not respond as well. According to the experts, this lack of responsiveness was not due to a disregard for the information; rather, the messages failed to convey a sufficient sense of personal threat to inspire behavioral change. As such, the experts emphasized that prior experiences and social identities shape how individuals perceive and respond to risk. If these metrics are not considered in the communication strategy, then the audience may not internalize the risk and are less likely to adhere to health guidance.

For instance, migrants with histories of exclusion or discrimination were skeptical of messages from state authorities, irrespective of the messages' clarity or accuracy. Moreover, migrants who had experienced epidemics like Ebola or Malaria did not view COVID-19 as much of a threat compared to those with limited experience of epidemics: *"The cultures of where we come from will also impact how we view certain risks in society. Other people will accept to live with more risk than other groups."* (IN03). In other words, COVID-19 appeared less threatening due to their past experiences of outbreaks, reducing the sense of urgency and compliance.

Similarly, young people operated under the belief that COVID-19 posed a limited personal risk, a belief PHAs sought to address via pro-social appeals to collective values and intergenerational solidarity: *"You might be in a safer group. You are young, you are healthy, but think of your grandmother or grandfather..."* (IN03). However, even with these pro-social appeals, the experts found the youth a communicative challenge.

Another significant challenge that the experts mentioned was the absence of unified "target groups". Communities often included diverse subgroups with different needs, making message tailoring both a logistical and strategic challenge. As one expert put it, *"Trying to understand these groups and how best to communicate with each of them became a nightmare"* (IN03).

Socio-economic and cultural barriers, combined with historically lower levels of institutional trust, shaped many minority communities' interactions with PHAs during the pandemic. To improve these interactions in future outbreaks, the experts recommend implementing more proactive communication strategies instead of relying on the reactive approaches that were used during COVID-19, *"You cannot just start planning to communicate with them during a crisis. You need to understand these groups before the crisis"* (IN03).

Tailoring Communication Distribution

A core consideration that the experts pointed to regarding communication was the distribution of messages. Both Norway and Sweden expanded their communication strategies during COVID-19 to engage a broader spectrum of audiences, as *"The same information needs to be conveyed in different ways to different groups, and it should be delivered through various collaborations"* (IN01). In considering distribution, PHAs utilized both digital and traditional means, as *"...we have what we call multiple channels of communication now"* (IN03).

In Sweden, PHAs chose to ignore advice from government officials to adopt what the experts referred to as outdated communication methods, and instead deliberately embraced more modern communication channels: *"There were some politicians who thought, 'why don't you run a big poster campaign?'... No, maybe not really the way you work these days"* (IN01). Instead, the PHAs focused on distribution networks that included social media, podcasts, email, and press conferences.

Norway employed a similar communication distribution network based on similar audience mapping: *"The audience is fragmented [...] which means before the crisis comes in you have to know where are my audiences, which channels are they using most"* (IN03). Furthermore, as openness became a core principle, they invited media figures and journalists to meet experts following press conferences. The experts were not PR-trained and instructed to provide as much information was asked for: *"We met [journalists] every day, took it seriously, spent a lot of time explaining... And the media asked good questions because they understood much more"* (IN02). These media actors therefore functioned as translators and amplifiers of information, broadening the reach of health advice while participating in the explanatory process.

Similarly, social media, particularly Facebook, functioned as both a broadcast tool and as an interactive space where comments informed real-time policy adjustments: *"We got so much good input [...] We went back to our professionals and said, 'Pregnant women are wondering about this.' Then we updated our advice"* (IN02). However, this interactivity heavily strained the communication teams who were responsible for both answering comments and removing what they deemed inappropriate comments. While this strategy did allow dialogic crisis communication, it became coupled with *"...a lot that wasn't pretty"* (IN02).

PHAs in both countries struggled with effectively reaching vulnerable groups, such as migrants, people with disabilities, and those dealing with substance use issues. This shortcoming was coupled with a flawed assumption that everyone accessed information through traditional news channels or government sources such as websites. One expert remarked, *"There was a notion that everyone sat and watched Dagsrevyen. But that was not the case for most people in Norway in 2020"* (IN04).

To address this shortcoming, expert opinion highlighted the value of a two-step flow of communication, where trusted intermediaries—such as influencers, religious leaders, or community representatives—could relay and contextualize information for hard-to-reach groups: *"They will trust their chief, they will trust their religious leader more than they will trust their government"* (IN03). Just as media organizations in Norway acted as intermediaries in crisis messaging, influencers can play a similar role in expanding the reach of information and providing the necessary credibility of the content.

Implications for Communicative Leadership

Lessons from Norway and Sweden, building on research emphasizing internalization, explanation, action, distribution, and legitimacy (Christensen et al., 2018; Ihlen et al., 2024; Sellnow et al., 2023), demonstrate that effective pandemic communication and leadership depend on interagency collaboration, performances of political legitimacy, openness, consideration of stakeholder worldviews, and tailored communication distribution. Drawing on the Norwegian experience in particular, openness and inclusivity are fundamental to effective information exchange and the maintenance of public trust. These practices not only

promote internalization and explanation but represent participatory crisis governance and leadership legitimacy. By fostering strong relationships with stakeholders, openness becomes a form of community engagement, and thus contributes to community resilience (Schmidt & Wood, 2019).

These insights emphasize that legitimate crisis leadership is not forged solely during a crisis; rather, it is developed through sustained relationships and an awareness of the political and moral aspects of public health communication. This legitimacy, in turn, affects how crisis messages are received by audiences, influencing whether the messaging successfully leads to affective, cognitive, and behavioral change (Liu et al., 2022; Sellnow et al., 2023). Therefore, the effectiveness of instructional crisis communication and the legitimacy of public leadership are mutually reinforcing, both serving as a foundation for sustained trust, compliance, and collective resilience during prolonged crises like COVID-19.

While both Norway and Sweden had well-established communication networks with their majority populations prior to COVID-19, future crisis preparedness must extend these communicative infrastructures to vulnerable and minority groups for greater equity, inclusivity, and responsiveness to public health advice (Bredström & Mulinari, 2023). Thus, this study highlights the importance of acknowledging minority stakeholders' lived experiences, cultural contexts, and prior relationships with authorities. To ensure that information is accurate, understandable, and actionable, a continuous and relational communication process is essential. If stakeholders lack trust or access to authorities, it is the responsibility of PHAs to build networks with these groups before a crisis arises.

Finally, the Norwegian and Swedish experience with COVID-19 underscores the value of institutional learning. In Norway, lessons from the Swine Flu pandemic informed clearer mandates, dialogic engagement, and open communication during COVID-19—practices that helped maintain trust amid uncertainty. In contrast, Sweden's experience illustrates how insufficient crisis rehearsals and blurred responsibility can undermine openness and interagency cooperation. Looking ahead, crisis preparedness should incorporate regular, scenario-based exercises involving health, communication, and administrative actors. These rehearsals should clarify institutional roles, resource allocation, and communication strategies well before a crisis emerges.

Suggestions for Future Research

The question of "how many interviews are sufficient?" is frequently discussed in social science and health research (Galvin, 2015). Unlike quantitative data, qualitative interview data focus on meaning and interpretation, prioritizing depth over generalizability (Mason, 2010). Recommendations for sample sizes vary, ranging from as few as three interviews in comparative case studies to fifty in broader exploratory studies (Marshall et al., 2013). The adequacy of the sample relies on the richness of the data rather than on numeric thresholds, with selection of interviewees based on their expertise and insights (Marshall, 1996). Additional factors influencing the appropriate number of interviews include the complexity of research questions, interview guide structure, sample diversity, and analysis scope (Francis et al., 2010).

In this study, the sample size was limited by the small number of public health experts in Norway and Sweden, reflecting the specialized nature of the field rather than methodological issues. However, to enhance and validate the insights gained from this study, future research

should consider a broader empirical context, which would improve the understanding of effective communication practices and inform policy development.

Finally, the emphasis on openness as a critical element of effective crisis communication, highlighted in this study, must be understood within the Scandinavian cultural and political context, where openness is highly valued and expected (Ihlen et al., 2022). This concept, which is dependent on capacity for information transparency and institutional trust, may result in a different outcome if these factors are different to the Scandinavian context.

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Appendix D – Publication IV

Publication 4: Distributing Instructive and Legitimate Crisis

Communication: COVID-19 Press Conferences in Scandinavia.

Paper is accepted by Mediální Studia ECREA Summer School Special Issue.

DISTRIBUTING INSTRUCTIVE AND LEGITIMATE CRISIS COMMUNICATION: COVID-19 PRESS CONFERENCES IN SCANDINAVIA

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ABSTRACT

This study presents a thematic analysis of press conferences conducted by public health authorities in Sweden, Norway, and Denmark during the COVID-19 pandemic. The study examines how pandemic-related Scandinavian press conferences framed instructive messages to resonate with the public, provide explanatory information, and offer actionable guidance in accordance with the IDEA model. In addition, this study expands on the IDEA model to include legitimacy of crisis leaders. Overall, the three Scandinavian countries implemented all dimension of the IDEA model and legitimacy. However, differences emerged between the countries, with Norway prioritizing internalization, explanation, and legitimacy and Denmark similarly prioritizing internalization and legitimacy, but action instead of explanation. Meanwhile, Sweden prioritized explanation, emphasizing data transparency and scientific information.

KEYWORDS

Public Health Authorities • Crisis Communication • COVID-19 Pandemic • IDEA model • Legitimacy • Press Conferences

1. INTRODUCTION

The COVID-19 pandemic presented unprecedented challenges by threatening public health, straining healthcare systems, and disrupting economic and educational sectors (Coombs, 2023), yet public trust remained high in Scandinavia where a “rally-around-the-flag” came into effect during the beginning of the pandemic (Johansson et al., 2023; Skogerbø et al., 2024). This trust largely remained relatively high throughout the pandemic, despite Sweden experiencing varied levels of polarization (Nielsen & Lindvall, 2021).

Early on, press conferences became a vital means of communication for public health authorities (PHAs) and government officials to share recommendations, regulations, and updates about the evolving situation. These briefings helped establish a sense of urgency, validate government measures, and build public trust (Esaiasson et al., 2021). Swedish PHAs held daily briefings to explain their mitigation-focused approach (Johansson & Vigsø, 2021). In Norway, PHAs collaborated with government officials to conduct daily press conferences during the initial phase of the pandemic. Similarly, in Denmark, PHAs, government officials, and Prime Minister Mette Frederiksen, used a press conference to announce major policy decisions in March 2020 (Kjeldsen, 2023), after which, PHAs held briefings via live updates on social media.

Press conferences have long played a pivotal role in crisis communication, serving as direct channels through which authorities can inform the public, explain decisions, and manage uncertainty (Hayek, 2024; Hernández, 2024; Scacco & Wiemer, 2019). Indeed, press conferences can accurately be described as a venue where the dynamics of political power intersect with media authority, often leading to a contestation of roles between these two influential entities (Nord, 2021). During the COVID-19 pandemic, the importance of press conferences intensified as governments relied on this mode of communication not only to disseminate evolving public health information but also to convey a sense of control and competence (He et al., 2023; Wodak, 2021), thus setting the tone for the crisis management. Indeed, figures such as Nicola Sturgeon, First Minister of Scotland (Higgins et al., 2024), and Jacinda Ardern, Prime Minister of New Zealand (McGuire et al., 2020), exemplified how effective press conference performances helped shape public perceptions of crisis leadership. In contrast, contradictory or inconsistent messaging from leaders like President Donald Trump in the USA (Just et al., 2022) and Prime Minister Boris Johnson in the UK (McVittie, 2023) undermined public trust and diminished the credibility of government responses. As such, press conferences during crises serve a dual function: they are vehicles for instructional communication and instruments for reinforcing the legitimacy of governmental action. This dual role highlights the need to un-

derstand press conferences as a mode of instructional communication that addresses stakeholders' informational needs, as well as a means to address broader factors, such as legitimizing state authority and crisis management, both of which are crucial in high-stakes, high-uncertainty situations like pandemics.

The current study examines the communication strategies employed during press conferences, focusing on how spokespersons balance instructions with the need to maintain public trust and legitimacy. It utilizes the IDEA model (Sellnow et al., 2023) as a primary framework, which offers a structured approach to analyzing instructional communication by addressing stakeholders' informational needs. Specifically, through a thematic analysis of key press conferences conducted by PHAs in Scandinavia, this research provides a deeper understanding of how crisis messages were crafted to encourage public compliance and clarify risks. Moreover, since Scandinavia has relatively high levels of institutional trust, transparent governance, and public reliance on expert-driven communication (Dahlen & Skirbekk, 2021), this research also demonstrates how PHAs justified national crisis management during the pandemic to maintain institutional trust and credibility (Badu et al., 2023; Breslin et al., 2022; Esaiasson et al., 2021; Kjeldsen, 2023; Kjeldsen et al., 2022).

Notable differences were observed between the countries. Norway focused on internalization, offering explanations, and ensuring legitimacy. Denmark emphasized internalization, actionable guidance, and maintaining legitimacy. Meanwhile, Sweden prioritized providing explanations.

2. LITERATURE REVIEW

2.1. Scandinavia and COVID-19

The Scandinavian countries are notable for their similarities and high levels of institutional trust. However, the pandemic management of each country highlighted distinct country differences, as the measures adopted and the framing and justification for the measures taken corresponded to the cultural differences between Denmark, Norway, and Sweden (Baekkeskov et al., 2021; Bjørkdahl et al., 2021).

Denmark adopted a strategy characterized by strict mandates and rapid governmental interventions, strongly influenced by cultural norms of respecting personal boundaries and upholding collective accountability (Mens et al., 2021; Olgarnier & Mogensen, 2020). Norway similarly implemented stringent responses but shaped its approach through its cultural values of voluntary participation and a deep trust in the government as a protector of individual autonomy, i.e., a belief that the common good aligns with indi-

vidual interests (Nilsen & Skarpenes, 2022). At the onset of the pandemic, Kjeldsen (2023) observed that Danish and Norwegian press conferences were used to put government officials in the forefront while projecting a unified front with PHAs, showcasing a collaborative yet hierarchical crisis management structure. According to Bjørkdahl et al. (2021), this strategy involved political leaders taking charge while public health experts provided support and legitimacy for government decision-making.

Sweden, unlike its Scandinavian neighbors, did not implement strict lockdowns during the pandemic. Instead, the country relied on individuals to take responsibility under non-binding recommendations (Johansson & Vigsø, 2024). The objective was to impose restrictions without overly shutting down society. However, as Sweden's pandemic death toll surpassed that of the other Nordic countries, it was seen as an indication of a failing strategy (Johansson & Vigsø, 2024). Despite this, support for the government and its agencies remained high (Johansson & Vigsø, 2024), and according to Abdelzadeh and Sedelius (2024), satisfaction with government communication and the management of COVID-19 in Sweden increased over time, even though trust in institutions slightly declined, which has been attributed to growing politicization (Soto, 2022).

According to a study conducted by Rasmussen et al. (2023) on communicative leadership by political leaders and public health officials in Scandinavia during March and April 2020, press conferences were used to justify expert knowledge and authority. Furthermore, the study found that Sweden emphasized evidence-based justifications for measures, highlighted the economic fallout from lockdowns, and downplayed the virus threat. In contrast, Denmark and Norway acted swiftly, applying precautionary principles and prioritizing the minimization of deaths without pursuing herd immunity as Denmark implemented limited restrictions and Norway focused on resilience and fostering solidarity.

2.2. Press Conference as Crisis Management

During outbreaks, government officials and PHAs aim to build public trust and solidarity while balancing public health concerns with individual rights (Nihlén Fahlquist, 2021). Press conferences serve as an effective means of communication, functioning as a tool for behavioral “nudge” interventions, i.e., techniques such as invoking fear or peer pressure to encourage compliance with public health measures (Dodsworth, 2021; Gill & Lennon, 2022).

Press conferences are a cost- and time-effective format that allows for the dissemination of vital information to various stakeholders, including the media, regulators, and different community groups (Badu et al., 2023; Kjeldsen, 2023; Kress & Van Leeuwen, 2006). Press conferences combine speech,

visuals, and symbols to convey information that is adaptable for various formats, including shorter videos, audio clips, and written transcriptions, which allows for outreach to diverse segments of the population (Kjeldsen, 2023; Scacco & Wiemer, 2019).

Press conferences serve two primary purposes: to inform the public and to shape news coverage by providing visual elements for news stories (Allen et al., 2024). During the COVID-19 pandemic, press conferences in Scandinavia became especially important for delivering announcements, addressing media inquiries, clarifying government actions, resolving uncertainties, and fostering a sense of urgency among the public (Kjeldsen, 2023). Indeed, Byrman and Westum (2024) argue that the Swedish Public Health Agency effectively built trust through press conferences by featuring a consistent structure and multimodal interaction despite discussing two main sensitive topics: death tolls and face masks.

Studies of the UK and the World Health Organization (WHO) briefings similarly underscore how press conferences mediate uncertainty and reinforce official narratives. Visual data presentations, for instance, provided a sense of control during the UK's early pandemic response (Allen et al., 2024), while the WHO maintained a stable, formal tone aimed at fostering trust, hope, and resilience despite shifting emotional currents (He et al., 2023). Meanwhile, trust-restoring strategies in televised briefings often sought to deflect blame and reframe failures, sometimes at the expense of long-term public health goals (Bunnag & Chaemsaitong, 2024).

2.3. IDEA Model

A central challenge with utilizing press conferences during epidemics and pandemics is translating complex, technical, and scientific information into messages that are accessible and actionable for diverse audiences (Borchelt & Nielsen, 2014; Sellnow et al., 2023). Public health and crisis communication scholars emphasize the importance of tailoring information so that laypeople and non-experts can understand what is happening, why it matters, and what they should do in response (Frisby et al., 2013; Sellnow et al., 2023). This approach—often referred to as instructive crisis communication—is designed not only to inform but to increase stakeholder self-efficacy and prompt protective behaviors (Coombs, 2023; Mileti & Peek, 2000; Reynolds & Seeger, 2005; Seeger, 2006). Instructive crisis messages, particularly in high-uncertainty situations such as pandemics, should achieve three outcomes: affective engagement, cognitive understanding, and behavioral change (Johansson et al., 2021). These learning outcomes serve as benchmarks for effective crisis communication. A common misstep during public health crises, therefore, relates to public health spokespersons focusing on

abstract scientific data (e.g., statistics and long-term projections) and failing to offer actionable steps, as this imbalance risks inducing fear or apathy rather than informed action (Sellnow et al., 2023; Slovic & Västfjäll, 2015; Wickline & Sellnow, 2013).

To evaluate whether the Scandinavian PHAs' pandemic messages aimed to foster public understanding and action, this study employs the IDEA model as an analytical framework. The model conceptualizes instructive risk and crisis communication through four interrelated components (Johansson et al., 2021; Sellnow et al., 2023):

Internalization (I): Capturing attention by demonstrating how the crisis personally affects the audience, highlighting relevance, proximity, and urgency to foster engagement.

Distribution (D): Spread the message across diverse platforms to ensure reach and accessibility for varied audiences.

Explanation (E): Offering clear, credible, and understandable information about the crisis, its causes, and consequences using non-technical language.

Action (A): Providing specific and feasible instructions for self-protection and behavior change.

The IDEA model has proven effective in various contexts, ranging from foodborne illness outbreaks to pandemic communication, and has been validated within Scandinavian cultures (Frisby et al., 2013; Johansson et al., 2021; Sellnow-Richmond et al., 2018; Sellnow et al., 2019; Sellnow et al., 2015). By analyzing how Scandinavian authorities utilized press conferences to communicate the risks to public health, explain the situation, and inform the public of actionable guidance, this study assesses the instructive strategic measures employed by Scandinavian PHAs in their press conferences in response to the COVID-19 pandemic.

2.4. Maintaining Legitimate Crisis Authority

While the IDEA model provides a framework for analyzing message content and structure, message impact is mediated by the credibility, reputation, and perceived transparency of the sender (Badu et al., 2023; Berg et al., 2021; Coombs, 2023; Sturges, 1994). In other words, instructive messages may fail to produce the desired outcomes if the public does not trust the institutions or spokespersons delivering them (Badu et al., 2023; Balog-Way et al., 2020; Christensen & Læg Reid, 2020; Siegrist & Zingg, 2014) nor except the authority or logic of the official crisis management recommendations (e.g., vaccination) over other nonofficial recommendation from competing sources (e.g., using hydroxychloroquine) (Islam et al., 2021). Thus, in formatting instructive messages, PHAs also benefit from considering the concept of legitimacy, which serves as a foundation that addresses the normative and cognitive

forces influencing, shaping, and empowering organizational actors (Suchman, 1995). For this study, legitimacy refers to the credibility and competency of PHAs, along with the ability to act in the public's best interest (Diers-Lawson, 2019; Györfi, 2018).

Public health crisis leaders operate within complex sociopolitical environments, where public trust in formal institutions can significantly affect the success of crisis management efforts (Abraham, 2009; Ndlela, 2019; Ullmann-Margalit, 2004). A high level of institutional legitimacy can enhance message reception, extend audience reach, minimize confusion, and facilitate coordinated public responses (Badu et al., 2023; Seeger, 2006; van Dijk & Alinejad, 2020). While such legitimacy, in the form of credibility and trustworthiness, of crisis leadership and crisis management can be assumed through studies employing the IDEA model via the concept of internalization (Sellnow et al., 2020), it is often overlooked in empirical studies.

Legitimacy is not static; it must be continuously communicated and reinforced, especially during crises. Indeed, through communicative strategies, crisis leaders can promote legitimacy by emphasizing transparency, consistency, professional competence, and respect for public concerns (Coombs, 2023; Diers-Lawson, 2019; Ihlen & Vranic, 2024; Sellnow et al., 2023). For example, PHAs who adhere to a bureaucratic-scientific ethos can clearly articulate their expertise which can bolster public confidence (Maslowska et al., 2025). Likewise, messaging that is transparent, empathetic, and coordinated across agencies contributes to a coherent and credible crisis narrative (Liu, 2015; Skogerbø et al., 2024; Veil & Ojeda, 2010).

This study, therefore, integrates legitimacy as an additional dimension of IDEA-based instructive communication. While the IDEA model focuses on the *what* and *how* of crisis messaging, legitimacy concerns the *who* behind the message. These dimensions are mutually reinforcing as legitimacy enables instructive messages to be received, while clear and instructive messaging can help sustain legitimacy. Examining these dimensions is particularly relevant in the Scandinavian context, where public trust and institutional credibility are traditionally high but were tested during the pandemic (Abdelzadeh & Sedelius, 2024; Christensen & Lægreid, 2020; Power et al., 2023; Skogerbø et al., 2024). The integration of IDEA and legitimacy hence offers a more comprehensive understanding of what constitutes *effective* crisis communication in high-trust democracies in the context of a prolonged health crisis.

2.5. Aim and Research Questions

The aim of this research is to examine the public health crisis communication strategies of PHAs in Scandinavia as distributed via press conferences.

Considering the varying approaches to crisis management between Sweden, Norway, and Denmark and the differences in expectations of their citizens (Bjørkdahl et al., 2021), it stands to reason that the Scandinavian PHAs adopted distinct strategies in terms of instructive crisis communication. For instance, the collaboration between Danish and Norwegian PHAs and political leadership likely resulted in spokespersons prioritizing the establishment of government legitimacy and fostering a sense of communal responsibility through internalization while providing clear and actionable guidance. However, according to an analysis by Kjeldsen (2023) of press conferences, Norwegian spokespersons likely also favored disseminating explanations. In contrast, Sweden's reliance on voluntary guidelines and the independence of PHAs during press conferences suggests a lesser focus on governmental legitimacy and a communication strategy that centers on offering comprehensive explanations and actionable guidance to encourage citizens to adhere to recommendations.

Based on the above, this study poses the following research questions:

- *RQ1: How did Danish, Norwegian, and Swedish PHAs adopt elements of the IDEA model?*
- *RQ2: How did Danish, Norwegian, and Swedish PHAs adopt elements of legitimacy?*

These research questions will guide the subsequent analysis of Scandinavian press conferences during the COVID-19 pandemic. Further, to explore the country differences, this study asks:

- *RQ3: How did the communication strategies reflect existing cultural norms?*

3. METHOD AND DATA

This study examined press conferences conducted by PHAs across various media formats, including official websites and social media clips. Full recordings of these media briefings were selected as they represent the most direct form of communication, unfiltered by the media into sound bites or condensed formats. This approach allowed for an analysis of both prepared statements and responses to media inquiries.

The press conference served as the unit of analysis in this study. The included video material, sourced from Sweden, Norway, and Denmark, consisted of 22 conferences. The conferences included are those that feature the national PHAs, either independently, as seen with Sweden and later Denmark, or in collaboration with government officials, as with Norway

and initially Denmark. In total, these briefings comprised just over 15 hours of content.

The selected briefings were organized around four distinct phases of the COVID-19 pandemic, corresponding to key moments following announcements by the WHO regarding new developments in the spread of the coronavirus or updates about it (see Table 1). Each chosen event had an equal impact on all three countries, facilitating a comparative analysis of their potential responses. The study defined these events as week-long periods following each WHO statement, providing a timeframe deemed sufficient for PHAs and government officials to respond and update the public on important pandemic milestones.

Table 1: Dates and Events during COVID-19

Date	Event	Denmark – Press Conferences & Combined Video Length	Norway – Press Conferences & Combined Video Length	Sweden – Press Conferences & Combined Video Length
20-03-11	WHO Director-General declared COVID-19 a pandemic	1 Press Conferences / 59:03 Min:Sek	5 Press Conferences / 193:27 Min:Sek	5 Press Conferences / 172:76 Min:Sek
20-12-21	The European Union approved the first COVID-19 vaccine	1 Press Conferences / 25:18 Min:Sek	1 Press Conferences / 63:38 Min:Sek	2 Press Conferences / 111:68 Min:Sek
21-02-02	A mutation of the coronavirus that may reduce vaccine effectiveness has emerged in the United Kingdom.	2 Press Conferences / 46:96 Min:Sek	0 Press Conferences	2 Press Conferences / 117:46 Min:Sek
21-05-31	WHO has assigned labels for key variants of SARS-CoV-2 using letters of the Greek alphabet.	1 Press Conferences / 13:12 Min:Sek	1 Press Conferences / 48:06 Min:Sek	1 Press Conferences / 52:30 Min:Sek
		Total: 5 Press Conferences	Total: 7 Press Conferences	Total: 10 Press Conferences

3.1. Analytical Method

This analysis followed an iterative process based on a six-step approach by Naeem et al. (2023) to thematic analysis. Utilizing transcriptions from the press conferences, the analysis began by familiarizing oneself with the transcribed data and identifying preliminary themes and representative quotes that reflect diverse perspectives relevant to the research questions. The second step involved a thorough examination of the data to identify recurring patterns and key terms through open coding. The third step included segmenting the data into short phrases or words into codes that encapsulate core themes and elements. The fourth step involved developing themes by grouping these elements into meaningful categories to uncover patterns and relationships related to the research questions via

axial coding. The fifth step focused on conceptualizing and defining emerging concepts from the data, refining them based on themes established by Frandsen et al. (2016), Sellnow-Richmond et al. (2018), Sellnow and Sellnow (2019), and Skogerbø et al. (2024). The final step involved developing a conceptual model that represents the data (see Tables 2-5).

Final thematic categories were organized as follows: *Internalization* (identified people, specific places, time, degree of negative impact, additional negative impact, and empathy), *Explanation* (similar events, other countries, government responses, credible sources, and scientific information) including the level of intelligibility, *Action* (guidance, preparation, and examples) and *Legitimacy* (ability to act, inter-organizational cooperation, expertise, resources, known/unknown facts, and accountability).

While the IDEA model includes Distribution, the empirical material is limited to recorded press conferences. These briefings represent a single communication channel in this study. Thus, the distribution component, which concerns multi-platform dissemination strategies, lies outside the scope of this analysis.

Table 2. *Internalization*

Theme	Example Quote
Identified people	"The age distribution shows that the majority of cases are between the ages of 40 and 60..." ¹
Specific places	"Where many people are gathered - daycare centers, schools, educational institutions, activities, events, public transport." ²
Time	"...that is, by spreading the infection over time, spreading the disease over time, can we get a manageable situation in the health service" ³
Degree of negative impact	"Today there are 514 Danes infected." ⁴
Additional negative impact	"Businesses will suffer losses." ⁵
Empathy	"We must not panic, but we must help each other, show energy, thinking of others, especially those who are vulnerable." ⁶

1 The Public Health Agency of Sweden (2020, March 11). *Press release on covid-19 (coronavirus)* March 11, 2020. <https://share.mediaflow.com/se/?SDFE907K30>

2 Norwegian Prime Minister's Office, Ministry of Health and Welfare. (2020, March 12) *The corona situation: Press conference on new measures to combat the coronavirus* <https://www.regjeringen.no/no/dokumentarkiv/regjeringen-solberg/aktuelt-regjeringen-solberg/smk/pressemeldinger/2020/pressekonferanse-om-nye-tiltak-for-a-bekjempe-koronaviruset/id2693286/>

3 The Public Health Agency of Sweden. *Press release on covid-19 (coronavirus)* March 11, 2020.

4 The Public Health Agency of Sweden. *Press release on covid-19 (coronavirus)* March 11, 2020.

5 The Danish Prime Minister's Office . (2020, March 11) *Press conference on COVID-19 on 11 March 2020*. <https://www.stm.dk/presse/pressemoeedarkiv/pressemoeede-om-covid-19-den-11-marts-2020/>

6 The Danish Prime Minister's Office. *Press conference on COVID-19 on 11 March 2020*

Table 3. Explanation

Theme	Example Quote
Similar events	"We've managed to get through tough times before, and I'm absolutely sure we'll be able to do it now too." ⁷
Other countries	"Italy is in lockdown. In the hospitals, there is a shortage of ventilators and staff." ⁸
Government responses	"We will no longer focus on testing travelers from specific risk areas, as these have become increasingly diffuse." ⁹
Credible sources	"WHO says that we need to increase the production of this type of equipment in the world by 40 percent..." ¹⁰
Scientific information	"The graph here shows how the cases have been reported. Note that the latest bars may contain some lag, but they still give an indication of the trend." ¹¹

Table 4. Action

Theme	Example Quote
Guidance	"Avoid contact with the elderly if you have symptoms" ¹²
Preparation	"Restrictions on visits may become relevant if the spread of infection increases" ¹³
Examples	"...to make sure that we all understand what was and what one can do - both as individuals and collectively, for example at workplaces." ¹⁴

Table 5. Legitimacy

Theme	Example Quote
Ability to act	"It is not the individual citizen's responsibility to ensure that they have what they need. We make sure of that; the authorities make sure of that through the state's crisis management preparedness." ¹⁵
Interorganizational cooperation	"Money that we will collaborate on, together with the National Board of Health and Welfare and the Public Health Agency..." ¹⁶
Expertise	"The Public Health Agency - which stands for expert knowledge about the infection and healthcare..." ¹⁷

7 The Danish Prime Minister's Office. *Press conference on COVID-19 on 11 March 2020*

8 Norwegian Prime Minister's Office, Ministry of Health and Welfare. *The corona situation: Press conference on new measures to combat the coronavirus*

9 The Danish Prime Minister's Office. *Press conference on COVID-19 on 11 March 2020*

10 The Public Health Agency of Sweden. *Press release on covid-19 (coronavirus)* March 11, 2020

11 Norwegian Prime Minister's Office, Ministry of Health and Welfare. *The corona situation: Press conference on new measures to combat the coronavirus*

12 The Public Health Agency of Sweden. *Press release on covid-19 (coronavirus)* March 11, 2020

13 The Public Health Agency of Sweden. *Press release on covid-19 (coronavirus)* March 11, 2020

14 The Public Health Agency of Sweden. *Press release on covid-19 (coronavirus)* March 11, 2020

15 The Public Health Agency of Sweden (2020, March 16). *Press release on covid-19 (coronavirus) March 16, 2020* <https://share.mediaflow.com/se/?SDFE9O7K3O>

16 The Danish Prime Minister's Office. *Press conference on COVID-19 on 11 March 2020*

17 The Public Health Agency of Sweden. *Press release on covid-19 (coronavirus)* March 16, 2020

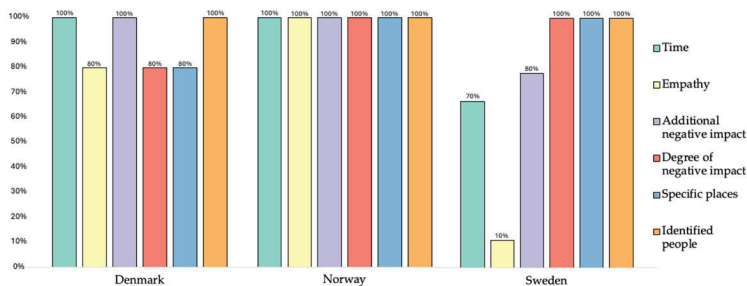
Resources	"... The biggest challenge right now is access to protective equipment." ¹⁸
Known/Unknown facts	"We know too little. In the near future, knowledge will also be generated from Norway" ¹⁹
Accountability	"...we may have learned to be more aware of our health and the world around us in a way we didn't before" ²⁰

The findings are presented as patterns of themes that emerged per press conference. The Swedish Public Health Institute conducted daily press conferences, while their Norwegian and Danish counterparts held press conferences less frequently. As a result, findings are presented as percentages relative to their respective totals—for instance, Sweden held ten press conferences compared to Denmark's five (see Table 1)—to ensure a comparable analysis of thematic elements across the three countries. Specifically, the frequency analysis account for the average number of elements per theme relative to the total number of press conferences conducted by each country.

4. RESULTS

4.1. Internalization

Figure 1. Comparative frequency analysis of elements of Internalization



The thematic analysis, as shown in Figure 1, revealed that Norway consistently prioritized all elements of internalization across all press confer-

18 The Public Health Agency of Sweden. *Press release on covid-19 (coronavirus)* March 16, 2020

19 The Public Health Agency of Sweden. *Press release on covid-19 (coronavirus)* March 11, 2020

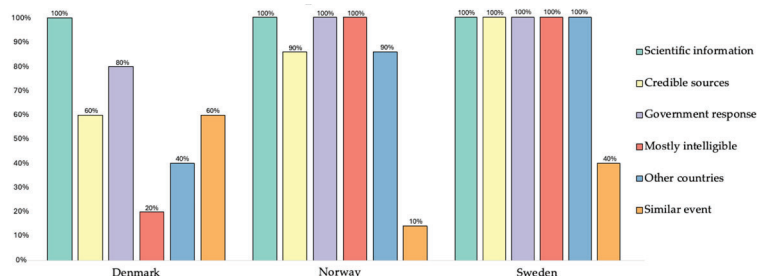
20 The Danish National Board of Health (2021, Februari 4). *ASK ABOUT THE COVID VACCINES* Thomas Senderowitz, director of the Danish Medicines Agency, and Søren Brostrøm, director of the Danish Health Authority. <https://www.facebook.com/sundhedsstyrelsenDK/videos/sp%C3%B8rg-om-covid-vaccinernethomas-senderowitz-direkt%C3%B8r-i-l%C3%A6gemiddelstyrelsen-og-s%C3%B8r-736158977012226/>

ences, more so than Denmark and Sweden. In Denmark, every press conference identified people affected by COVID-19, addressed issues related to time, and discussed additional negative impact of the pandemic. In 80% of these appearances, spokespersons expressed empathy for those impacted by the pandemic, acknowledged the extent of the degree of negative impact caused by COVID-19, and identified specific places that were affected.

In contrast, the patterns for Sweden were different. In all appearances, spokespersons referenced identified people and specific places affected by the pandemic, and they included information on the degree of negative impact. However, mentions of additional negative impact appeared in only 80% of the press conferences, while time was addressed in 60% of appearances. Empathy was expressed in just 10% of the Swedish press conferences.

4.2. Explanation

Figure 2. Comparative frequency analysis of elements of explanation

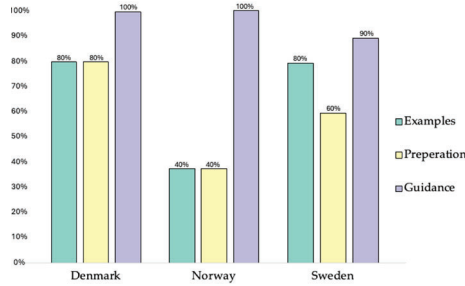


As illustrated in Figure 2, the findings indicate that Sweden is the country that prioritized providing explanations most consistently. Their spokespersons included all elements of explanation except for mentions of similar events which occurred in 40% of press conferences. Norway shows a similar trend, with all appearances incorporating scientific information and details about specific government responses, and credible sources and references to other countries in 90% and to similar events in only 10%. All press conferences adhered to mostly intelligible communication.

In contrast, Denmark, despite including scientific information in all appearances, provided explanations to a lesser degree. In Denmark, specific government responses are mentioned in 80% of press conferences, while mentions of credible sources and comparisons to similar events are included in 60% of the appearances. Contrasts with other countries' COVID-19 responses are included in only 40% of the appearances. Furthermore, only 20% of Denmark's briefings featured mostly intelligible information.

4.3. Action

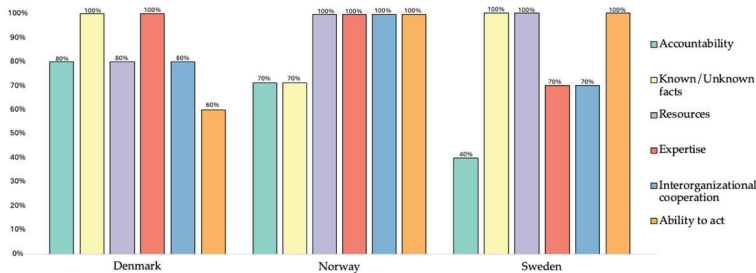
Figure 3. Comparative frequency analysis of elements of Action



In the comparison of the theme of action, as shown in Figure 3, both Norway and Denmark consistently provided guidance to the public in all cases. Sweden on the other hand, included guidance in 90% of their appearances. Regarding providing examples, Sweden and Denmark incorporate examples of action in 80% of their press conferences, while Norway does so in only 40% of cases. Additionally, Denmark offered recommended actions for preparation in 80% of appearances, compared to Sweden, which preparation in 60% of appearances, and Norway, which included actionable preparation recommendations in only 40% of their presentations.

4.4. Legitimacy

Figure 4. Comparison of elements of Legitimacy



In examining the use of legitimacy, as illustrated in Figure 4, Norway consistently incorporated references to expertise, inter-organizational cooperation, ability to act, and information about resources in all their appearances. In 70% of the instances, spokespersons expressed appreciation for their accountability and referenced known and unknown facts regarding COVID-19 and related issues.

For Denmark, language regarding expertise and known and unknown facts of COVID-19 was present in all press conferences. In 80% of their appearances, spokespersons acknowledged their accountability, resources, and inter-organizational cooperation. Additionally, their ability to act was mentioned in 60% of the press conferences and briefings.

Meanwhile, Swedish spokespersons prioritized sharing information about their ability to act, resources, and known and unknown facts about the COVID-19 pandemic in all their appearances. References to expertise and inter-organizational cooperation were included in 70% of their press conferences, while the acknowledgment of their accountability appeared in 40% of their press conferences.

5. DISCUSSION

Building on previous research regarding the IDEA model and effective crisis communication (Badu et al., 2023; Diers-Lawson, 2019; Ihlen et al., 2024; Sellnow et al., 2023; Skogerbø et al., 2024; van Dijck & Alinejad, 2020), this study examined how PHAs in Denmark, Norway, and Sweden utilized press conferences during the COVID-19 pandemic to deliver instructive crisis communication and establish authoritative legitimacy.

Norway stood out as the most consistent proponent of internalization strategies in its press conferences, showing empathy, recognizing affected peoples, discussing time-related aspects, and acknowledging further adverse effects in all appearances. This comprehensive incorporation of internalization highlights a significant effort to create messages with emotional and prosocial appeals as well as public assurance (Sellnow et al., 2023). Denmark similarly exhibited a strong dedication to internalization. Each appearance acknowledged the affected groups, included spatial details, and addressed the pandemic's effects. Additionally, empathy was conveyed in most presentations, showcasing an attempt to include emotional appeals, albeit not as consistently as in Norway.

Conversely, Sweden adopted a more informational approach. While Swedish representatives consistently mentioned the impacted individuals and locations, and discussed the severity of the effects, expressions of empathy were infrequent. Additionally, references to time were limited in just over half of the appearances, suggesting that Swedish spokespersons did not prioritize reassuring the public of the duration of the crisis or recommendation, nor did they prioritize emotional appeals. Instead, Sweden consistently prioritized providing explanations, scientific data, information about government actions, and references to reliable sources, indicating a preference for a cognitive rather than an affective approach (Sellnow et al., 2023). For Norway, the theme of explanation

showed a similar pattern emerging, with a prioritization of all elements of explanations except for references to similar events. Denmark, while sometimes including scientific information, provided fewer comparisons and was less consistent in using clear language, which may have hindered public comprehension.

Both Norway and Denmark provided actionable guidance in all their appearances. Sweden offered similar advice, but not in every instance. Interestingly, the decision to rely on mostly voluntary recommendation did not encourage the Swedish PHAs to promote actionable guidance consistently. However, both Sweden and Denmark were more consistent than Norway in providing actionable examples, which indicates a cognitive appeal. Additionally, Denmark, more than Norway and Sweden, offered preparatory advice, and the overall prioritization of the theme of action suggest that Danish spokespersons focused on promoting and improving the audience's self-efficacy.

For legitimacy, Norway consistently emphasized its expertise, resources, inter-agency collaboration, and ability to act. Furthermore, Norwegian officials often emphasized their accountability and transparency regarding both known and unknown facts—factors that Ihlen et al. (2024) argue fostered Norway's high institutional trust and public support.

Denmark likewise placed importance on legitimacy, with expertise and acknowledgment of factual uncertainties being included in all speeches, indicating a strategy to legitimize government decision-making. However, Danish spokespersons did not prioritize emphasizing their ability to act, again suggesting that Denmark's communication focused on the public's self-efficacy in managing the situation. Sweden, on the other hand, emphasized its ability to act, transparency regarding both known and unknown facts, and resource availability in all press releases, but placed less emphasis on its expertise, inter-organizational cooperation, and accountability, in line with an overarching prioritization of factual information related to COVID-19.

In terms of reflecting existing cultural norms, the patterns in which the themes were utilized are alignment with previous research (Baekkeskov et al., 2021; Bjørkdahl et al., 2021; Ihlen & Vranic, 2024; Kjeldsen, 2023; Rasmussen et al., 2023). Indeed, Norwegian PHAs, standing on stage with government officials, showed a preference for transparency, prosocial and emotional appeals, and collaborative leadership. Meanwhile, Denmark's emphasis on identifying the public, promoting actionable guidance and preparations, transparency, and expertise is reflected in the country's structured yet compassionate leadership, demonstrating Denmark's crisis management strategy of political hierarchy while also pro-

moting collective accountability by emphasizing messages that resonate with the public and increase self-protective actions (Mens et al., 2021; Olgagnier & Mogensen, 2020). Finally, the rational-technical approach observed in Sweden mirrors both institutional and national preferences for providing cognitive understanding of the public health situation (Bjørkdahl et al., 2021; Kjeldsen, 2023; Rasmussen et al., 2023).

This study makes two contributions to crisis communication research. First, it delivers empirical validation of the IDEA model's effectiveness as distributed via press conferences during a pandemic in high trust societies (Abdelzadeh & Sedelius, 2024; Johansson et al., 2023; Skogerbø et al., 2024). Second, it broadens the understanding of effective crisis leadership by demonstrating that fostering legitimacy can enhance instructive crisis communication when aligned with cultural and institutional contexts. As governments prepare for future public health emergencies, these insights underscore the importance of tailoring instructional communication strategies that align with national values and communicative norms, which may enhance message effectiveness and foster public compliance.

5.1. Limitations and Suggestion for Future Research

The primary focus of this study was to identify overall thematic differences in the use of instructive messaging during press conferences across the Scandinavian countries, as well as to assess elements of legitimacy. Therefore, a limitation of this study was that it did not include a more granular analysis of the frequency of each element per press conference.

A further limitation was the inclusion of press conferences held in Norway and initially in Denmark which included government officials, entailing that the findings from Norway and Denmark may reflect the inclusion of politicians in the press conferences rather than merely cultural contexts. However, since these appearances were part of the PHAs' strategy for press conferences, they were included in the study.

The limited timeframe selected for this study resulted in a dataset consisting of 22 press conferences. Moreover, this study excluded briefings that were held exclusively by government officials. While this allowed for a focused analysis of PHAs' communication during a critical phase of the pandemic, future research should consider extending the time period to facilitate an analysis of a larger data set for more detailed and comparative analysis.

Finally, achieving affective, cognitive, and behavioral change, as well as legitimacy, requires a shift in perception among stakeholders. Therefore, future research would benefit from analyzing public perceptions of legitimacy alongside messaging that aligns with the IDEA model.

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Appendix E - Codebook

Codebook for: Managing the Pandemic in Digitized Spaces: Assessing the Social Media Approaches of Scandinavian Public Health Authorities

Codebook for Publications I and II.

Codebook for: Managing the Pandemic in Digitized Spaces: Assessing the Social Media Approaches of Scandinavian Public Health Authorities

Overview

The following codebook contains the categorization of themes and descriptions for coding. Each variable has a corresponding number that is going to be entered into the Excel Code Sheet. Enter each message on a new horizontal line in the Excel code sheet with only one message per line.

The Excel sheet codes are divided into three separate sheets, one for each platform. That means that posts collected from Twitter are coded on Excel sheet 1, data from Instagram are coded on Excel sheet 2, and data from Facebook is coded on Excel sheet 3.

Categorization focuses on textual analysis, meaning pictures, videos, and GIFs are excluded. However, textual information may be vague without context. Therefore, these messages should be coded based on links, pictures, videos, or others (if accessible).

Focus on the “single message”, meaning the message in and of itself and not in its context within a longer “conversation”. Each post should be coded as a different message.

For Twitter, exclude posts that begin with “@mentions” (tagging an account) and RT@ (Retweets). Only code messages targeted to the general public, not messages aimed only at specific accounts or persons. Messages with “@mentions” in the middle of a sentence or after the first complete sentence should be included.

Data Coding

Variable 1: Date of Message

Enter the date of the post with the day, month, and year.

Example: **01.02.2020**

Variable 2: Source Organization

This variable refers to the specific source, e.i. the name of the account from which the post was published.

Code in the Excel code sheet the number corresponding to the account per the following:

1. Folkehelseinstituttet (The Norwegian Institute of Public Health)
2. Folkhälsomyndigheten (The Public Health Agency of Sweden)
3. Helsedirektoratet (The Norwegian Directorate of Health)
4. Lægemiddelstyrelsen (The Danish Medicines Agency)
5. MSB - Myndigheten för samhällsskydd och beredskap (The Swedish Civil Contingencies Agency)
6. Socialstyrelsen (The National Board of Health and Welfare in Sweden)
7. Sundhedsstyrelsen (Danish Health Authority)

Variable 3: Comments

Enter the number of Comments for Instagram and Facebook.

Enter the number of Reply for Twitter

Variable 4: Likes

Enter the number of Likes.

For Facebook, also enter the number of other reactions. E.i., include the number of “Love”, “Wow”, “Haha”, “Sad”, “Angry”, & “Care” under separate heading.

Variable 5: Giving Instruction (Information about how/what/why/when)

Instructing information is the facts stakeholders need to know about crisis and how they can avoid being impacted or harmed by it. It informs people on how to physically act or behave to protect themselves or others and seeks to primarily provide factual and timely information. These messages are meant to inform and update stakeholders about the crisis, its impact, and the organization's response.


Messages include details such as the nature of the crisis, safety instructions, operational changes, and updates on the progress of resolving the crisis. The content is typically straightforward, objective, and focused on delivering accurate and essential information with clarity and transparency as key characteristics.

Definitions	Example
Behavioral or physical action instruction or advice	Känner du dig sjuk med symptom som snuva, hosta eller feber? Stanna hemma. Gå inte till jobbet, skolan eller förskolan så länge du känner symtom. Om du blir sämre och inte klarar egenvård i hemmet kan du ringa 1177 för sjukvårdsrådgivning. Vänta minst två dygn efter att du blivit fri från symtom innan du går tillbaka till jobb eller skola. Äldre människor har större risk att bli svårt sjuka. Känner du dig sjuk – besök inte personer på sjukhus och äldreboenden. Låt bli sådana besök om du känner dig det minsta sjuk. Läs mer: https://bit.ly/39Melcc =: https://www.folkhalsomyndigheten.se/smittskydd-beredskap/utbrott/aktuella-utbrott/covid-19/skydda-dig-och-andra/
Government policy or regulation	Allmänna sammankomster med mer än 500 personer bör tills vidare inte få hållas, skriver Folkhälsomyndigheten i en hemställan till regeringen den 11 mars. Det gäller till exempel stora idrottsevenemang, stora konserter, mässor och konferenser. Eftersom det finns tecken på att covid-19 sprids i det svenska samhället är det nu läge att, som en tillfällig åtgärd, inte få hålla allmänna sammankomster med mer än 500 personer i Sverige. Syftet med förslaget är att förhindra tillfällen då ett stort antal människor kommer från olika delar av landet, och kanske också från omvärlden, och samlas på en och samma plats.

0 = There is **NO** informational objective present in the message

1 = There **IS** informational objective present in the message

Example of posts:

 **Sundhedsstyrelsen** •
6 september 2021 · 🌐

BARN OCH STUDENTER SKA INTE LÄNGRE SKICKAS HEM SOM NÄRA KONTAKT

Från och med nu kan barn, elever och föräldrar se fram emot en vardag utan att oro sig för att hela klasser eller vardagsrum skickas hem i isolering. Det är bara de smittade som måste gå i självisolering och barn som är nära kontakter rekommenderas istället att testas så att de kan stanna i skolan eller dagiset. Barn under 3 år behöver inte testas och är välkomna på dagserbjudanden, även om de är nära kontakter, om de inte har symtom på covid-19.

Om barnet eller studenten är fullvaccinerad eller testat positivt för covid-19 under de senaste 12 månaderna rekommenderar vi ett PCR-test på 4. och 6. dagar.

Om barnet eller pupillen inte är fullvaccinerad eller har blivit infekterad inom de senaste 12 månaderna rekommenderar vi att ta ett PCR-test eller blixtest så snart som möjligt och sedan ett PCR-test på 4. och 6. dagar.

Barn och elever får gå i skolan eller dagis under den period de testas om de inte har symtom på covid-19. Om de får positivt svar på provet ska barnet eller eleven omedelbart gå i isolering.

Här kan du läsa mer: <https://fal.cn/3hZwz>

🌐 Visa originaltexten · Betygsätt den här översättningen

 **Folkehelseinstituttet** •
2 mars 2020 · 🌐


Översikt **Kommentarer**

Vi vet mange er opptatt av koronaviruset om dagen, men samtidig er det mange andre viktige ting som foregår – deriblant hodeluskampanjen vår.

Hodelus er et stadig tilbakevendende problem i norske skoler og barnehager, og førstkommande helg oppfordrer vi derfor alle foreldre og foresatte til å ta lusekammen fatt og sjekke barna sine for lus. Før den tid må du gjerne teste lusekunnskapene dine i vår rykende ferske hodelusquiz 🍷

<https://www.fhi.no/ml/skadedyr/lus/quiz-om-hodelus/>

Visa mindre

 **Folkehelseinstituttet** •
3 mars 2020 · 🌐

Når du gjennomfører god hoste- og håndhygiene er du med på å forebygge smitte. Beskytt deg selv og andre, og hjelp oss gjerne med å dele dette viktige budskapet.

Visa översättning

Variable 6: Providing Support (Providing support to help stakeholders adjust to the situation)

Supportive (or adapting) information is corrective action taken to resolve a persisting issue and aims to help people cope with uncertainty and serve the purpose of helping stakeholders adapt to changes or increase wellbeing. These messages address the practical implications and necessary adjustments resulting from a crisis, ideas or “tips” on how to maintain physical health, mental health, social cohesion, acknowledgement of emotions, or include guidance on changes in business operations, services, or procedures to help stakeholders understand how to navigate the new circumstances.

These messages can also provide clear instructions, recommendations, or guidelines for facilitating a smooth transition to the new normal during the crisis or provide people with support to cope psychologically and to adapt to current situations.

Definitions	Example
Encouraging messages – intended to emotionally support people to face adversity and to strengthen their psychological coping capacity	Håll ut! Tack för att du håller avstånd och fortsätter följa de allmänna råden. Tillsammans bromsar vi smittspridningen. Här kan du läsa om de allmänna råden: https://www.folkhalsomyndigheten.se/smittskydd-beredskap/utbrott/aktuella-utbrott/covid-19/alla-har-ansvar-att-forhindra-smitta-av-covid-19/bromsa-smittan--det-har-kan-du-som-privatperson-gora/ := https://www.folkhalsomyndigheten.se/smittskydd-beredskap/utbrott/aktuella-utbrott/covid-19/skydda-dig-och-andra/
Messages aiming to promote general well-being from a broader perspective	Använd naturen som ditt gym! Med starka benmuskler och bättre balans minskar risken att falla. Utnyttja naturen som ditt gym. Ta med dig en träningskompis och en mobil för att känna dig säker och kunna få hjälp om du faller. Tips! 🏃 Utmana dig själv! Bäst effekt får du om balansövningarna känns svåra och styrkeövningarna gör musklerna trötta. 🚶 Promenad i ojämn terräng tränar både styrka och balans. 🕒 För att få en god kondition, försök att vara fysiskt aktiv minst 150 minuter i veckan. Lycka till! Syntolkning: Illustration som föreställer en kvinna och två män som gör styrkeövningar i naturen.

0 = There is **NO** adjustable objective present in the message

1 = There **IS** adjustable objective present in the message

Example of posts:



socialstyrelsen_officiell • Följ

socialstyrelsen_officiell • 195 v
Har redigerats
TA HAND OM DINA FÖTTER
Hur fötterna mår kan påverka balansen. Speciellt om de gör ont. Prata med din läkare eller ta hjälp av en fotvårdsspecialist om du har problem med dina fötter.

Några tips!

- ◆ Medicinsk fotvård kan lindra smärta.
- ◆ Använd skor med bakkappa både inomhus och utomhus.
- ◆ Prata med din läkare om du har behov av ortopediska inlägg.



77 gilla-markeringar
DEN 13 FEBRUARI 2020

socialstyrelsen_officiell • Följ

socialstyrelsen_officiell • 195 v
Har redigerats
I dag på Alla hjärtans dag tänker vi på dem som väntar på ett nytt hjärta. ❤️ Anmäl din vilja i donationsregistret. Dela gärna inlägget med en vän. Du kan rädda liv! ❤️❤️❤️ #allahjärtansdag #hjärttransplantation #donation #socialstyrelsen

Variable 7: Reputational Management (Information about the Organization or seeking to increase trust and transparency)

Reputational information refers to information that helps an organization manage its reputation and messages are designed to manage and protect the organization's reputation. They address perceptions, trust, and the organization's image in the eyes of stakeholders and the public and may acknowledge any shortcomings or mistakes and outline corrective actions. They inform of cooperations, highlights, studies, reports, or internal information.

Reputational messages are directed at a broad audience, including the general public, media, and stakeholders, and aim to maintain or restore trust and confidence in the organization by highlighting the organization's efforts to mitigate the impact and prevent future occurrences.

Definitions	Example
A post containing reputational strengthening includes information about a success and/or improvement	<p>Vi er så stolte av sjefen vår! Camilla Stoltenberg er tildelt Helselederprisen 2022! 🎉</p> <p>Det er Norsk sykehus- og helsetjenesteforening (@nsh_norge) som deler ut prisen årlig. Camilla ble nominert av utbruddsgruppen på FHI. I nominasjonen står det bla.</p> <p>👉 «Internt i FHI har hun utvist stort lederskap i sin kommunikasjon mot de mange arbeidsgruppene som har jobbet lange dager og uker over en svært lang periode. Dette har vært med på å gi motivasjon for å orke litt mer og strekke seg litt lenger. Hun viser stor tillit til medarbeidere samtidig som hun alltid setter seg grundig inn i saker av faglig, strategisk og prinsipiell betydning.»</p> <p>– Det å bli omtalt slik av medarbeidere som jeg setter så høyt, og som har ofret så mye de siste to årene, er ubeskrivelig, sier Camilla. - Jeg er så rørt og stolt og takknemlig! Takk til dere som har nominert, og takk til hele FHI. Jeg deler prisen med dere alle.</p> <p>NSHs styre begrunner tildelingen med den faglige tryggheten og åpenheten hun har vist, samt at hun har delt plassen med mange kolleger.</p> <p>#vipåfhi #folkehelseinstituttet #helselederprisen</p>
Information about new collaborations or studies	<p>Ukraina kämpar just nu med allvarliga konsekvenser av stora översvämningar. Regeringen har fattat beslut om att Sverige genom MSB ska stödja Ukraina med materiel för att stärka landets beredskap. ! – Ukraina efterfrågade stöd genom EU:s civilskyddsmekanism på samma sätt som Sverige gjorde vid skogsbränderna 2018. Samarbetet med EU ger en ökad kapacitet för alla länder i Europa att hantera kriser, säger Josefin Gullstrand, projektledare för insatsen på MSB. ! I insatsen bistår Sverige med 250 stycken brandslangar. Slangarna är 25 meter långa och 76 millimeter i diameter. Med i lasten till Ukraina var också 1200 meter översvämningsbarriärer som är 80 centimeter höga. ! Läs mer om insatsen här: 📄 https://www.msb.se/sv/aktuellt/nyheter/2020/juli/msb-stodjer-hantering-av-oversvamnning-i-ukraina/.</p>

0 = There is **NO** internalizing objective present in the message

1 = There **IS** internalizing objective present in the message

Example of posts:

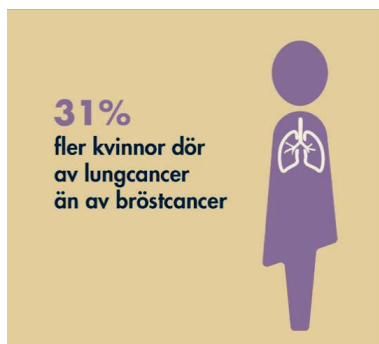
 Myndigheten för samhällsskydd och beredskap (MSB)  

3 september 2021 · 

[Översikt](#) [Kommentarer](#)

Efter jordbävningen i Haiti är behovet stort av humanitär hjälp. MSB har därför skickat ut experter samt materiel till Haiti för att stötta landet i räddningsarbetet. I dagsläget består teamet av elva personer som bland annat har arbetat med koordination, teknisk assistans och support. I klippet får vi höra Ann-Charlotte Carlqvist intervju Elaine Olofsson, som jobbar som sjuksköterska under insatsen.

[Visa mindre](#)



socialstyrelsen_officiell  · 

 socialstyrelsen_of  · 196
ficiell  · 

Här redigerats · 

VISSTE DU ATT lungcancer orsakar fler dödsfall hos kvinnor än bröstcancer? Drygt 1 800 kvinnor dog av lungcancer under 2018 i Sverige. Av bröstcancer dog ca 1 400 kvinnor.

Varje år får ca 60 000 personer i Sverige en cancerdiagnos och mer än var tredje person kommer att få ett cancerbesked under sin livstid. Samtidigt som fler i dag insjuknar i cancer överlever också betydligt fler.

Källa: Statistik om nysupptäckta cancerfall 2018, Socialstyrelsen.

#cancerstatistik #lungcancer #världscancerdagen #socialstyrelsen

61 gilla-markeringar
DEN 4 FEBRUARI 2020



folkehelseinstituttet  · 

 folkehelseinstitu  · 196
ttet  · 

Kjære @stoltebergcam , gratulerer så masse med dagen! Hilsen denne glade gjengen og resten av folks dine på FHI 🥳🥳

 Anja Schou Lindman #vipåfhi
Visa oversättning

 stoltebergcam 196 v
Takk!!! 

2 gilla-markeringar · Svara


   

168 gilla-markeringar
DEN 5 FEBRUARI 2020

Variable 8: Interactivity

Interactive messages invite people to respond or engage with the topic, thus promoting two-way interactions or public discussion.

It can also encourage response via phone or email.

Definitions	Example
A post containing encouragement to share, respond, or like	FB-live: Spørg om nære kontakter og opsporing Tak fordi I så med i vores liveudsendelse. Vi kan læse, at der er flere, der skriver, at de har svært ved at høre, hvad der blev sagt. Det kan hjælpe at bruge høretelefoner, ellers skriv dit spørgsmål i kommentarfeltet, så svarer vi der.
A post containing encouragement to communicate with the organization through methods not social media (phone/email/chatbot etc.)	Har du faglige spørgsmål om covid-19? Spør chatbotten på helsedirektoratet.no 

0 = There is **NO** interactive invitation present in the message

1 = There **IS** interactive invitation present in the message

Appendix F – Interview Guide

*Interview guide for: Public Leadership during Prolonged Crises:
Multisectoral and Community-Centric Approach*

Interview guide for Publication III.

Interview guide for project: *Public Leadership during Prolonged Crises: Multisectoral and Community-Centric Approach*

Important note: This is a semi-structured interview. As such, questions are open to change depending on the answers given.

Section 1. Communication strategies

1. Overall, how did your communication strategy evolve as the pandemic progressed?
2. How did you prioritize which information to share with the public, and how did that prioritization change over time?

Section 2. Targeted messages

1. How did you identify and prioritize key audiences (e.g., the general public, healthcare workers, at-risk populations)?
2. What methods did you use to tailor your messaging to different demographic groups?
3. How did you approach educating or reassuring the public?

Section 3. Communication Channels

1. Which communication channels (e.g., press conferences, social media, websites, traditional media) were used and how?
2. Which channels were deemed most effective in reaching the public?
3. Were there any communication platforms or channels that were particularly challenging or successful during the pandemic?
4. On social media, what was the approach regarding
 - Platform selection?
 - Messaging strategy per platform?
 - Targeting specific segments of the population?
 - Answering comments and other forms of interactions from the public and/or media?

Section 4. Risk mitigation strategies

1. How did you manage the communication of changing guidelines and recommendations (e.g., mask-wearing, social distancing)?
2. What strategies did you use to maintain public trust and manage misinformation or conflicting information?
3. How did you address the public's emotional and psychological responses to the pandemic (e.g., fear, anxiety, fatigue)?

Section 5. Feedback

1. How did your department evaluate the effectiveness of your communication efforts?
2. Did you use any feedback mechanisms (e.g., surveys, social media monitoring) to adjust your strategies in real-time?
3. What were the key challenges in managing public reactions and feedback (including or excluding direct comments on social media)?

Section 6. Collaboration.

1. How did you coordinate communication with other government agencies or international health bodies?
2. How did you ensure consistency in messaging across different levels of government and health organizations?

Section 7. Lessons Learned

1. Looking back, what communication strategies were most successful, and which could have been improved?
2. How can future communication plans be improved?

Appendix G – Participant Consent Form

Consent form for: Public Leadership during Prolonged Crises: Multisectoral and Community-Centric Approach

Participation consent form for Publication III.

Are you interested in taking part in the research project:

Public Leadership during Prolonged Crises

You are invited to participate in a research project aimed at evaluating the communication strategies used during the pandemic and the lessons learned afterward. This study primarily focuses on the perspectives of public organizations and institutions operating in Sweden and Norway.

This research project has two main objectives: first, to understand the observations of academicians and practitioners regarding the use of social media, press conferences, and other communication strategies for conveying information during the pandemic; and second, to develop best practices for public health institutions to effectively inform the public about current or potential crises and risk situations—both online and offline. This will be achieved by drawing lessons from a comparative analysis of how different actors and countries responded during the pandemic.

To achieve these goals, I seek your valuable insights to address the following research questions:

1. What lessons can be learned of public health authorities use of online versus offline communication strategies to reach various demographics during the COVID-19 pandemic?
2. What lessons can be learned of public health authorities COVID-19 communication strategies for creating messages and content?
3. What lessons can be learned regarding which communication practices proved to be resilient and adaptable for future use in times of risk or crisis?

This research is a key component of a doctoral thesis on public sector crisis communication, focusing on how government and public health institutions in Scandinavia responded to the pandemic. The aim is to provide best practices for managing future public health crises in Scandinavia, based on a combination of lessons learned and previous research.

Your participation is crucial in shaping our understanding of these dynamics, and I look forward to your involvement in this insightful exploration.

Which institution is responsible for the research project?

Kristiania University College is responsible for the project (data controller).

Why are you being asked to participate?

You have been selected to participate due to your role in crisis communication research.

What does participation involve for you?

If you choose to take part in the project, this will involve you participating in an interview. It will take maximally 45 minutes. Your answers will be recorded electronically and will be transcribed using a software called Nettskjema.

Participation is voluntary

Participation in the project is voluntary. If you choose to participate, you can withdraw your consent at any time without giving a reason.

All information about you can be made anonymous.

There will be no negative consequences for you if you choose not to participate or later decide to withdraw.

Your personal privacy – how we will store and use your personal data

We will only use your personal data for the purpose(s) specified here and we will process your personal data in accordance with data protection legislation (the GDPR).

I, Anna Elisabeth Hasselström, am one of two people who will have access to your information. The second person is my supervisor, Anders Olof Larsson, Ph.D.

To ensure your anonymity, I will replace your name and contact details with a code. The list of names, contact details, and respective codes will be stored separately from the rest of the collected data, and I will store the data on an encrypted research server.

Your name, age, and gender will not be included; however, it is important to inform you that the study will include the name of the organization you work for and your title. However, should you wish not to have your title included, it will be made anonymous.

What will happen to your personal data at the end of the research project?

The planned end date of the project is December 1, 2025. At this date, all recordings and personal data will be deleted.

Transcription (with personal data such as names and titles replaced with codes) will be stored for future research and a follow-up study. Only I will have access to this data.

Your rights

So long as you can be identified in the collected data, you have the right to:

- access the personal data that is being processed about you
- request that your personal data is deleted
- request that incorrect personal data about you is corrected/rectified
- receive a copy of your personal data (data portability), and
- send a complaint to the Norwegian Data Protection Authority regarding the processing of your personal data

What gives us the right to process your personal data?

We will process your personal data based on your consent.

Based on an agreement with Kristiania University College, The Data Protection Services of Sikt – Norwegian Agency for Shared Services in Education and Research has assessed that the processing of personal data in this project meets requirements in data protection legislation.

Where can I find out more?

If you have questions about the project, or want to exercise your rights, contact:

- Kristiania University College via:
Anna Elisabeth Hasselström (elisabeth.hasselstrom@kristiania.no) or
Anders Olof Larsson (andersolof.larsson@kristiania.no)
- Our Data Protection Officer: forskadm@kristiania.no or personvernombud@kristiania.no.

If you have questions about how data protection has been assessed in this project by Sikt, contact:

- email: (personverntjenester@sikt.no) or by telephone: +47 73 98 40 40.

Yours sincerely,
Project Leader,
Anna Elisabeth Hasselström

Consent form

I have received and understood information about the project *Public Health Crisis Communication in Scandinavia: Lessons Learned from COVID-19* and have been given the opportunity to ask questions. I give consent:

- to participate in an interview
- for information about my workplace to be published in a way that can be recognized due to the inclusion of the organization's missions statement

I give consent for my personal data to be processed until the end of the project.

(Signed by participant, date)



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