Susanne Hede

CRISIS

MANAGEMENT

Psycological Challenges for Leaders

Crisis management

Psychological challenges for leaders

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Crisis management - Psychological challenges for leaders

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DOCTORAL THESIS

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Doctoral dissertation: *Crisis management. Psychological challenges for leaders*

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Abstract

The purpose of this thesis is to gain knowledge about how leaders holding the role as crisis manager at the Swedish municipal level perceive and experience crisis management in different phases.

The thesis comprises four papers (**Papers I-IV**) based on empirical data. The sample consisted of relevant municipal leaders. **Paper I**, **Paper II** and **Paper IV** were based on qualitative methods of data collection and analysis, and **Paper III** on quantitative data. **Paper I** presents a theoretical model that highlights the complex evaluations underlying managers' decisions and actions in real-life crisis situations. **Paper II** contributes further knowledge on how to improve evaluation and thus how learning from crisis experience can be developed. In particular, the importance of evaluation and the value of group reflection in evaluation are demonstrated. Additionally, **Paper II** identifies motivational aspects during an event. In **Paper III** perceived preparedness is analysed in terms of three aspects: perceived municipal preparedness, perceived individual preparedness and motivation. These aspects are explained by different psychological theories and concepts and may serve to understand the driving forces for motivation to work with and to develop crisis preparedness. **Paper IV** focuses on motivation for preparedness efforts and contributes a model demonstrating the close links between different motivational factors and how these influence one another, as well as emphasizing the central role of experience and the strong role of personal factors in both supporting and diminishing motivation.

In sum, this thesis demonstrates how psychological theories and concepts are important for understanding the municipal leaders' perceptions of their role as crisis managers. In addition, the knowledge gained in this thesis can be useful for promoting crisis preparedness.

Keywords: Crisis, crisis management, crisis preparedness, learning, motivation, municipal, psychology.

Doktorsavhandling: *Krishantering. Psykologiska utmaningar för ledare*

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Sammanfattning

I Sverige liksom i många andra länder har fokus på krishantering ökat. Detta beror till stor del på kriser som har inträffat nationellt och internationellt. Dessa kriser har bland annat föranlett nya lagar inom krishantering. I Sverige är ansvaret decentraliserat till den kommunala nivån och principerna i krishanteringssystemet innebär att kommunala chefer ska planera för och kunna hantera de kriser som inträffar. Efter krisen förväntas de också lära av händelsen. Totalt har ansvaret och förväntningarna ökat på dom som ska hantera kriser. Krishantering är dock bara en av många uppgifter som kommunala chefer har.

Syftet med denna avhandling var att få kunskap om hur chefer på den kommunala nivån uppfattar och upplever krishantering (crisis management) i olika faser.

Avhandlingen består av fyra artiklar (**Paper I-IV**) med empiriska data som underlag. Datamaterialet (bland annat intervjuer) i **Paper I**, **II** och **IV** har analyserats med kvalitativa metoder, medan **Paper III** (enkätstudie) har analyserats kvantitativt. **Paper I** har bidragit med en teoretisk modell som belyser de komplexa bedömningar och värderingar som ligger till grund för chefernas beslut och agerande i en verklig krishändelse. **Paper II** bidrar med en ökad kunskap om hur utvärderingar för lärande efter en kris kan utvecklas. Analysen visar på att reflektion i grupp tillför andra aspekter än gängse myndighetsutvärderingar. I **Paper II** identifieras också motivationsfaktorer under en kris. I **Paper III** har tre olika faktorer av upplevd beredskap analyserats: upplevelse av kommunens beredskap, upplevelsen av den individuella beredskapen samt motivation för beredskap. Dessa faktorer förklaras med olika psykologiska teorier och koncept. Resultatet bidrar till förståelsen för drivkrafter för motivation att arbeta med och utveckla krisberedskap. I **Paper IV** fokuseras motivation för beredskapsarbete. Artikeln bidrar med en modell som visar de nära kopplingarna mellan olika motivationsfaktorer och hur de påverkar varandra. Vidare synliggörs erfarenhetens centrala roll samt betydelsen av personliga faktorer för motivationen.

Sammantaget visar avhandlingen hur psykologiska teorier och begrepp kan bidra till förståelsen för de kommunala ledarnas uppfattning om sin roll som krishanterare. Kunskap framtagen i avhandlingen är användbar vid utveckling av krishantering.

List of appended publications

Paper I. Enander, A., Hede, S., & Lajksjö, Ö. (2009). One crisis after another: Municipal experiences of severe storm in the shadow of the tsunami. *Disaster Prevention and Management: An International Journal, 18*(2), 137-149.

Susanne Hede was responsible for the gathering of data, the analyses, methodological issues, and discussion. She was partly responsible for the writing.

Paper II. Hede, S. (2011). Lull after the storm? Municipal leaders reflect on multiple crisis experience. *Disaster Prevention and Management: An International Journal, 20*(3), 281-293.

Paper III. Hede, S. (2017). Perceptions of crisis preparedness and motivation: a study among municipal leaders. *Safety science, 95*, 83-91.

Paper IV. Enander, A., Hede, S., & Lajksjö, Ö. (2015). Why worry? Motivation for crisis preparedness work among municipal leaders in Sweden. *Journal of Contingencies and Crisis Management, 23*(1), 1-10.

Susanne Hede was partly responsible for the gathering of data, the analyses, methodological issues, discussion, and the writing.

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Acknowledgement

At last! It is my turn to nail my thesis to the Karlstad University's wall as the tradition demands, and in a few weeks, it is time for the public defence as well.

The road travelled to this day has been bumpy and maybe a little bit too long in terms of time. The times when I was not able to work with the thesis were frustrating. However, when I had time to work with the thesis or to take courses, nothing was a waste of time but everything was exiting! I have learned so much about research. I have also learnt about friendship, felt supported and been encouraged by colleagues, friends and family. I cannot mention all by name, but some deserve a special mention.

Supervisors are important to every doctoral student and certainly also in my case. First, I would like to express my deep gratitude to Ann Enander, my main supervisor throughout the whole process. I admire her endurance! She is amazingly competent in risk- and crisis management related issues and has been a major source of wisdom. She always read my manuscripts thoroughly, and gave well-founded and constructive comments, always in the best interest of the papers and the thesis. In addition, Ann tried hard to help me improve my deficient English, for which I am grateful. I am also indebted to Anette Kjellgen, my first co-supervisor, who contributed with wise comments by discussing the importance of limiting the studies and thus the thesis, and not least to Lars Saxon, who accepted to be my second co-supervisor late in the process, and whose comments contributed a deeper psychological perspective to the thesis.

I also would like to thank all the participants who have taken time to be interviewed and filled in the questionnaire. Without them, there would have been no studies and no thesis. The research on which all four papers are based was funded by the Swedish Emergency Mangement Agency and the Swedish Civil Contingencies.

My sincere thanks also go to my scientific reviewer, Misse Wester Herber, for many helpful comments which improved the thesis.

practical support during all these years has meant a lot, you know that! Kajsa, your generosity when taking care of us all, especially the kids, taking us out on trips and adventures, has made the road to this day easier to travel. Per, you always believed in me. Thank you.

My family, Michael and Daniel, my two wonderful sons, who I am so proud of, without you, nothing is important. Thank you for being in my life.

Susanne Hede
Karlstad, autumn 2018

List of content

x

1. Introduction

1.1. Background

In Sweden, as in many other countries, interest in crisis management has increased in recent years. The main reason for this is the occurrence of international and domestic crises, which have given rise to both new legislation and media attention. In addition, several leading researchers suggest that there will be an increase in both the magnitude and number of crises and, in particular, more diffuse threats and unpredictable scenarios (e.g. GAR, 2011; GAR, 2015; Quarantelli (1999); Schwarz, 2003). Together with the academic debate on the development of risks in modern society led by researchers such as Beck (2002), these trends all point to a need to be prepared for considerable future challenges and uncertainties.

The importance of leadership during a crisis is highlighted in the literature. The need for leadership among people, groups, and organizations is higher during a crisis and, consequently, so is the leader's impact (Hunt, Boal, & Dodge, 1999; Mumford, Friedrich, Caughron, & Byrne, 2007). Leadership is also seen as crucial to the outcome of a crisis (e.g. Boin & t'Hart, 2003; Sjöberg, Wallenius, & Larsson, 2006). On top of that, citizens also expect national, regional and local government leaders to perform well (Kapucu & Van Mart, 2006; Smith & Elliot, 2007). It is reasonable to assume that such expectations, in combination with the challenges of an uncertain and complex event, put considerable pressure on leaders.

Previous research on crisis management at the local level has mainly focused on formal principles and organizational aspects (Johansson, Denk, & Svedung, 2009a, 2009b) but the perspective of the leaders themselves is largely unexplored. Hence, there is a substantial knowledge gap.

The context of the present thesis is Sweden, where the responsibility for crisis management is decentralized and mainly assigned to the local municipal level. In accordance with the principles of civil emergency planning (CEP), local leaders need to plan, be prepared for and be able to handle any crisis that may arise.

The focus of this thesis is on how local leaders perceive and experience factors related to municipal crisis management, from the individual perspective of municipal leaders, chief officers and officials (collectively referred to as municipal leaders). Studies of how local leaders perceive and experience their role/tasks as crisis managers, as well as how they integrate their experience of societal crises, are largely lacking today. This knowledge is important in order to provide better support and training for those who need to prepare for and handle societal crises. Thus, knowledge about how crisis managers perceive their tasks is important from both theoretical and empirical perspectives.

1.1.1. Aim

The aim of the four papers included in this thesis is to gain knowledge about how leaders at the municipal level perceive and experience crisis management in different phases. More specifically, the aims are:

i) to examine factors that influence how leaders perceive (their) preparedness (**Paper II**, **Paper III**, **Paper IV**)

ii) to investigate how leaders experience dealing with crisis and to identify key challenges from the leadership perspective (**Paper I**, **Paper II**)

iii) to develop an understanding of how leadership learning from crisis experience can be improved (**Paper II**)

These aims are expected to reveal underlying factors influencing how municipal leaders perceive and experience their role as crisis managers, and add useful knowledge to be developed in the area of crisis management.

1.1.2. The outline of this thesis

The thesis comprises five chapters and is structured as follows. The present introductory chapter continues with a section on definitions and terms related to crisis and crisis management in order to clarify matters for the reader who is unfamiliar with the crisis management area. The next section provides an overview of the Swedish context and describes previous crisis experiences, previous and present structures of crisis management in Sweden, and relevant statutes and directives. Chapter two introduces the theoretical perspectives informing the interpretation of the empirical results. The theoretical review does not aim to provide a complete research overview of aspects related to crisis management, but focuses on research that clarifies the implicit and explicit demands and challenges that crisis managers may face. The third chapter describes the methodological consideration of and justification for the

approaches used. Because of the explorative nature of the investigation, multiple methods were used and these methods and the selection of the samples are presented. The third chapter also provides an overview of and a table with a summary of the four papers regarding the research questions, samples and methods used. In the fourth chapter, summaries of the four papers included in the thesis are presented. Finally, the results and methods from the four included papers are discussed in the fifth chapter, concluded with conclusions and suggestions for future research. In the appendix, the four articles are attached in full.

1.1.3. Definitions and distinctions

There are many definitions and terms related to crisis and crisis management. The main concepts related to societal crisis events included in this thesis are presented here, in particular, the key concepts of crisis and my use of it. Further, I will briefly introduce the concepts of crisis management, crisis experience, emergencies, disasters, catastrophe, and extraordinary events.

A crisis entails threat to human life, core values of a system or the functioning of life-sustaining systems, which must be dealt with under conditions of deep uncertainty (Rosenthal, Boin, & Comfort, 2001). Quarantelli (1999) makes a relevant distinction pointing out that an event such as an earthquake or a chemical explosion will not necessarily result in a crisis; it entirely depends on how the event will affect people. Another important distinction is the one between personal crisis and societal collective crisis. Personal crisis may occur in the process of normal developmental difficulties or personal challenges caused by severe life events (e.g. sickness, divorce), generally resulting in a well-documented pattern of reactions and process of development comprising different stages (see e.g. Cullberg, 2006). These kinds of crisis reactions have been extensively studied in psychological research but are not the object of study in this thesis. Instead, the focus is on societal crises, i.e. traumatic events which collectively affect many people at the same time and are handled by societal organizations and institutions (a collective trauma might start a social dynamic that also affects the individual's reactions). Here the focus is on the management of societal crisis at the municipal level, and on the local community leaders.

A definition of crisis

A number of researchers have problematized the concept of crisis (e.g. Boin & t'Hart, 2003; Deverell, 2010: Perry, 2006; Rosenthal, Boin, & Comfort, 2001). Inspired by them, I have chosen a definition that involves threats to people, society and its

functions, as well as uncertainty. All these aspects are directly applicable to the responsibilities of managers at the local level. Sometimes the occurrence of an event can be foreseen and is not surprising (e.g. heavy weather), although the consequences can still be difficult to predict. My definition is partly based on Rosenthal et al. (2001) and partly from the Act 2006:544 (SFS):

> When a community of people – an organization, a town, or nation – perceives a threat to core values or life-sustaining functions, which must be dealt with under conditions of uncertainty; the outcome, consequences and the magnitude of the event are surprising; and cooperation is needed.

Crisis management is an ongoing process to prevent or reduce negative consequences, involving activities before, during and after a crisis. The research on which this thesis is based concerns the municipal (local level) with a special focus on municipal leaders. Municipal leaders have many obligations and commitments in their daily work, in which crisis management is only one of many responsibilities.

Crisis experience can be described as observing, facing and/or handling a crisis event. In this thesis, municipal leaders are considered to have crisis experience if they have been actively involved in handling a societal crisis. Similar to crisis experience, universal everyday experience can be described as the process of getting knowledge or skills from doing, observing, or feeling things.

Emergencies are unpredictable in time, but are predictable everyday events that occur regularly. They follow a specific pattern and can therefore be trained and be prepared for. Emergencies have no wider societal consequences, although individuals may be severely affected.

Disasters imply loss of life and severe, long-term damage to property and infrastructure and have been characterized as crisis with a bad ending. There is an ongoing debate about the definition and concept of disaster (see e.g. Perry & Quarantelli, 2005), which has many different meanings based on different scientific traditions. Disaster is seen as more definitive than crisis, as a crisis can be resolved with good results.

Catastrophes can be seen as the furthest end of the threat scale. However, what can be looked upon as a catastrophe in one part of the world may be viewed as natural hazards in other parts (Boin & McConnell, 2007). Thus, cultural factors influence how events are assessed.

Extraordinary events: The Swedish CEP and the laws that regulate the activities use the expression "extraordinary events". The definition under Act 2006:544:§4 reads:

> An extraordinary event referred to in this act is an event that deviates from the normal, involves a serious disruption or imminent risk of a serious disruption of essential services, and requires urgent action by a municipality or county council (translated by author).

A local crisis management committee can, during an extraordinary event, take over the responsibility and decision making in the municipality in order to facilitate co-operation (SFS 2006:544).

Even if there are many definitions and concepts related to crisis, it can be difficult to draw a sharp distinction between them. One reason is that the definitions are to some degree interchangeable. Another reason is that the event itself can develop from an emergency into a crisis, for instance. Yet another reason is that all languages do not have the same terminology, definitions or concepts. For example, the Swedish language does not make a qualitative distinction between disaster and catastrophe. In consequence, even if this thesis has a focus on severe crises, it also draws on literature ranging from emergencies to catastrophes.

1.1.4. The Swedish context

This section gives an overview of various crisis experiences that have affected the local level in Sweden. These events comprise many different causes of crisis, e.g. natural events, technical events, social crisis, acts of terror, fires and spread of toxic materials. The section will also provide a picture of the circumstances under which municipal leaders act by giving a description of the Swedish crisis management structure and relevant regulations.

Crisis experiences in Sweden

A brief overview highlights some key events that Swedish municipalities have faced in the past 30 years or so. The overview is intended to give a background to crisis experiences in Sweden. There have been several crises, with different origins (see beneath), which the municipal level has had to deal with.

Swedish municipalities have encountered the effects of natural events both within and outside the country. Several major storms have affected the country, leaving large areas without electricity, water or telecommunications. One of the worst of

these was the hurricane Gudrun in 2005. Natural disasters abroad have also affected Swedish citizens, making demands on municipalities to provide support to bereaved families and to survivors. For example, in the 2004 tsunami in south-east Asia, over 500 Swedes were confirmed missing or dead. Psychosocial care and support have also been important issues for municipalities after major transport accidents such the sinking of m/s Estonia in 1994, causing the death of over 850 people, of whom 501 were Swedish citizens. Almost all municipalities in the country were affected, and even now, almost 24 years later, the case is not closed for some of the affected relatives. Thus the event can be described as what Drennan, McConnell and Stark (2015) have labelled a "long shadow crisis".

Transport accidents can also present major challenges for the municipality closest to the event, as for example after the fire aboard the m/s Scandinavian Star. This fire, in which 159 people died, broke out at sea, but the ship was towed to the municipality of Lysekil, which became responsible for much of the salvage work. Another major fire affecting a municipality very heavily was the 1998 discotheque fire in Gothenburg, in which 63 young people died and 213 were injured (mostly immigrants). After this tragedy major communication efforts directed to schools and the immigrant community were made by the municipality, police and rescue services in order to restore confidence.

Forest fires have also been problems for municipalities to handle. In 2014 and in the summer of 2018 the biggest rescue operations in modern time occurred. Several rescue services participated (69 in 2014), as well as NGOs and spontaneous volunteers. On both occasions, Sweden requested assistance from EU to get the fires under control. The municipalities needed to cooperate with different kinds of organisations and also to handle public needs and evacuation in some cases.

Some municipalities in Sweden have also dealt with radioactive fallout and toxic threats (diffuse threats), which people in general cannot recognize through their senses or assess what is happening. Thus, the need for information from authorities is of importance as well as public trust. After the Chernobyl accident in 1986 radioactive fallout affected several municipalities in mid- and northern Sweden. The municipalities worked with risk communication to affected citizens for many years. Another diffuse threat was the the toxic scandal at Hallandsåsen 1997. During a rail tunnel construction water leaked in, which the construction company tried to stop by using the sealant Rhoca-Gil. The toxic chemical acrylamide leaked out and affected

humans, animals and the environment in the area. The construction was stopped for a period of time. Also in this case, risk communication and public trust were key issues at the local level.

At the local level, social crisis/concerns such as murder and suicide can be particularly difficult to handle (Enander, Lajksjö, & Tedfelt, 2010). A case in point happened in 1998 when a young boy was killed and other children were thought to be the perpetrators at the time. The investigation relating to this event in a small municipality was traumatic and much publicized. The municipality initiated social work efforts to deal with social problems in the area.

Also, the handling of terrorist events at the local level has been a reality since the attacks in Stockholm (the capital). In 2010 two bombs exploded in the central part of the city during the Christmas shopping. One person, the perpetrator, was killed. Then in 2017, a truck was deliberately driven into people in a central pedestrian street in Stockholm. Five people were killed. In addition, an armed and masked man entered a school in the small city of Trollhättan and stabbed and injured staff and students in 2015. In total, four people died, one of whom was the perpetrator (shot by the police). The school management, other staff members, and students witnessed the crime. At the local level, the school and the social services joined forces to initiate and provide psychosocial support to those who needed it.

Other national events include major floods and heavy snowfall. Since the municipality is the responsible body, municipal leaders have dealt with the impact, reactions and consequences of many of the above events. In addition to dealing with the event itself, the task has involved confidence-building activities, risk communication, and psychosocial support. Furthermore, a number of international events have had an impact on preparedness issues, even if these have not affected the Swedish society directly. Many of these are related to acts of terror such as the sarin attack on the Tokyo subway 1995, the 9/11-attacks 2001 in New York, the bombings in Madrid (2004), and the bombings in London (2005). The terror attack in Oslo and Utöya (2011) has been studied by Swedish researchers in terms of lessons learned from the event (see e.g. Agrell, W., 2013).

Experience exchange seminars organized by (among others) the Swedish Civil Contingencies Agency (MSB) have attracted the interest of various authorities and researchers in terms of sharing experiences with others.

Civil emergency planning (CEP) /Crisis Management in Sweden

Civil emergency planning and crisis management structures are under constant review. During the course of this thesis the CEP, including the legislative area, has undergone changes, as has the perception of the threat of war in the Nordic region. This section gives an overview of the structures that regulate crisis management, as an important background to understanding the framing of the local crisis managers' opportunities to act as well as the formal demands to comply with. The description starts with a brief background of the development of CEP, continuing with the present crisis management structure, and finally, relevant statutes that regulate activities.

History and background of today's CEP

The development of today's crisis management structure in Sweden has been influenced by the various perceptions of threats to Sweden over time, but also by crisis events that Sweden has experienced.

The CEP in Sweden has its roots in civil defence and preparation for war. Earlier the system was distinctly divided between the rescue service and the civil defence, but also between activities in peace time and during heightened alert (SOU 2007:31). This was the case during the cold war, when the focus was on external aggressors. The threat scenario was distinct, with specific and easily identified measures. From 1980 there was a shift in focus from external to domestic internal threats. A contributing factor was a perceived decreased threat of war in the Nordic region. There are also other rationales, for example, the view that social and technological developments have made modern society increasingly vulnerable (Beck, 2002). Related to this rationale, there is an increased demand for protection of people, property and environment. There is also a growing awareness in society about risk issues and preparedness. Another factor in this focal shift was a wish to conform to the development of these issues in the EU. In line with the shift of focus, new government authorities were established. This development can be seen as milestones towards the CEP that Sweden has today (see e.g. Andersson et al., 2017).

A focus on domestic threats was in effect until spring 2015 when the government perceived a greater threat to Sweden due to an aggravated international situation. In a proposition 2014/15:109 (Government, 2014) the government considered planning for and reintroducing total defence. An important step was to revive civil defence. Thus, there was a need for updating psychological defence and for developing society's ability to support the Armed Forces in case of armed attack or war. The

government further suggested greater shared use of civil and military resources as this was believed to strengthen the ability and capacity of both civilian actors and the Armed Forces (Andersson et al., 2017).

The Swedish CEP today

This section describes the civil system for crisis management. The CEP is organized into three authority levels: local, regional, and national. In a crisis, the system is primarily based on the principle of responsibility, which means that whoever is responsible for an activity in normal conditions should maintain that responsibility in crisis. Two additional principles are also observed, namely parity – the organisation should as far as possible remain the same during crisis as under normal conditions, and proximity – crises should be handled where they occur and by those who are concerned. Crisis management capacity is to remain in an area of responsibility. For example, the local level is responsible for preparing for and managing any crises that may occur in the municipality. Swedish municipalities have an autonomy that make them important actors in the system. All Swedish municipalities (290) are required to establish a municipal executive board to serve as the highest civilian authority during a major emergency. As such, it is responsible for all civilian command and crisis management at the local level.

However, the local level has the support of other levels of the system. At the regional level, the county administrative board is responsible for coordinating pre-crisis activities such as exercises, risk and vulnerability analyses. During a crisis, the county board coordinates contact with the media and takes the measures required. They are also obliged to report potential needs to the government.

Other key actors, government agencies, are organized into six different coordinating areas/sectors (e.g. technical infrastructure, spreading of toxic substances), each comprising a number of central governmental authorities and agencies that share responsibility for planning and coordinating security and emergency measures within their specific sector. Other parties are also involved in preparation efforts, e.g. county councils, organizations and private companies.

In an emergency or crisis, a key actor is MSB (the Swedish Civil Contingencies Agency), which has the strategic responsibility for the entire threat and risk scale (from everyday accidents to disasters). MSB should improve and support the nation's capacities for prevention of and preparations for emergencies and crises. When a crisis occurs, they "shall

support the stakeholders involved to take the right measures to control the situation" (MSB, 2018). MSB is expected to collaborate with other societal actors. And finally, MSB must make certain that attention is paid to learning from experience. During major crises the Armed Forces also have a duty to help the civil Society. The Ministry of Justice has the overall political responsibility for the Swedish CEP (MSB, 2018).

Relevant central statutes for crisis management

A number of statutes regulate municipalities' activities on a daily basis, for example, the Social Service Act (promotes economic and social welfare) (SFS 2001:453), and they (like all employers) need to consider the Work Environment Act (SFS 1977:1160). In addition, there are specific statutes for crisis management activities, which are described further in this section.

The Civil Protection Act (2003:778)

> The objective of this act is the provision of equal, satisfactory and comprehensive civil protection for the whole country – with consideration given to local conditions – for life, health, property and the environment against all types of incident, accident, emergency, crisis and disaster.

According to this act municipalities are, among other things, obliged to work on preventive measures against fire and accidents, inform and advise individuals on how to protect themselves, and draft an action program (SFS 2003:778).

The Act on municipal and county council measures prior to and during extraordinary events in peacetime and during periods of heightened alert (2006:544)

In short, this act requires municipalities and county councils to: analyse extraordinary events that might occur and summarise the result in a risk and vulnerability analysis; establish a plan for handling/action; establish an emergency management committee; educate and train elected officials and employees; inform the appropriate authority about actions taken, and provide progress reports during an event. The aim is to reduce vulnerabilities in municipal and county council operations and to maintain a good capacity for handling crises in peacetime and thereby also attain a fundamental capacity for civil defence during periods of heightened alert (SFS 2006:544). Act 2006:544 was partly modified in 2017, for example, in chapter 4 where it is stipulated that the municipality is obliged to help other municipalities and county councils at their request, but is also entitled to receive compensation for such activities.

Two new regulations came into force in 2016:
Regulation 2015:1052 concerning emergency preparedness and security prepared-ness measures by the authorities' responsible, and *Regulation 2015:1053 for total defence and heightened preparedness.*

These regulations aim to reduce vulnerability and to develop a good ability for the government agencies through their activities during peacetime and emergencies (2015:1052) before and during heightened alert (2015:1053) respectively. Activities related to Act 2015:1052 involve risk and vulnerability analysis, education and exercises, and appointing an emergency official. Act 2015:1053 stipulates that designated authorities shall (in brief): plan for a total defence in collaboration with other government authorities (including municipalities), and give the Armed Forces the basis required for their duty to provide information to the government (SFS 2015:1052; SFS 2015:1053).

These above examples of legislation illustrate key developments of the formation of legal conditions for authorities' daily crisis management duties. Thus, the examples also illustrate legislation to be considered in daily activities but also legislation that is activated in times of crisis. Both types need to be followed in times of crisis.

2. Theoretical perspectives on crisis management

The municipal leader responsible for crisis management

In Sweden, crisis management is only one of many management tasks, since municipal leaders operate in an everyday context. In their role as crisis manager, they are obliged to prepare and take action during crises, and are expected to learn from crises. The everyday context and the need to act during a crisis can be seen as two very different settings or contexts. Studies indicate that leadership may and must vary in different contexts to be effective (Bass, 1990; Yukl, Gordon, & Taber, 2002) as demands differ. Hence, the shift between the everyday context and that of a crisis may pose a challenge to the leaders that requires further knowledge.

Research on the Swedish municipal context has examined, for example, assessment of crisis management capabilities (Nilsson, 2010), how tasks are distributed and structured (Johansson et al., 2009a, 2009b), how procedural and methodological tools are used, (Strömgen & Andersson, 2010), and how co-ordination between municipalities functions (Palm & Ramsell, 2007). Other studies have focused on communication and media aspects, for example, Falkheimer, Heide and Larsson (2009) highlight how to communicate during crisis. Another aspect of crisis communication studies is how the media and reports are framing the public (Nilsson, Alvinius, & Enander, 2016). This research suggests that subtle bias framing may impact negatively on accurate planning and influence citizens' (appropriate/inappropriate) responses (Nilsson et al., 2016). Other studies have explored Swedish municipal leaders' assumptions about the public in the context of emergency planning (Hobbins & Enander, 2015) and their interaction with citizens before and during crises, including long-term actions for recovery (Enander, 1999; 2003). The interplay after an event is important also as regards issues of public accountability for the leader (Boin et al., 2016; Koliba, Mills, & Zia, 2011).

As described above, previous research on crisis management has dealt with organizational issues such as structures for crisis management, communication, and how media reporting affects (e.g. by media framing) the municipal leader. There is how-

ever a knowledge gap regarding psychological perspectives, particularly since little work has focused on how municipal leaders themselves perceive their responsibility as crisis managers. In contributing to fill this gap, the present work is informed by the wide range of interdisciplinary knowledge in the field of crisis management research and crisis leadership.

2.1. Different phases of crisis management

The crisis management process can be divided into four phases: prevention (e.g. risk analysis, mitigation strategies), preparation (e.g. planning, training), response (e.g. emergency working, communications) and recovery (e.g. inquiry, learning) (see e.g. Drennan et al., 2015). Some researchers distinguish between three phases: pre-crisis (prevention and preparedness), crisis event, and post-crisis (e.g. Lerbinger, 2012).

Regardless of the number of phases and/or classification, the divisions imply that leaders do have different tasks and demands to meet during different phases. For example, the preparation phase can be performed in scheduled time during work hours, while the emergency phase of crisis management is usually neither set in time (although weather events can sometimes be predicted), nor in scope, which puts different pressures and demands on the leader. These different tasks constitute one of two reasons why this thesis uses (three) phases as a pedagogic tool for describing the crisis management process and its challenges. The second reason concerns the individual. All leaders can/are involved in the preparedness phase. However, not all leaders will experience a crisis, and thus do not have the opportunity to learn from a crisis. Thus, the contexts of the different phases involve different requirements, which can be more or less challenging for the individual.

The following literature review covers first the preparedness phase, here termed *preparing for crisis*. Then follows the crisis response phase, in which municipal leaders face and handle an event, here termed *experiencing crisis*. In the post-crisis phase, focus is on how to learn from crisis experiences, as well as how these experiences affect future preparedness issues. This third section is termed *post-crisis learning*.

2.1.1. Preparing for crises

Preparedness activities are carried out in order to be better prepared for any severe and complex event that may arise. As described here, these activities include planning, exercises and training. The section ends with a short summary. But first, the complex picture for which crisis managers should prepare is presented.

The complex picture

Crises are unpredictable both in time of occurrence and magnitude. Globally, the development of contingencies and measures in order to cope with crises show both positive and negative trends for weather- related events, for instance. On the positive side, the mortality rate of such events has declined (GAR 2011; Goklany, 2007) and on the negative side, urbanisation makes especially vulnerable people more exposed (GAR, 2011; GAR, 2015). Further negative trends are economic and social inequality as well as environmental degradation (GAR, 2015). Added to these negative trends and aspects are terrorism and ethnic conflicts, which all together produce "inevitable surprises" (GAR, 2011; Schwarz, 2003).

The picture described above has a global perspective on preparedness implications but also a bearing on the municipal context. Similar to other countries and areas in the world, Swedish municipal leaders struggle with the uncertainty about where and when a crisis might develop. The leaders need to make sense of the risk complexity described above. Sense making (for an overview see; Mills, Thurlow, & Mills, 2010; Sandberg & Tsoukas, 2015; Weick, 1995) can be related to the initial phase of an unfolding crisis as well as in the pre-crisis phase. Having the responsibility for crisis management issues, municipal leaders are in a critical position. Preparedness, or lack of preparedness, may be crucial to organisations and individual leaders, as they can be held responsible if the outcome is poor (Drennan et al., 2015). However, most importantly, preparedness may determine how successfully human suffering and property damage can be reduced.

In conclusion, the trends and consequences of risks and crises described above indicate that there is a strong need to be well prepared. Such preparations include planning and participating in exercises.

Planning

One central aspect of preparedness is the development of emergency and crisis plans. In the literature, the importance of plans is emphasized because they are considered to contribute to better preparedness, as the plan will lead to preparation for various types of events (Lerbinger, 2012). Municipal crisis plans are also required in the Swedish legislation (SFS, 2006:544).

Planning for crisis is to plan with a great amount of uncertainty. Several researchers have formulated abstract principles or checklists that crisis managers and planners

can use to be better prepared. For example, Alexander (2005) has suggested eighteen principles of value when judging the quality of emergency plans. Perry and Lindell (2003) suggest ten characteristics of effective planning. Among these, they highlight the importance of correct knowledge of the threat and of human responses. Myths about human response are common and can mislead and jeopardize effective planning and use of resources (Perry & Lindell, 2003; Nilsson et al., 2016).

The approach of using checklists has sometimes been questioned by researchers. For example, a contingency plan has its limitations as it often stops with identifying roles and responsibilities for cooperation (Perry & Lindell, 2003). This implies that the leaders/individuals have an extensive liberty to act and respond to crisis demands as they see fit. Accordingly, they have opportunity to act in an adaptive way, which could be seen as positive as it enables leaders to think and act flexibly, which is necessary for a better functioning crisis management (Harrald, 2006). Favourable indicators are that local leaders presumably have knowledge of their environment, materials, as well as personnel resources. A possible criticism of the flexible contingency plans is that leaders may not have previous experience of crises, or have been trained to cope and handle such demanding conditions.

Another weakness concerning a written plan is that it must be a living document, and changed whenever threats and circumstances are changing, which is seldom done (Fowler, Kling, & Larsson, 2007). This makes demands on leaders, who need to have a holistic view of the complex picture and be able to translate overall risk complexity in terms of their own municipal prerequisites. Further, Somers and Svara (2009) suggest that planning needs to include methods that generate internal processes and develop organizational structures in order to gain effective crisis response.

Exercises
Another important part of preparedness is the design and running of exercises. In order to take responsibility and to act in an adequate way in crises, public safety agencies, first responders, and citizens need training (Hooper, 1999). Exercises are conducted with a view that the individual and the organisation can draw useful lessons for the future in a safe environment. Assumptions are that i) people are a vital resource in crisis preparation, ii) their outlook and understanding of crisis can be reshaped, and iii) crisis preparedness can be improved, leading to more effective crisis management and decision-making in the event of a crisis (McConnell & Drennan, 2006). Therefore, one would assume that there is consensus that training and exercises are needed

and that they are effective. However, researchers point to the risk of having blind faith in the efficiency of exercises, based on two different aspects. One aspect is that the robustness of an organization for handling crisis is not measured by the range of exercises (as robustness also requires a well-functioning emergency system, resources etc.) (McConnell & Drennan, 2006). Another aspect is the paradox that exercises may lead to a false sense of security as the perception of risk may decrease when planning and exercises have been handled successfully (Somers, 2009).

A further problem related to exercises concerns the lack of willingness to participate due to personal worries and concerns. One example of individual reasons leading to reluctance to participate in exercises is found in a Swiss study on training civil servants. Although, the researchers/trainers suggested positive reasons for partaking in exercises, the trained officials instead highlighted negative reasons for not participating (Carrel, 2000). The negative reasons were mainly psychological and emotional, including fear of showing themselves ignorant and making mistakes, which might be disadvantageous for their careers.

Even if exercises are expected to build preparedness for future crises, researchers question them on different grounds: the effects of exercises do not equal good preparedness, but instead instil a sense of false security, and people may be reluctant to participate. How leaders view exercises is important as this may influence both their willingness to participate in and the benefits of exercises.

The impact of crisis experience on preparedness
Experience of crises is viewed to have a positive impact on individuals as well as organizations regarding preparedness issues. Research on experience and subsequent preparedness has mainly focused on the individual (citizens) level and on households (for an overview, see e.g. Perry, Lindell, & Tierney, 2001; Terpstra & Lindell, 2013). These scholarly writings demonstrate that what people have previously been exposed to is what they prepare for. It seems that the same phenomenon is to be found at the organizational level (see below).

At the organizational level, crisis experience is assumed to increase preparedness and planning efforts. However, research indicates that organizations tend to plan for the same kind of crisis that they already have experienced, and that crisis managers pay less attention to other kinds of events (Kovoor-Misra, Zammuto, & Mitroff, 2000; Stern, 1997). An example of this form of perception bias became apparent after

9/11 (the World Trade Centre attack). As a consequence of this event, the focus on preparedness and in particular crisis plans have increased in the US, UK and Europe. However, the purpose and context of these measures are almost completely related to the fight against terrorism (Perry & Lindell, 2003). As terrorism aims to cause dramatic consequences, it may be relevant to focus on this threat in order to prevent such events from happening. However, a strong focus on one particular type of scenario can be a mental obstacle to paying attention to other types of risks.

From perception to action – some limitations
Preparedness is often discussed in terms of concrete actions such as planning and exercises. This section focuses on three psychological limitations that preparedness entails, as these often tend only to be implicit in the crisis management research literature.

The first limitation concerns how crisis managers perceive risk and threat scenarios, as their own perception – what they see as risks – will guide the action taken. In general, people tend to focus on aspects and failures that they believe might cause major (e.g. technical) problems (Kovoor-Misra et al., 2000). In addition, the focus can be on events that attract media attention (Birkland, 2009) or on crises that people have previous experience of (Kovoor-Misra et al., 2000; McConnell & Drennan, 2006; Stern, 1997). With a limited focus on previous and likely scenarios, there is a possibility that crisis managers/planners are not open-minded with regard to new threats.

A second limitation concerns taking the risk/threat sufficiently seriously. People in general tend to show an optimistic bias when judging the risks for themselves (Weinstein, 1984). They also tend to display strong defence mechanisms (e.g. denial, downgrading threat importance) and these mental barriers towards thinking about future threats are hard to overcome (Boin & McConnell, 2007). For crisis managers it might imply that they do not see the threats and therefore do not take necessary action.

A third limitation – having knowledge and yet not taking action – is mainly related to organizational factors. There are some aspects found in literature explaining why action for preparedness is not taken. To start with, preparedness has low salience as long as the threat is not imminent (Hooper, 1999; Lindell & Perry, 1992; Perry et al., 2001; Somers & Savara, 2009). Another aspect is that leaders are occupied with their own daily problems and preparedness has low priority in practice. Also, preparation makes heavy demands on resources (McConnell & Drennan, 2006).

Underlying the two latter limitations is the issue of motivation. Previous research on motivation for risk/safety/crisis preparedness has particularly focused on the work environment, for example, Kovoor-Misra (1996), who highlights psychological factors such as defence mechanisms and negative beliefs as barriers to improving preparedness. Factors that stimulate motivation for preparedness are worry and emotions involving responsibility and accountability (Miller & Haslam, 2009; Rundmo & Hale, 2003). Worry and emotions are suggested to be important drivers for behavioural intentions and preventive actions (Rundmo & Hale, 2003).

Summary of crisis preparedness

In short, the challenges for crisis managers in the preparedness phase discussed above are:

- making sense of the constantly changing risk panorama, which is a cognitively demanding task
- meeting demands to prepare for all kinds of crises, even though these are unpredictable in time and magnitude
- being aware of and balancing possible negative effects of psychological factors such as defence mechanisms, risk perception, and (lack of) motivation for preparedness efforts.

Research on psychological aspects of crisis preparedness is thus greatly limited and fragmentary, and there is a need to further explore these aspects, in particular to examine how leaders themselves perceive and meet these challenges.

2.1.2 Experiencing crisis

Even if leaders have been planning and participating in exercises, they may still face unexpected crisis dilemmas and demands. One example is New Orleans and hurricane Katrina. The event was expected, planned for and rehearsed. Despite this, the outcome was a disaster for the citizens, crisis managers as well as politicians (Handmer, 2006). As suggested in the preparedness phase literature, potential limitations at the level of the individual, regarding perceiving risks, sense-making and taking the risk/threat seriously, will probably also be a problem when the crisis unfolds as such limitations are by nature individual.

What crisis managers may face and handle during a crisis is described below through a review of previous literature. The review starts by presenting normative suggestions regarding what leaders need to handle during a crisis and the psychological challenges they may face. The section ends with a short summary of the review.

Handling the crisis

The research literature includes normative recommendations on what leaders should do in a crisis. For example, Boin et al. (2016) suggest five challenges ("musts") for crisis managers and leadership: sensemaking (recognizing crisis signals, evaluating the threat, and then making sense of it), decision making, meaning making (communicating what is happening), terminating a crisis, and learning. The first three challenges are related to the acute crisis management phase and will be examined further.

The review begins with sensemaking. During times of uncertainty the leader must initially try to make sense of what is happening, for themselves and others, even though the magnitude of the event is not clear (Boin et al., 2016). Sensemaking is claimed to be an important factor in crisis management as it aims to give structures and mental models for understanding the situation at hand (Mumford et al., 2007). One of the most prominent contributions regarding sense making is the work of Weick (1995), in which the theoretical framework on how the process is interpreted and enacted is summed up and developed. For example, Weick discusses sensemaking as a retrospective process, which involves past experiences as well as rules and regulations in the environment that form cues which the individual uses to make sense of new information or situations (Weick, 1995**;** Weick, Sutcliffe, & Obstfeld, 2005). There has been some critique of Weick's sensemaking perspective. Sandberg and Tsoukas (2015) have questioned the reasoning that sensemaking is only possible in retrospect and discuss that it may also apply prospectively. In consequence, the individual cannot use sensemaking when planning the next step in a crisis (the author's interpretation). The sensemaking perspective of Weick is here in opposition to counterfactual thinking (e.g. Epstude & Roese, 2009; Roese & Morrisson, 2009). The counterfactual thinking theory involves reflecting on past events which give alternative options for how the event could be handled, which in turn invites new ways to handle, think and act in the future. Weick's sensemaking has also been supplemented with the concept of critical sensemaking, which includes the broader environment and the influence that, for instance, power has on the process (Mills et al., 2010).

Strongly linked to crisis management is the challenge of decision making. During an event, tough decisions need to be taken under conditions of incomplete control and lack of sufficient information. At the same time as the information is not sufficient, the need for quick and accurate decisions is urgent. In addition, crisis managers are and can be held responsible for the outcome. In crisis, resources might not be adequate and priorities must be made. Decision making involves stressors for the individual leader, as consequences and accountability (Crichton, Lauche, & Flin, 2005) are at stake.

The next challenge is meaning-making. To gain legitimacy for decisions taken, leaders need to communicate "what is going on, why it is happening and what is needed to be done" (Boin & Kuipers, 2018, p 33) in order to get acceptance for action taken. Communication can be a demanding task when the infrastructure for communication is damaged and important information can be missing or ambiguous (Crichton et al., 2005). Even if leaders have been trained and in some sense be mentally prepared, the circumstances and the tasks are demanding, one by one and together. Previous studies presented above highlight different challenges and stressors, but it should also be noted that the event itself includes stressors as it is unfamiliar, dynamic (Crichton et al., 2005), and chaotic (Crichton et al., 2005; Paton, 2003).

Other examples in crisis management studies (see e.g. Crichton et al., 2005) highlight further challenges that leaders have to deal with, for example, working in a team, work-load management, co-ordination of activities, consideration and support (to other team members). In addition, leadership issues (who is in charge) need to be solved, and tasks include commanding, planning and re-planning, providing direction, and delegating. Even if organizational processes are important, the management skills above are suggested to be central to the response phase (Crichton et al., 2005). The literature is prescriptive, as it describes what leaders should do and the competences they should have. However, how the crisis managers themselves experience handling a crisis is lacking. And finally, the pressure on the leaders is higher during a crisis as they are needed by people, groups, and organizations (Hunt et al., 1999; Mumford et al., 2007), and citizens expect them to perform well (Kapucu & Van Mart, 2006; Smith & Elliot, 2007). The citizen aspect is of importance at the local level as many of the municipal leaders live in the same municipality as their citizens and meet them on a daily basis. One could argue that these leadership challenges also exist in an everyday context, but the crisis context puts more strain on the leader as problems need to be solved in a situation with a high level of uncertainty, often during time pressure, and with important values at stake.

Summary of experiencing crisis
To summarize, challenges for leaders during a crisis include:
- handling the crisis itself while giving support to the public, personnel and co-workers
- meeting high expectations from all levels to perform well in times of high uncertainty and stress
- developing the cognitive skills needed to handle distinct challenges, e.g., sensemaking, decision making, and communication
- handling stressors and overcoming them.

The municipal leaders' everyday focus is on various tasks, of which crisis management is only one. The summary of previous studies indicates that experiencing a crisis is likely to be psychologically demanding. Working at the municipal level (in Sweden) means that some of the leaders/crisis managers personally know the citizens and have everyday contact with people in the community. Altogether, there is a need for more knowledge of how municipal leaders/crisis managers prepare for and perceive crisis demands since the leadership perspective is an underdeveloped area in previous research.

2.1.3. Post crisis learning

Crises make tough demands on society, and crisis managers and their organizations are put to the test. The effect of preparedness efforts such as emergency planning and exercises are also tested. Accordingly, a crisis creates learning opportunities for those involved. There are also expectations from the public that those responsible for crisis management should take advantage of their experiences in order to improve preparedness (Smith & Elliott, 2007). Overall, it is important to take advantage of experience to improve preparedness issues to avoid making the same mistakes again. This is vital not only for crisis managers, but also for the whole society. However, it has been suggested that drawing lessons is an underdeveloped aspect of crisis management (Boin et al., 2018). Previous research presented below gives some explanations as to why post-crisis learning might be difficult to achieve.

This section places emphasis on the aftermath of a crisis, thus especially learning. The focus is on both the individual perspective and the organizational perspective, as these are interconnected. The review of previous research starts with a section comprising crisis experience and learning, including conditions for learning to take place. Then, conditions for and challenges and barriers to post crisis learning are addressed. The section ends with a summary.

Crisis experience and learning

Researchers present three aspects required for learning from an event, each of which containing several conditions. The first aspect is the incident itself. One condition is how likely an event is assumed to recur. The more likely, the more willing the organization is to invest in identifying the causes of an event (Lampel, Shamsie, & Shapira, 2009). Another condition concerns reactions to the incident. If the incident had severe consequences and high attention in the media, the external pressure prompts learning and motivates those involved to draw lessons and make adequate

changes (Hovden, Størseth, & Tinmannsvik, 2011). In general, it has been suggested that crises have positive effects for motivation to learn and this applies to both the individual and organisations (Boin et al., 2018). Also Koorneef (2000) stresses that for an organisation to be a learning agency, it needs people who are motivated to learn. In addition, crises can be seen as facilitators in changing and reforming existing systems (Boin et al., 2016; Rosenthal et al., 2001).

A second aspect of learning in the context of crisis is how the learning situation is administered and structured. The way in which experiences and lessons are shared is central for learning. An important component is how to recall memories from the event, as memories can fade away (Birkland, 2009). Usually, experiences are shared through one-way communication (e-mail, IT system), but several researchers claim that for learning to take place, face-to-face meeting is essential (Drupsteen & Guldenmund, 2014). It is suggested that workshops for multilevel learning are effective ways to share common experience (Hovden et al., 2011). In addition, according to Hovden et al. (2011), the knowledge of investigators (external individuals) and their objectivity is the single most important condition for learning. However, it is not likely that external individuals can make up for insufficient structures in the organization. Learning after an event is challenged by the fact that administration units need to go back to every day routines and operations, which means breaking up from the crisis context and returning to the daily context (Boin et al., 2016). At this stage, leaders (and administration officers) also need to get recognition for measures taken (Koliba et al., 2011; Boin et al., 2016). It is also likely that the main focus is on societal reconstruction after an event and that learning is seen as a distraction. It seems that to achieve learning, the organisation needs to plan for and structure how and when learning should take place and who should learn. In particular, it would be beneficial to set aside time to promote learning that is useful for the leaders and that can develop preparedness.

A final aspect of learning concerns the individual. It is suggested that the individual learner needs to possess the cognitive ability to reflect on and analyse the experience, and the decision-making and problem-solving skills in order to use new insights gained from the experience (Drupsteen & Guldenmund, 2014). Even if the individual has the cognitive ability to learn, they may still not learn from crisis, or be willing to learn, for several reasons. One such reason is limitation in managers' thinking. The individuals may be limited in how they think if they have fixed opinions, values and assumptions on how things are (Smith & Elliott, 2007). Another limitation is

"over-learning" (Stern, 1997). Over-learning means that crisis managers pay more attention to the crisis that they have handled and not so much (or at all) to other events (Stern, 1997). This is particularly relevant after a so-called focussing event, which is a specific event that strongly captures both media and the public's interest, and may even lead to changes in policies (Birkland, 2009). Another reason why learning might not take place is defence mechanisms among individuals and organizations (Argyris, 1999; Stern, 1997). For example, individuals may try to protect themselves. They tend to forget what has happened in order to hide mistakes, which means that they do not analyse and learn from the event (Lagadec, 1997). Individuals can also change their story, to avoid becoming a scapegoat, which means that the experience is not trustworthy (Smith & Elliott, 2007) and thus should not be used to build preparedness. It seems that an open atmosphere where it is acceptable for the individual and the organization to fail should be encouraged. There is also an element of not doing the utmost, but taking the easiest way out by seeing the problems that are easy to fix (Birkland, 2009). To sum up, both organizational aspects and psychological factors need to be considered to explain why leaders learn/do not learn from an event.

Summary of post crisis learning
Regardless of the nature of the crisis, learning needs to take place. Important prerequisites for and aspects of post crisis learning highlighted in the literature are:
- taking advantage of the fact that crisis positively affects motivation to learn
- finding ways to take advantage of experiences by, for example, structuring the learning process
- developing necessary cognitive abilities in order to analyse the experience
- overcoming psychological defence mechanisms as these may prevent and/or reduce the possibility to learn from an event.

Even though learning from crisis experiences is an important aspect in preparedness activities, previous research shows that it is not obvious that learning takes place after an event. Psychological as well as organizational aspects limit the learning process. How crisis managers can or do learn from crisis has not yet been sufficiently examined, nor how to improve ways for how this can happen.

3. Methodological approach

The aim of the present thesis is to gain knowledge about how leaders at the municipal level perceive and experience crisis management. The overall aim and topic is multifaceted as both crisis management and crises, as concepts and by nature, are complex. In consequence, an individual's (the leaders') perception concerning crisis management can be considered to be complex. Thus, multiple methods have been used to examine different aspects of leaders' experience.

This chapter starts with an overview of the sample, data collection and analysis method. Thereafter follows a discussion of the methodological approach and considerations of choices made. Finally, some words about conducting crisis research and ethical considerations conclude this chapter.

3.1. Overview

This thesis is based on empirical studies of municipal decision-makers who have the responsibility for all phases of the crisis management process. One of the strengths of the thesis is the use of triangulation, multiple methods, and mixed methods in order to find answers to the research questions. Triangulation of data occurs when multiple theories, materials or methods are used. Two different types of triangulation have mainly been used: investigator triangulation (more than one investigator have analysed the qualitative data) and methodological triangulation (case study, interview, focus group interview). Triangulation gives a broader picture of the phenomenon and enhances the validity (in qualitative research) (e.g. Brinkmann & Kvale, 2009). In addition, a mixed method design (see e.g. Creswell & Creswell, 2017; Bryman, 2006) was used to increase (broadening and deepening) the spectrum of knowledge in respect to the research aim. This was done by using both qualitative and quantitative data and analyses. There are a number of reasons why a combination of quantitative and qualitative methods may be appropriate, for example, when studying a multifaceted issue (Patton, 1990), or starting up a new area of research (e.g. Hayes, 2000), to overcome disadvantages with each respective method (Bryman, 2006), to gain a better symbiosis between theory and practitioners as the theory can be useful in daily life (Zaccaro & Horn, 2003). Altogether

interviews, focus group interviews, open answers in a questionnaire, and question-naires were used as sources of empirical data. The research questions guided the choice of data collection and analysis respectively.

Four papers are included in this thesis. **Paper I** is based on the crisis phase, **Paper II** on learning and development after crisis events. In both papers qualitative data were used to study the leaders' own views of handling crisis and the aftermath. In **Paper III** factors that contribute to perceived individual and municipal preparedness as well as leaders' motivation for preparedness efforts are focused on. For this purpose quantitative data were used. Finally, in **Paper IV**, factors that contribute to motivation for preparedness issues are studied. Two qualitative datasets were used, interviews and open questions in the questionnaire. **Paper IV** shares a sample of a total of 579 respondents from **Paper III**. A summary of each paper regarding the question, sample, methods for collection and analysis is shown in Table 1.

Table 1. Summary of research question, sample, data collection and method for each paper

Paper	Question (simplified)	Sample	Data collection	Main method of analysis
I	How do municipal leaders perceive and experience crisis manage-ment?	19 municipal leaders with crisis experience	Interviews	Grounded theory
II	How has and/or can experience affect prepared-ness issues and how can the learning potential be developed?	13 municipal leaders with multiple crisis experience	Focus group interviews	Grounded theory
III	What factors con-tribute to perceived preparedness at the municipal level as well as the individual level, and to motivation for preparedness efforts?	739 municipal leaders	Questionnaire	Regression analyses
IV	What factors influ-ence motivation to work with pre-paredness issues?	Study 1) 579 municipal leaders + Study 2) 20 municipal leaders	Open questions in Questionnaire Interviews	Grounded theory

3.2. Methodological considerations

Sample

In **Paper I**, **Paper II** and **Paper IV** the interviewees were strategically selected (Dellve, Henning-Abrahamsson, Trulsson, & Hallberg, 2002; Glaser & Strauss, 1967) in each respective study. All interviewees had crisis experiences and represented different everyday leadership roles in a municipality. The sample in **Paper I** and **Paper IV** respectively was chosen through the snowball technique (Taylor & Bogdan, 1998) where leaders indicated others that had been important actors in the crisis phase. By using a convenience sample, a researcher can look for individuals that can reinforce and develop the studies, or a theory (Morse, 2016), and in my case, for the purpose of the thesis. In **Paper III**, the population of interest is also strategically selected, representing different roles and functions in crisis management at the municipal level. The original sample comprised chief municipal managers, rescue service chiefs, heads of technical offices, and heads of social offices. The respondents to the open question used in **Paper IV** were taken from this sample.

Data collection

Several methods were used to collect data. Interviews offered the opportunity to conduct more in-depth examination of the leaders' views on crisis management, while questionnaires served to describe statistical relationships between different phenomena. The quantitative data also gave the opportunity to generalize. In consequence, the use of both qualitative data and quantitative data has contributed to depth and width in the present thesis. In the following, I discuss the pros and cons of each method, starting with interviews, followed by group interviews, and ending with questionnaires.

Individual and group interviews centred on the leaders' thoughts, opinions, and feelings in relation to their experiences of crisis management during an event (**Paper I**), after multiple crises (**Paper II**), and in the preparedness phase (**Paper IV**). In all interviews a semi-structured interview guide was used, giving the opportunity to follow what the interviewees found interesting (Bryman, 2002; Kvale, 1996).

There are essential differences between a one-to-one interview and a group interview, and it is important to be aware of the pitfalls. Different interview techniques involve differences not only for the researcher but also for the interviewee. In the one-to-one interview the interviewee can be more outspoken. Even if researchers are recommended to use a nondirective approach in research interviews, the one-to-one inter-

view started with some "get to know talk" to make the interviewee feel comfortable and relaxed in order to answer the questions as honestly as possible. Thus, this can be regarded as a social interaction between me as the interviewer and the interviewee (Taylor & Bogdan, 1998; Holstein & Gubrium, 2004; Kvale & Brinkman, 2009). In consequence, the effect of social desirability may arise. To avoid response bias, two measures were taken: the interviewees were encouraged to give their personal views as this would be a valuable contribution to the understanding of crisis management in a Swedish context. In addition, open questions (e.g. tell me...; describe...) were used.

Group interviews have a dynamic which helps the participant to access the opinions that are not otherwise available (Morgan, Krueger, & Scannell, 1998). In the group interview my colleague and I acted as facilitator and moderator, holding back and were quiet to encourage the participants to talk freely with one another, even when they discussed subjects that were not in the framework of the study, but closely related (Morgan et al., 1998). Due to the time limit, it was sometimes necessary to get the participants on track again. Members in a group interview may find it hard to say their meaning or a discussion might lead to consensus. However, to my understanding, this was not the case. Rather, the participants were discussing freely and had different opinions. Most likely this was due to the introductory workshop which raised the discussion beyond the blaming level to focus on preparedness structures. A negative aspect when conducting interviews is that these are time consuming both for the researcher and the interviewee. Time (and money) is also limited for a research project.

In contrast to interviews, questionnaires are considered to save time and money. The use of questionnaires for data collection allows for reaching a large number of respondents in a short time, in my case the total population concerned. Themes and items chosen for the questionnaire were based on the result of an empirical qualitative pilot study (thus meeting one criterion for mixed methods research). The questions were funnelled, going from more general questions to more specific and/or more personal.

To overcome response bias different types of designs were used, for example: questions indicating agreement or disagreement, questions providing alternative answers, and open-ended questions. The questions in each question area were both positively and negatively directed. Hence, a higher value of the response scale can be either negative or positive. A pilot study of the questionnaire was made with research colleagues and with people working with crisis management issues in order to avoid errors in phrasing the questions (e.g. ambiguous, implicit, over-complex vocabulary).

Data analyses

Studies included were analysed using two main methods. For the qualitative data a grounded theory (GT) approach was used, and the quantitative data were analysed with the help of descriptive, correlational and regression analysis (the main method). In the following, the choice of these methods as well as their benefits are discussed, starting with the qualitative analysis (GT inspired) and then the quantitative analysis (regression analysis).

My methodological basis is the GT comparative method introduced by Glaser and Strauss (1967) in their book *The Discovery of Grounded Theory*. The reason for using GT is multifold: i) it provides an analytic tool which is useful when, as in my case, the data vary (interviews, group interviewees and open question); ii) GT also aims to build a theoretical understanding of an area or topic not thoroughly studied; iii) GT can handle complex systems and can capture variations that characterize the central theme of a study (Strauss, 1987); and finally, iv) GT is suitable for generating new knowledge and hypotheses for further research (Glaser and Strauss, 1967).

In the original GT, the theory that emerges should be accessible and understandable for practitioners. In a more recent work, Glaser (2011) suggests that researchers who are using GT are (or should be) abstractors, who should try to "get out of the empirical data" in order to reach a higher level of abstraction. A high abstract level makes it easier to develop a theory, and it is not important if, for example, participants understand the theory or not. However, when working with applied research, as in this thesis, the former approach to making the theory understandable for practitioners is preferable.

GT as a method for analysing data was chosen because of the above mentioned advantages. As a consequence, models and concepts emerging from this thesis aim not only to contribute to psychology and the scientific field of crisis management, but also to be understandable and useful for strategists and practitioners in the CEP context.

The GT inspired process

In three papers (**Paper I**, **Paper II** and **Paper IV**) the analysis of data was inspired by guidelines for the GT comparative method introduced by Glaser and Strauss (1967). The process of data analysis can be seen as straightforward, going from concrete data to more and more abstract levels of knowledge in the following way: reading every line in the data protocols → open coding → sorting codes → putting codes under

categories → and finally joining categories into themes/or finding the core category. Thus, the important part of analysing data, namely comparisons between data, codes and categories, was done iteratively. Memory notes were also taken continuously during the analysis (and also immediately after the interviews). Memos are helpful tools to limit coding overload and to find the core category (Glaser, 2011).

Colleagues in the research team double-checked codes and categories, to see if the analyst used relevant concepts emanating from data. In a few cases, some categories were discussed and changed. The use of other researchers' involvement has been questioned, as involvement can interfere with the process of getting to the abstract level by focusing on the descriptive data (Glaser, 2011). In our case, however, the use of fellow colleagues can also be said to represent an independent audit (Smith, 2003).

There has been some criticism of GT. The main criticism concerns the diverse versions of the method, which detract from its uniformity. GT has developed into three different types: Glaser's classical GT (inductive); Strauss version emphasizing deductive validation; and Charmaz version that places emphasis on a constructivist way of interpreting data (e.g. Charmaz, 2014). There is also a fourth version of GT developing, a feminist GT. This may lead to confusion regarding which GT approach to use. Without engaging further with disentangling these definitions and approaches, I would like to emphasize that my approach is based on core elements. A second criticism concerns the degree to which researchers actually reach the goal of theorizing their data, which is the core and expected final result of GT. My goal was not to develop a new theory; rather to increase theoretical knowledge, which the theoretical models in **Paper I**, **Paper II**, **Paper IV** demonstrate. A final criticism relates to the expectation that researchers conduct interviews and inductive analysis without any prior preconceptions. I did have some understanding and preconceptions since I was familiar with both the theories and reports of events, and had followed the media coverage of various events. In interviews as well as analysis I tried to ignore my pre-knowledge.

Quantitative analysis
In the quantitative data analysis both descriptive data and correlations were used. But the main analysis method in **Paper III** is regression analysis. Multiple regression analysis seeks to predict an outcome from several variables. The method is useful as it "allows us to go a step beyond the data that we actually possess" (Hayes, 2000, p 144). Hierarchical regressions were used to enter predictors in the models. For variables at the categorical level logistic regression was used.

Following suggestions by Pallant (2013) and Field (2009), preliminary analyses were conducted to ensure no violation of the assumption of multiple regressions (sample size, multicollinearity and singularity, outliers) and the residuals scatterplot (showing relationship and any differing analytical units) were checked for. No violations were found. After the initial regression analysis, only significant predictors were used in the second analysis.

Conducting crisis management research and ethical considerations

To study municipal leaders' views on crisis management poses some challenges. One such challenge is that crisis appears without advance notice and researchers cannot always be on "stand-by". Therefore the study of crisis experience is generally done retrospectively. Yet another reason for no direct involvement is that the environment might be unsafe. The involvement of researchers during an event has been ethically questioned as the researchers' need is not always in harmony with respect for the individual (Sumathipala, 2008). In order to do studies retrospectively, the interviews with individual follow up questions and group interviews worked as tools to recall memories.

With respect of ethical values in research and individual integrity, all studies included in this thesis comply with the Swedish Research Council's "Good research practice" (Swedish Research Council, 2017). All informants were given information about the background and purpose of the respective project, they were made aware that participation is voluntary, and that the data material will be handled with confidentiality and they have given their informed consent. The information was given by e-mail before the interview session, but also in connection with the interview, or written on the survey front page respectively. Also other ethical aspects were considered. After completed analysis, transcripts were anonymized in terms of personal name, role or profession, and place. The recordings are kept securely under lock.

4. The present investigation

The following sections summarize and provide an overview of the four studies comprising this thesis: **Paper I** (Enander, Hede, & Lajksjö, 2009), **Paper II** (Hede 2012), **Paper III** (Hede, 2017), and **Paper IV** (Enander, Hede, & Lajksjö, 2015). The background, aim, method, main results, and conclusion of each of the four papers are presented briefly, followed by a general discussion of their contribution to the overall aim and questions of this thesis.

4.1. Summary Paper I
One crisis after another: municipal experiences of severe storm in the shadow of the tsunami.

Brief background and aim
There is relatively little knowledge of how municipal leaders perceive their responsibility as crisis managers and the demands that the civil emergency planning/crisis management system makes on them in crisis situations. When the storm Gudrun hit parts of Sweden in January 2005, the municipalities were in a state of alert as they were still engaged in, or just finishing off the work after the tsunami in South East Asia in December 2004. Since Sweden has limited experience of severe natural disasters, these two events are of major interest as both the crisis system and the municipal leaders' crisis management skills were tested.

This paper explores how municipal leaders perceive their responsibility as crisis managers and provides an analysis of the problems and demands that they face during a crisis.

Method
Interviews were used as the main method to answer the research question. The sample was strategically selected (Dellve et al., 2002; Glaser & Strauss, 1967) and comprised heads, managers and politicians in three different municipalities. Ten of the leaders were men and nine were women. These leaders represented different everyday roles and functions. The sample was chosen through the snowball technique (Taylor & Bogdan, 1998).

The interviewees were asked to talk freely about six different themes: dealing with the event, personal role, preparedness, previous experience, lessons learned, and the experience of dealing with two events in parallel (storm and the tsunami). A semi-structured interview guide (developed as a mind map) with individually tailored follow-up questions was used.

Result and conclusion

Based on the data analysis, a model was generated describing the factors significantly affecting the decisions and actions of the managers. Central to the model is the evaluation sphere, which identifies areas of tension or conflict underlying the leaders'-descriptions of different crisis-related problems and priorities. The role as crisis leaders implies tensions. Evaluations of crisis-related dilemmas related to tough decisions are central and in turn influenced by the manager's characteristics, the societal context in which the event occurred and crisis characteristics.

One area of tension for the leaders was between everyday work and crisis needs. As the consequences and the demands of the storm lasted for many weeks, crisis leaders were forced to constantly prioritise between people in acute need of help and routine tasks (e.g. economic reports) that needed to be done.

A second area reflects the tension between assessing legislation and practice as support or hindrance in handling and taking decisions in the aftermath of the storm. Here, different opinions were found between the municipalities. In one municipality leaders found the legislation insufficient and therefore deviated from it. Yet others thought that the laws were good guidelines to base decisions on. Both the conflict between routine and crisis conditions and the tension involved in assessing the relevance of rules and practice shape the way the leaders discuss their own role and the demands of crisis management. Two different ways of perceiving the personal role appear: either as a natural progression from the ordinary everyday role, or as different and formed by the situational demands and public needs. But, the leaders' view is that they have responsibility and may be held accountable because of their professional role.

Assessing human vulnerability versus coping resources is the third and final area of tension. The way leaders looked upon their citizens' capability to take responsibility and cope themselves during the crisis, also showed divided opinions between the municipalities. If citizens were looked upon as vulnerable, the crisis leaders tended

to help people even with the small things that another municipality took the view that people could buy or handle themselves. This resulted in different approaches in the municipalities concerned, giving rise to citizens questioning and some rivalry to appear as good crisis managers between the leaders in different municipalities. How to assess the support needed was a major and difficult task. Priorities could be based on assessment of material as well as psychological needs. Another group that needed support was their own staff. They were under a heavy workload at work and sometimes also at home.

The assessment of human vulnerability and coping resources also had impact on co-operation. Due to the consequences of the storm, the leaders needed to cooperate with other organisations in the municipality and beyond. How the cooperation worked depended largely on whether or not there was a consensus between organisations regarding vulnerability and coping resources. Finally, the leaders were under strain not only because of the workload and difficult decision-making, but also because they were personally affected by the storm. They expressed a need of support from others and positive views on their performance.

Being personally affected created conflicts in the work-family interface and could have implications on their work performance. The evaluation sphere identified is important to resolve in order to reduce the stress level experienced.

Contribution
We have found very little previous research on municipal leaders' own views of their experiences in holding a leading position and handling a crisis event. The theoretical model highlights the complex evaluations underlying manager's decisions and actions in real-life situations. The model has practical implications as it can be used as a tool to design exercises, but also as a guideline for authorities, in providing and developing preparedness and crisis support.

4.2. Summary Paper II
Lull after the storm? Municipal leaders reflect on multiple crises experience

Brief background and aim
Following up on the leaders' experiences reported in **Paper I**, the study in **Paper II** also centres on leaders' views as they had faced further natural events, floods and storms at this point.

The purpose of the study in **Paper II** was to analyse municipal leaders' views of their experiences to develop a theoretical understanding of how multiple crisis experience affects preparedness issues, and of how the learning potential of municipal crisis experience can be developed.

Method

Two group interviews were conducted with two of the three municipalities represented in **Paper I**. As in **Paper I**, the interviewees were strategically selected. In municipality A, six leaders (incl. one new person), and in municipality B seven leaders (incl. two new persons) attended. Seven out of 13 were men. The interviewees can be seen as having multiple crises experience, as they had dealt with at least two more severe events (floods and storms) since the previous study. The three new informants also had crisis experience. The interviewees were first asked to describe their experiences related to the storm Gudrun (**Paper I**) and their new crisis experiences. They were then free to select any subject connected to preparedness and experience. The subsequent interview guide included questions related to findings in **Paper I**.

Result and conclusion

Data analysis generated a model illustrating how experience can be developed. A distinction is made between the leaders' acts of assessing and reflecting on their experiences. The former identifies strengths and weaknesses, and the latter reveals challenges and problems they faced, and will face in the future.

Human vulnerability is a dilemma that emerged clearly in the leaders' acts of reflecting. An aspect of vulnerability discussed concerned the citizens and the fact that previous experiences did not help their psychological (mental) endurance during the later events. The vulnerability dilemma also involved the strain on leaders, and their organisations, when crisis managers were themselves affected. As a result, affected leaders will either be more motivated or lack the strength to do a proper job. Co-operation is another dilemma as the leaders perceived co-operation to be important and a strength for them to act. Still, there were demands that could not always be met. There is also an evaluation/learning dilemma in the after phase of a crisis. Individuals need to rest and get back to regular work duties, but evaluation of the crisis should be done to improve preparedness for future crisis. A further dilemma, namely motivation for exercises, occurs after handling several events. As handling a crisis is seen as more demanding and challenging than exercises, there is a lack of motivation among co-workers and the organization to attend training exercises.

The leaders' reflections also reveal counterfactual thinking ("what if") regarding major concerns, for instance, the consequences of a decision and possible negative outcomes of that decision, as well as fear of being criticized and becoming a scapegoat. Another concern regards new threats, for example, events that have psychosocial impact, for which the leaders have little/or no training or experience. Psychosocial events also raised questions among the leaders regarding their own feelings about handling such an event. Furthermore, there were doubts that the present organisation will be appropriate.

According to this study, experience does increase knowledge and confidence in the local decision-maker. However, reflecting on these experiences also extends the perceived risk panorama of what may happen and thus increases understanding of preparedness needs. The importance of developing an understanding and mental concepts of what the crisis leaders can face and have to deal with is discussed.

Contribution

The use of a seminar and group discussion as a method to recall memories of crisis experiences was successful. The importance and need of group reflection is here demonstrated. The method served to get a deeper understanding of crisis challenges and how these experiences affected leaders' perceived preparedness. Yet another important finding is that motivation during an event is influenced by the fact that leaders themselves are affected, but also by a fear of being criticized for their decisions. The findings can be used to develop training and exercises for crisis managers, but also to develop evaluation methods after a crisis.

4.3. Summary Paper III

Perceptions of crisis preparedness and motivation: a study among municipal leaders.

Brief background and aim

This study focuses on the preparedness phase in crisis management, a phase that has often been overlooked. Previous research implies that participating in crisis preparedness activities as well as having actual crisis experiences have an impact on perceived preparedness at both the organizational and individual level, and on motivation for preparedness efforts. Six hypotheses were formulated based on previous research.

The purpose of this study was to examine factors that contribute to three aspects of preparedness: perceived municipal preparedness, perceived individual preparedness, and motivation for preparedness activities among municipal leaders.

Method

The research questions were investigated using data from a questionnaire sent out to all Swedish municipalities (N=290) and four categories of chief officers: chief municipal managers, rescue service chiefs, heads of technical offices, and heads of social offices, in total N=1101. These categories were selected as representing officials with different leading responsibilities in the event of a community crisis. Final response rate was n=739 respondents (67 %). Five main themes from the questionnaire are included in this study. Three outcome variables were formed: perceived municipal preparedness, perceived individual preparedness, and motivation.

Data were analysed by hierarchical regression and direct logistic regression.

Result and conclusion

Basically, different mental concepts for perceived municipal preparedness, perceived individual preparedness, and motivation for preparedness work were found. Perceived preparedness in the municipality appears to be substantially related to what has happened in the municipality. Exercises and previous severe experiences seem to have positively affected the municipal leaders' perception of their municipality's readiness. There are also two individual-related factors that seem to be of importance for perceived municipal preparedness: holding a specific position and age.

Perceived individual preparedness for future crises in the municipality is related to holding a position as chief municipal manager, and is influenced by municipal leaders' own experiences of participation in exercises, crisis management and general crisis experience, and also by their perception of risk to the municipality.

Furthermore, the result suggests that general crisis experience and being personally responsible for crisis management increase motivation for preparedness work. Concern over personal management capability is important to motivate crisis preparation. Being personally responsible for crisis management is directly associated with the individual self and two types of driving forces are discussed to motivate municipal leaders to get involved with preparedness issues. One driving force suggested is avoidance of future negative emotions (affect-driven reactions and actions; worry; anticipated regret). The second driving force is the individuals' belief in their capacity to perform in a way that enables them to have control of the situation (self-efficacy). It is plausible that the two types of driving forces interact and/or may be distinct for different persons.

Crisis exercises positively affect perceived municipal preparedness and perceived individual preparedness, but do not seem to affect motivation for preparedness work. The results also suggest that an individual's general crisis experiences are relevant for perceived individual preparedness and motivation. Therefore, to encourage participants in exercises to make use of their general crisis experiences seems to be a doable and positive way of improving the outcome of exercises, in terms of increased perceived individual preparedness and motivation.

Contribution

The results highlight the importance of psychological aspects such as motivation and self-efficacy in the preparedness phase. Perceived municipal preparedness, perceived individual preparedness and motivation need to be considered as different aspects, and these differences are important in understanding driving forces for motivation to work with and to develop crisis preparedness. The findings in this study have implications for crisis management at the municipal level, the crisis management system (CEP), as they can serve to develop training and exercises further.

4.4. Summary Paper IV

Why worry? Motivation for Crisis Preparedness Work among Municipal Leaders in Sweden

Brief background and aim

The main responsibility for crisis preparedness rests with the municipal leaders at the local level. To work with preparedness issues is trying as it is neither seen as rewarding, nor as a high-status task, and there is often a lack of interest and support. At the same time international research findings indicate some of the difficulties in developing and maintaining a high level of crisis preparedness, both at the individual and the organizational level. Society needs to be well prepared for upcoming crisis. Thus, the purpose of **Paper IV** was to identify incentives for preparedness promotion since it is vital and highly relevant to motivate municipal leaders and key decision-makers to engage in crisis preparedness issues.

Method

Two datasets from municipal officials form the basis of this study. One data set was collected from an interview study concerning activities related to community risk and safety issues in five local authorities with experience of various types of crises. A second data set was collected from responses to an open question on motivation in a

questionnaire distributed to a sample of officials in the Swedish municipalities. Both data sets were analysed with a qualitative method, modelled on a grounded theory approach.

Result and conclusion

Based on the qualitative analyses of the data sets, a conceptual model was developed to describe the interplay of different factors influencing motivation for preparedness efforts. Three key categories positively or negatively influencing the individual's motivation for preparedness efforts were identified. The first category, person-related factors comprise internalized roles and positions, which were seen as positive motivational factors, together with related variables such as personal knowledge, personal values, contributions and development. However, working with risk and safety issues can influence motivation for preparedness issues both positively and negatively. A positive view is that risk and safety preparation efforts could provide knowledge useable for every day work. In contrast, risk and safety initiatives were also considered to be quite different from everyday work, and therefore perceived as decreasing motivation. The organizational and environmental context forms the next category, and refers to factors external to the individual which can increase or decrease motivation for the municipal leader. Leaders who perceived support within their own organization, and from co-workers, state that this affects preparedness motivation positively. Interest from outside one's own organization also affects motivation positively, while lack of interest and insufficient resources have a negative effect. The final category, activity-related factors, include exercises, training, as well as daily risk and safety related tasks. Exercises need to be realistic and functional to be motivating, otherwise these can result in lower motivation. Everyday work with preparedness issues increases motivation in several ways. The daily work is valued as important for the outcome of an event, and therefore increases motivation. Other motivational factors are the mental preparedness that everyday work entails, which increases awareness of one's role in relation to others.

There are interactions of factors both within and between these three categories, all of which are influenced by a central category denoting experiences of having managed an actual serious event. The notion that crisis experience affects motivation permeates our empirical data. Crisis experience affects the personal level of positive motivation in a direct way as the leaders want to be more competent in their role and be able to do a good job. Experiences of crises also influence organisation and context factors. Thus, it becomes easier to obtain resources, the status of preparedness involvement

is raised, and there is increased attention from the public and the media. In addition, crisis experiences will result in increased activities within this area; the local staff in general will take preparedness efforts more seriously. However, while the model proposes experience to be central in influencing motivation, it is conceivable that some crisis experiences may in fact decrease motivation, for example if an individual feels that he or she has failed to manage a severe event capably and does not see any prospect of managing a similar situation better in the future.

In the second part of the result, occupational role differences linked to motivational factors can be found. Chief executive officers display more factors increasing motivation, rather than reducing factors. Their responses are related to their profession, and seldom focused on individual and personal standpoints. Perceived lack of support and interest from other organizational levels contributed to reduced motivation. Rescue Service Chiefs are naturally motivated within their role and from their experiences, but also expressed frustration at lack of support, especially from the political level, and perceived bureaucracy. The Social Welfare Chiefs tended to emphasize that the daily work, their training or personal aptitude provided experiences which were useful for addressing crisis and preparedness issues, frequently with reference to the vulnerability of their clients. Factors that were mentioned as increasing or decreasing motivation were concerned with personal aspects (personal awareness, experiences, knowledge, personal development, interests and talents, sense of responsibility and personal values). Lack of support from the political level and lack of time and resources reduced motivation. Technical chiefs emphasized being professional and prepared but also pragmatic, in many cases with a focus on a societal perspective of resilience as motivational factors. De-motivating factors were administration and heavy workload.

Contribution
The model as a whole usefully demonstrates the close links between different motivational factors and how these influence each other, as well as by emphasising the central role of experience and the strong role of personal factors in relation to both supporting and diminishing motivation. Thus, the significance of a range of factors comprising both external and internal driving forces indicates that building strong commitment to crisis preparedness goes beyond the mere allocation of resources and designation of responsibility. Consequently, this model has implications for approaches to develop and maintain the motivation to work with these issues.

5. Discussion

As previously described in more detail, in their role as crisis managers, municipal leaders face demands and pressure from society (legislation), from the media (Paton, 2003), and from citizens (Kapucu & Van Mart, 2006; Smith & Elliot, 2007) to perform well in every phase of the crisis management process. At the most general level the results of this thesis demonstrate that municipal leaders are aware of the demands. They are also aware that they can be evaluated and held accountable for their decisions and/or actions or non-actions respectively. Municipal leaders expressed that they can master some of the demands they face during a crisis, while being more concerned about others. What they can or cannot master and their commitment to crisis management issues are here found to be dependent on individual characteristics such as motivation, previous experiences and role/profession.

In this chapter, I present and highlight in more detail some of the results which I find most relevant to the research aim (to gain knowledge about how leaders at the municipal level perceive and experience crisis management in different phases). The results are summarized and discussed in relation to the three specific aims which have guided the work: 1. to examine factors that influence how leaders perceive preparedness; 2. to investigate how leaders experience dealing with crisis and to identify key challenges from the leadership perspective; and 3. to develop an understanding of how leaders' learning from crisis experiences can be improved. Methodological considerations are then discussed. Finally, a summary of contributions, practical implications, and suggestions for future research end the discussion.

Factors that influence how leaders perceive preparedness

Regarding the first aim of the present thesis, there are different views as to whether preparedness can be measured. Staupe-Delgado and Kruke (2017) suggest that actual preparedness can be measured in terms of time to evacuate or money spent, for example. In contrast, Jackson (2008) argues that preparedness is hard to measure beforehand since there is no exact scenario as to what an unfolding crisis will entail. Since crisis by definition is characterized by uncertainty and surprise, it is important

how individuals think about preparedness, as they will tend to act on their perception. In view of the research question, the intention here is to discuss findings in the included papers related to how the municipal leaders perceive and experience crisis preparedness, not to attempt to measure the actual state of the preparedness.

Different aspects of perceived preparedness

In this thesis three different perspectives of perceived preparedness, which can be explained by different psychological concepts, are identified. Crisis preparedness perspectives are discussed as either an individual or a collective phenomenon using self-efficacy theory (Bandura, 1977; Bandura & Wessels, 1994) and collective efficacy theory, (Bandura, 2000) respectively (both theories represented in **Paper III**). According to self-efficacy theory (Bandura, 1977; Bandura & Wessels, 1994) a person's actions and reactions will depend on how they perceive their knowledge, opportunities, skills and capability to overcome problems and succeed under pressure. The collective efficacy theory implies that when an individual is assessing a group's capability, the individual assesses both his or her own capability and that of others. Thus, both self-efficacy and collective efficacy apply (Bandura, 2000). In this light, one could expect that municipal leaders´ assessment of their municipality's capability will be relevant to how they view their own preparedness. The third perspective is motivation for preparedness efforts, which is discussed in terms of self-determination theory (SDT) (Ryan & Deci, 2000) (see **Paper IV**). The SDT theory implies that there are three basic psychological needs behind motivation: i) competence (feeling oneself competent) (resembling self-efficacy); ii) relatedness (the need of relating oneself naturally to other human beings); and, iii) autonomy (internalizing the control of one's behaviour from socially sanctioned phenomena and activities in a natural way) (Ryan & Deci, 2000). These needs are in turn related to the individual self (representation of an individual's identity) and more or less integrated in the individual. In relation to motivation for municipal crisis preparedness and management, it should thus be important that these psychological needs among leaders are met. It is generally held that preparedness will significantly influence the outcome of a crisis. Therefore, it is important to identify and support motivational factors for leaders' involvement in these issues. Thus, all three theories are useful tools to identify and understand motivation regarding crisis preparedness.

A quantitative approach (**Paper III**) was used to identify key factors for perceived preparedness, and qualitative studies (**Paper I**, **Paper II**, **Paper IV**) added nuance and deeper knowledge to the understanding of these key factors.

The result in **Paper III** demonstrates that there are different mental concepts regarding how municipal leaders perceive their municipal preparedness and their individual preparedness for coming events. Perceived preparedness is in general related to events in a municipality (if the leader has been involved in exercises and perception of how severe a crisis has been). In contrast, individually perceived preparedness is related to personal experiences of past crisis, e.g. to be in charge during a crisis and general crisis experience, but also to perception of risk and concerns for future demands they may have to face (**Paper III**). Thus, the different perceptions are important in terms of self- and collective efficacy, as the leaders will react and act based on what they think they themselves or municipal leaders together can manage.

The impact of preparedness activities and experience
Previous studies have emphasized planning, exercises, and experience as central factors for developing preparedness. These factors appear as significant also regarding the preparedness perceptions of leaders in the included papers, but seem to be related to different preparedness measures in somewhat different ways. Their importance may also vary with the specific context. Hence, the role of planning, exercises and experience is not as straightforward as might initially be supposed.

Regarding the specific preparedness activities of planning and exercises, these may influence leaders in different ways. Crisis plans are intended to ensure better preparedness (Lerbinger, 2012), although some scholars question their usefulness in the acute crisis phases if they are too limited (Perry & Lindell, 2003; Fowler et al., 2007). Although the issue of the usefulness of contingency plans during a crisis is not studied in this thesis, the present results still contribute by identifying other aspects of planning activities relevant to crisis managers.

Managers themselves emphasize, in interviews and discussions, that during the process of developing a plan, everyday activities such as risk analysis and risk management, positively affect motivation for preparedness. The main reason mentioned is that the planning process involves mental preparation for the individual leader (**Paper IV**). Thus, the checklists and planning process result not only in practical tools during the crisis itself but also in mental preparedness for the municipal leader. However, planning activity factors do not emerge as significant predictors of any of the perceived preparedness measures (motivation for preparedness work, nor to perception of municipal or individual crisis preparedness respectively) (**Paper III**). One difference between these two studies lies in the context of the planning activities,

which in **Paper IV** relates to daily work and in **Paper III** to more formal representation on the municipal crisis management board. The discrepancy in results may imply that to be motivated and develop mental preparedness the individual needs to work more consistently with planning activities on an everyday basis. This interpretation is supported by a previous study in which Werner (2014) found that the more involved an individual is in planning (being a member of a crisis team, exercising the crisis plan), the more prepared the individual feels.

Testing the plan by participating in a crisis exercise is to be actively involved in yet another part of the preparedness phase. Exercises are conducted for the purpose of learning useful lessons. However, findings in the included papers do not give an overall positive view of municipal leaders' perception of crisis exercises, their willingness to attend, nor of how exercises affect perception of preparedness. On the positive side, participating in exercises seems to contribute to an optimistic view of individual crisis preparedness as well as municipal preparedness (**Paper III**). Still, while some municipal leaders express willingness to take part in exercises, others are reluctant to attend (**Paper II**, **Paper IV**). Reasons why some individuals do not want to participate are that they do not think that exercises can provide any experience beyond that already gained from the crisis (**Paper II**). Previous research suggests that causes of resistance to participating can be individual concerns about possible negative outcomes for the career and anxiety to fail in front of others (Carrel, 2000). Whether these findings can be applied to the Swedish context, needs to be studied further. What the included studies do make clear is the importance of motivation to attend exercises. A motivating exercise, according to the leaders, is designed to be realistic and adapted to local conditions (**Paper II**, **Paper IV**).

Actual crisis experience might be expected to increase all measures of perceived preparedness and motivation. Experience is found to contribute to perceived preparedness at the individual level, but only contributes to perceived municipal preparedness if the experienced event is regarded as severe (**Paper III**). Leaders highlight positive effects of experience on mental preparedness, leading to proactive actions (**Paper I**, **Paper II**) and to better support and increased resources in the pre-crisis phase at the organizational level. However, leaders also express concerns that increased interest in crisis issues tends to centre on the kind of events they have experienced previously and that less attention is paid to other kinds of possible events (**Paper II**). This is in line with previous research (see e.g. Kovoor-Misra et al., 2000; Stern, 1997). It seems that a limited perception about future events may be a

drawback with real crisis experience related to preparedness. On the other hand, this thesis does also demonstrate that time for reflection after the experience may change risk perception so that more scenarios become relevant when planning and conducting exercises (**Paper II**).

Crisis experience, as a factor, does not emerge as a predictor of motivation for preparedness work, according to **Paper III**. In contrast, qualitative studies demonstrate both positive and negative effects of crisis experience on such motivation. Leaders express increased motivation for both themselves and their organization after an event (**Paper II**, **Paper IV**). Concern over personal management capability (**Paper III**) and a sense of personal responsibility because of the professional role (**Paper IV**) are examples of motivating factors for preparedness efforts. At the same time, experience may decrease the motivation to participate in exercises since these are no longer perceived to contribute further in building competence (**Paper II**). This can be compared to the results of Somers and Svara (2009), who demonstrated decreased risk perception after successful handling of exercises. Thus, success in a real crisis may lead to a false sense of security and no perceived need for further preparedness, and therefore less motivation for exercises, for instance. Bortolotti and Antrobus (2015) has explained this in terms of unrealistic optimism (Weinstein, 1984), in the sense that individuals are not worried as they do not think that anything bad can happen (to them). In this case, it can be interpreted to indicate that the person has exaggerated confidence.

This thesis contributes further to the understanding of factors relevant to perceived preparedness among municipal leaders as findings indicate a difference in driving forces for dealing with preparedness issues between different occupational categories. The leaders holding the position of chief municipal manager are the professional group members that basically distinguish themselves most from the other investigated professions (i.e. rescue service chief, heads of social offices, and heads of technical office). The chief municipal managers list the most positive motivational aspects (**Paper IV**) and this is the only professional group that emerged as a positive predictor for perceived individual preparedness (**Paper III**). The reason for the discrepancy between the chief municipal manager and the other occupational categories may be that they have an overall responsibility, and the others have responsibility for a specific area of preparedness, where they are likely to see strengths and weaknesses more clearly. These strengths and weaknesses might not be communicated to the highest leader in the hierarchy (chief municipal manager). According to Yammarino (1994), both senior managers and subordinates can choose the information that they convey to others

(in this case it is possible that negative aspects of preparedness are not presented from the lower level managers and/or that the top management level underestimates their importance), which may be the reason for the discrepancy between these leading positions. This discrepancy may mean that the full range of potential risks and threats to be considered in the preparedness phase is missing.

There are additional differences between the chief municipal manager and the other occupational categories. Interest in and motivation to include preparedness issues in daily work, support and attention (external motivational factor) among co-workers and politicians seems to be of great importance to all professions (**Paper II**, **Paper IV**), with the exception of chief municipal manager. A hypothesis for the different needs of support among the chief municipal manager might be that they are not so closely involved with preparedness issues. As there are different perceptions of and motivation for preparedness efforts among the different professions in the municipality, it would clearly be advantageous to involve all of the professions in both the planning and exercise activities so that information of the work done as well as concerns can be shared among the group of leaders. It would also be beneficial for the top level to attend, as the others' efforts on preparedness issues would be more visible.

The findings in the included papers can be interpreted in terms of self-efficacy theory. The theory implies that what individuals think they can handle, they can and will handle better than persons who do not believe they are sufficiently capable (Bandura, 1977; Bandura & Wessels, 1994). According to the self-efficacy theory, a feeling of confidence and competence for the situation at hand is important. In the preparedness phase, contingency planning increases confidence and motivation for preparedness activities (**Paper IV**). However, the result suggests that in order for motivation and self-efficacy to develop during the planning process, leaders should be working closely with the tasks in an everyday context. A well-performed exercise can also lead to improved self-efficacy and collective efficacy. However, the design of the exercises is important for the leaders' motivation to attend. Perceived realism might be extra important to consider after an event, when the motivation to participate in exercises seems to decrease.

The findings regarding preparedness can also be discussed in relation to SDT (Ryan & Deci, 2000). Positive experience of preparedness activities may contribute to strengthening the individuals' feeling of competence, increase relatedness to others, and internalize behaviour (autonomy), which are central components in self-

determined motivation. Negative experiences of such activities, such as an unsuccessful exercise, will probably weaken these components. The emphasis leaders place on personal management capability and responsibility as motivating factors can also be interpreted in terms of what Ryan & Deci (2000) call integrated or identified regulation, where external goals and values have become more or less adopted and integrated by the individual.

Contribution: factors that influence how leaders perceive preparedness
This thesis contributes to the understanding of crisis preparedness through empirically grounded findings of municipal leaders' perceptions and experiences. Perceived preparedness cannot be explained by a single factor, psychological theory, or concept. Instead, perceived preparedness can be described in terms of individual, collective, and motivational aspects, each reflecting different psychological processes. These different phenomena must be considered when planning for and evaluating preparedness.

The results indicate that motivation is an important aspect of preparedness efforts for municipal leaders. In order to increase motivation for preparedness issues, it seems to be necessary to work closely with crisis planning in everyday work tasks. To be motivated for exercises, which give an opportunity to test the plan, it is necessary to strike a balance between realistic conditions and challenging demands to achieve a sense of competence. In addition, exercises may develop skills to act during an event, which facilitates individual autonomy. During the preparedness phase support and attention from co-workers, other leaders, and politicians (relatedness) are needed. Competence, autonomy and relatedness are important components in developing self-determined motivation. This thesis further contributes by highlighting that different occupational categories have different driving forces for preparedness work. Thus, it is important to recognize these differences in planning and exercises. The significance of a range of factors comprising both external and internal driving forces indicates that building strong commitment to crisis preparedness goes beyond the mere allocation of resources and designation of responsibility.

Leaders' experience dealing with crisis

The leaders at the municipal level in Sweden are responsible for preparing for and managing not only the event itself and the consequences of it, but also the reactions it generates among the public and co-workers. This section discusses the findings on how municipal leaders experience the role as crisis managers, and the tasks that it entails.

Every crisis is unique, but there are nevertheless some recurring challenges that leaders meet in dealing with events. Five key challenges that leaders in the present studies have described in interviews are discussed here. The first challenge is related to the nature of crisis itself, i.e., meeting the unexpected. The other four are related to human aspects of the crisis, and how it affects and influences relationships in different ways. These four challenges concern meeting public demands and needs, supporting personnel, being affected themselves, and finally co-operation and rivalry. These challenges are captured in the evaluation and action model in **Paper I**.

The first challenge, meeting the unexpected, is fundamental in crisis management, as a crisis is unfamiliar and dynamic (Crichton et al., 2005), and chaotic (Crichton et al., 2005; Paton, 2003) event. Even though leaders have planned and exercised different scenarios, this does not necessarily mean that they are well prepared for an unfolding crisis. In **Paper I,** one of the municipalities had recently run an exercise based on a storm scenario for two days (which was experienced as an excessively long time). Thereafter, when hit by a storm, the aftermath of which lasted up to eight weeks, leaders stated that they still lacked mental preparedness for such a demanding situation (**Paper I**). The real event surpassed the leaders´ imagination about what could happen. This can be seen as a result of mental barriers to thinking the unthinkable, which, for instance, Clark (2006) and Drennan et al. (2015) describe. This example clearly demonstrates that even a specifically trained scenario does not mean that the individual is mentally prepared for a similar event – thus, scenario and practice differ. The example also illustrates the difficulty of judging what a realistic and challenging exercise should involve.

A second challenge highlighted by managers is to meet the different needs, reactions and coping resources of the public (**Paper I**). The evaluation of the capability versus vulnerability of the individual citizen was a major factor underlying different kinds of conflicts. If citizens were perceived as vulnerable, this could result in internal value conflicts and priority dilemmas between being able to take care of public needs, and everyday municipal tasks. A perceived vulnerable public could also result in tension regarding whether or not legislation and practice were sufficient for supporting the public, leading to different decisions and even deviation from certain laws. To avoid these legal uncertainties regarding when to make exceptions needs to be discussed beforehand (LaPorte, 2007). Knowledge about such matters is important, as there are concerns about legal repercussions (**Paper I**) and about becoming a scapegoat in the crisis aftermath (**Paper I**, **Paper II**). Another difficulty when assessing the

needs and capability among the public is that these vary from crisis to crisis. According to the managers themselves, they had no or limited knowledge of how to assess and support psychological needs among the public (**Paper I**, **Paper II**). It can be valuable for crisis managers to be aware of and learn from research findings related to the public and crisis management. To begin with, managers need to be aware that there are tenuous myths about human behaviour in crisis including that citizens panic, are helpless and dependent (Fischer, 1996; 1998). Relating to belief in such myths, Wester, (2011) found that crisis communication professionals at the municipal level presume that their own reactions in a crisis would be considerably more logical and rational than those of the public. The way crisis managers perceive the public may also be influenced by media framing (Nilsson et al., 2016). Myths and incorrect assumptions may contribute to an unrealistic view of the public, and planning will be based on incorrect facts. Such erroneous planning may contribute to make the situation worse, as is generally taken to be the case during Hurricane Katrina in New Orleans (Tierney, Bevc, & Kuligowski, 2006).

In addition to considerations for the public, the municipal crisis managers' personnel was also put under extra pressure during the crisis, which is the third challenge. As head of a department, the municipal leaders have responsibility for the welfare of their personnel, in daily work and also in a crisis context. In contrast to the case regarding the general public, plans and routines for psychosocial relief and support to personnel were in place in the municipalities studied here. However, there seemed to be less preparedness for a sustainable organization, and how to use and redirect personnel from their ordinary duties (**Paper I**). One lesson from this is that organizations need to prepare schedules in order to decrease the pressure on personnel during a crisis.

A fourth challenge is the situation of holding the role as crisis manager and at the same time being personally affected. On top of their responsibilities for the public and their personnel, some leaders were affected by the event themselves, not only professionally, but also in the private sphere, with psychosocial pressure and material losses (**Paper I**). During a crisis, double roles are known to be a pressure for the individual (Hooper, 1999). In addition, **Paper I** demonstrates various loyalties that the leaders have to balance: to co-workers, collaborators, citizens, their family, and themselves. To have double roles/loyalties resulted in conflicts in the work-family interface among the municipal leaders and the double workload (at home and at work) resulted in stress and fatigue (**Paper I**).

Similar stressors have been found previously among emergency managers (Paton & Flin, 1999), but the present studies demonstrate the pressures which also local and regional public leaders may have to face over long periods of time (**Paper I**) and which need to be considered in the CEP. Against this background, when leaders themselves got time to reflect on their own exposure during the crisis, they questioned their own suitability to take appropriate decisions under these circumstances (**Paper II**). On the other hand, being affected themselves also increased motivation to handle the crisis in a good way (**Paper II**). During the crisis, leaders used several normal coping strategies such as rest, training and spending time with the family, but they also felt the need of attention and emotional support from other actors involved in crisis management (**Paper I**). In terms of SDT (Ryan & Deci, 2000), this need of attention is linked to relatedness. Leaders also appreciated positive attention from the media (**Paper I**). In contrast, media reporting has previously been suggested to be stressful (Paton, 2003) and to have a negative role in assigning responsibility and blame (Littlefield & Quenette, 2007). But other findings more in line with the present results show media acting as an important emotional support during a natural disaster (Perez-Lugo, 2004).

In this context, it is notable that support and convergence from other actors tend to vary depending on the crisis context, for example, in socially related crises the support is less apparent than in natural hazards events (**Paper IV**). In the leadership literature the focus has been on how to *give* support to others within an organization (Crichton et al., 2005), but the present study highlights the need for the leader to establish channels also to receive emotional support from others.

The fifth and final challenge concerns problems with co-operation and rivalry between different occupational groups and organizations. In particular, different evaluations of citizens' capability to deal with the situation could give rise to co-operation difficulties. Granot (1999) and Boin et al. (2016) have previously pointed out that when public needs cannot be met with existing resources, rivalry arises between organizations. The present results demonstrate that also different interpretations of public needs lead to rivalry about who has done the most for the public, and who appears as "the good crisis manager" (**Paper I**). Relating back to the issue of emotional support during a crisis, it may be less likely that leaders will fully give or receive support to one another under circumstances of rivalry. In terms of support, and to facilitate crisis management and co-operation, different views on public needs and coping strategies need to be openly evaluated among leaders and their organizations.

In view of the challenges such as those described above, it is clear that a broad range of management capabilities is needed when handling a crisis (e.g. Comfort, 2007; Crichton, 2005). This raises questions on how to prepare for these capabilities. As previously discussed, the feeling of being competent is important for the leaders' self-efficacy, thus also for their actions.

Contribution: Leaders' experience dealing with crisis
The theoretical model (**Paper I**) highlights the complex evaluations underlying manager's decisions and actions in real-life situations. Even if leaders have been involved in preparedness activities, this thesis points to two main areas where leaders tend to be insufficiently prepared: i) in dealing with complex evaluations and decisions, of which the most taxing seem to concern dilemmas, tensions and priorities regarding the public. Here leaders themselves also experience a lack of knowledge and competence; ii) in being unprepared for being doubly affected as professionals and as victims. Here leaders themselves question the appropriateness of being personally affected yet still having responsibility for managing the crisis. Routines for how to handle double roles seem to be something to consider, plan for, and train.

The theoretical model illustrating leader challenges (**Paper I**) is based on a natural event. Other kinds of events may pose other challenges depending on how the crisis unfolds. Still, the model has support in the literature as capturing recurring types of challenges. Thus, it has practical implications as it can be used as a tool to design exercises, but also as a guideline for authorities, in providing and developing preparedness and crisis support.

Leaders learning from crisis experiences
Severe crises have fortunately been rare in Sweden so far, but the crises that do occur constitute an important opportunity to learn from experiences. Such learning is, however, an underdeveloped aspect of crisis management due to both cognitive and institutional barriers (Drennan et al., 2015; Smith & Elliott, 2007). One of the significant findings in **Paper II** regards the value of a broad perspective of what can and needs to be learned from crisis, and how to achieve it. This dissertation indicates two important aspects for which learning needs to be improved and take place. The organization needs to have different kinds of evaluation tools. Here time and encouragement for reflection on past experiences seem to play an important role. There is also an individual, cognitive aspect of reflection. The organizational and individual aspects are interrelated.

A few words about learning from crisis and my interpretation of the subject related to the municipal leaders' role as crisis managers are justified. Learning can and should take place at different levels. Learning from an event includes both mental and practical aspects. It includes how to avoid the making the same mistakes, and to prevent future "mistakes" from occurring by developing risk perception, as well as reinforcing what went well. Mistakes and reinforcement may involve technical solutions, organizational aspects etc which are already common on the agenda for crisis management. However, I also include the mental preparedness of the individual, in order to improve resilience in both the individual and the municipality.

The data demonstrate that to gain knowledge of what it actually means to handle a crisis, from the perspective of the crisis manager, and to take advantage of this for crisis preparedness, require different sorts of evaluation tools. If evaluation after an event only includes official (usually technical) assessment reports, which are limited to strengths and weaknesses, this will give an incomplete picture of the experiences. In order to address underlying causes of (problematic) actions during a crisis and to improve learning for future preparedness, changes must be made of the current values and actions. Scholars have described this learning as double loop learning (Argyris & Schön, 1978). Others discuss meta learning (Visser, 2007), which is described as cognitive and conscious learning.

An important part of the learning process is the implementation of reflection. Scholars point out that reflection is needed in different stages of the learning process: in preparedness (Boud, 1992); before action (Greenwood, 1993); and in and on action (Schön, 1983). In our study we included elements such as a seminar comprising the results from previous research in order to recall the crisis event. Thereafter, we followed up with focus group interviews which allowed the participants to recall and reflect on their old and new experiences (**Paper II**). The seminar and focus group interviews were made in order to recall memories so as to broaden the knowledge based on experience. The group session clearly made the transition from a focus on strengths and weaknesses to the act of recalling difficult choices and dilemmas that were experienced. Reflecting on experiences in a group resulted in information from different actors with diverse areas of responsibility about what crisis management may involve and the essential preparations needed. This information is likely to increase not only collective efficacy (Bandura, 2000), but also individual self-efficacy (Bandura & Wessels, 1994), and competence and autonomy (Ryan & Deci, 2000) among the leaders. In addition to the wide spectrum of knowledge yielded, the motivation for

learning to take place seems to increase by reflecting on experience. In terms of SDT the focus group might also work as a valuable contribution to developing relatedness among the group members.

When reflecting on crisis experiences, dilemmas and challenges during the crisis, e.g., meeting public needs and demands, tensions about legislation, being affected themselves, and co-operation problems (**Paper I**), were further discussed and knowledge regarding these aspects was developed. In addition, future concerns over experienced crises and possible new scenarios were expressed (**Paper II**). Altogether, these aspects, with individual and group reflections, give a broader perspective than the usual traditional official assessments and reports regarding what the crisis manager may face during a crisis.

After gaining management insights from the event, the next step is implementation. In order for learning to take place, some conditions need to be met. When revisiting affected municipalities (**Paper II**) to present findings from the previous storm as described in **Paper I**, several of the conditions that researchers have singled out as necessary for post-crisis learning to take place were already met. Some of these conditions included external motivation factors, such as that the event, (a storm) is likely to happen again (Lampel et al., 2009), that it had attracted media attention, and had also resulted in severe consequences (Hovden et al., 2011). Internal motivation conditions were also met, as indicated by the interest expressed by some of the municipal leaders in the results from the research concerning the previous storm in order to develop their own preparedness. However, it was also clear that there would not have been a meeting between the various municipal leaders unless we as researchers had presented the findings and then conducted focus group interviews.

A further condition for learning to take place is structure. Our contribution, as researchers, consisted of getting the leaders together in a face-to-face meeting, and acting as external individuals who could remain objective. These conditions for learning structures correspond well with previous suggestions by Hovden et al. (2011).

I would like to point out that this form of learning might encounter some obstacles. One reason is that, in the case of group sessions similar to those that we conducted, there is seldom an objective facilitator "standing by", as is deemed essential for learning to take place (Hovden et al., 2011). Another obstacle is that leaders must set off time to reflect, in order to evaluate their experiences. However, the opportunity

to set off time is rare after an event as staff need to rest and go back to regular work duties (**Paper II**). These are institutional barriers that can be planned for. A further reason is the fear of becoming a scapegoat (**Paper II**), which can result in reluctance to evaluate. This is in line with previous research that highlights the problem with different kinds of defence mechanisms (Argryis, 1999; Stern, 1997) such as that individuals "forget" what has happened (Lagadec, 1997) and change the story (Smith & Ellitot, 2007). Defence mechanisms seem to be an individual problem. However, if the organisation is open-minded about mistakes, and communicates that mistakes provide opportunities to learn from, learning is facilitated.

Contribution: Leaders learning from crisis experiences
To my knowledge, there are no previous studies of how a limited perception of a crisis experienced can affect perceptions of possible future events. This thesis contributes to this area on the basis of the introduction seminar and the following focus group interview. When leaders took time to reflect on previous crisis experiences, future concerns over possible new threats were revealed. In consequence, the perception of risk broadens in terms of future crisis and what is needed to prepare for. This in turn leads to increased motivation for preparedness work (**Paper II**). Previous experience also changes perceptions of the role of the leader, emphasizing its importance (due to moral responsibility to the public), and also its demands (due to accountability) (**Paper I**, **Paper IV**).

5.1. Methods discussion
In terms of strengths, there are few previous studies of this important group of leaders. Municipal leaders have the responsibility for crisis management at the local level, and yet it is an underdeveloped area of research. It is central to society to have knowledge about how these leaders think and act, as they influence others on crisis issues in the municipality. Another strength is that the studies of the thesis concern all three phases in crisis management: before, during and after a crisis, as these are interconnected and affect each other. In addition, the findings can be used to develop crisis management in all phases.

The combination of using both qualitative and quantitative data has developed a theoretical understanding of how municipal leaders experience crisis management. The results of the different data sets were mostly in line with and/or complementary to each other. However, the interpretations of the qualitative and quantitative results differ somewhat. For instance, interviews and open-ended questions gave a more

positive view of motivation for preparedness, compared to the questionnaire data. This discrepancy in results may be interpreted as representing different levels of understanding of the different facets of motivation for the municipal leader. It should be noted that the strengths of the relationship between the predictors and outcome variables were generally low, which must be taken into account when considering the conclusions of the quantitative study (**Paper III**).

The main part of the data relates to one type of crisis – natural events, with the exception of **Paper IV**, which also included socially related crises. This is a limitation as the results cannot be generalized too widely, but need to be viewed in context. This limitation calls for further research in other contexts than the municipal level, as well as research subsequent to different kinds of events.

Finally, I turn to the four included papers and their strengths and limitations. The use of a qualitative approach (**Paper I**, **Paper II**, **Paper IV**) yielded knowledge about leaders' views on crisis management, as demonstrated in theoretical models. These models can be useful tools in developing crisis management. However, the models (**Paper I**, **Paper VI**) need to be further elaborated and tested in different contexts and different kinds of experiences. In addition, the samples are small, and the results reflect a successful crisis management (**Paper I**, **Paper II**). There might have been a different response if the leaders, or their municipality, had been criticized. The sample size is a strength in **Paper III** as it is broadly based and covers different positions in all municipalities in Sweden. Yet another strength is in the result, which highlights the existence of fundamentally different factors contributing to perceived municipal preparedness, individual preparedness and to motivation. Nevertheless, generalizability should be tested at other levels in the crisis management system and in other contexts than the Swedish one. A limitation that needs to be taken into account when interpreting the result is, for instance, that self-reported questionnaires were used. To avoid common method variance and response set tendencies, procedural remedies (anonymous) and statistical remedies (different scale end-points) were used (**Paper III**).

Some time has passed since the data were collected. During this period, the CEP has undergone changes and Sweden has experienced new crises. However, despite organizational changes and crisis experiences, the fundamental basic patterns of human motivation and perceptions discussed in this thesis remain relevant in relation to crisis preparedness and management.

5.2. Summary contribution

The aim of this thesis is to gain knowledge about how municipal leaders experience and perceive their role as crisis managers. Much of the previous crisis management literature has dealt with organizational aspects of crisis management – less has been studied from an individual perspective. My studies show that psychological theories and concepts, especially motivational aspects, are of importance for understanding municipal leaders' perceptions of their role as crisis manager. Motivational aspects are here explained by self-determination theory and self-efficacy theory. In addition, concepts such as worry and responsibility are revealed to be important driving forces for the degree of involvement in crisis management. Findings also suggest that there are different driving forces for preparedness efforts depending on occupational categories. Thus, it is important to recognize these differences in planning and exercises. The process of learning after an event is an underdeveloped area in crisis management, and in the related research literature. By recalling memories and reflecting in a seminar and a focus group setting respectively, new valuable information were gained. As a result, leaders attained a broader risk perception and reflected on future concerns over possible threats, which in turn have bearing on activities in the preparedness phase.

5.3. Practical implications

As the included papers are based on empirical data, the results of this thesis contribute not only scientific findings on crisis management, but also knowledge that has practical implications.

The results show that psychological issues and especially motivation are of importance for how leaders perceived crisis management challenges, which are taken into account when discussing practical implications. I would like to highlight SDT (self-determination theory) as a tool for understanding how the individual characteristics and the (crisis management) environment interact regarding motivation and behaviour. All three components in SDT, namely competence, relatedness and autonomy need to be integrated in the individual mind if a person is to take part and act in an activity out of self-interest. Thus, they are active for their own sake and do not need an external catalyst.

In order to increase motivation for preparedness issues at work, it seems to be necessary to work closely with crisis planning on a regular basis (**Paper III**). Findings in **Paper III** also stress the balance between realistic and demanding exercises,

that is, they must be adapted to the leaders' context (**Paper I**, **Paper IV**). A useful finding for planning exercises is the evaluation and decision model (**Paper I**), which reveals real challenges based on leaders' experiences. Here I would like to highlight the challenges of i) evaluating citizens' needs and behaviour, and ii) holding crisis management responsibilities, while being personally affected by the event, which the leaders found inappropriate. Another challenge revealed is leaders' limited knowledge (according to themselves) of how to handle psychosocial needs among the public (**Paper I**, **Paper II**). Knowledge about what to expect in terms of public needs/capabilities/behaviour can be developed during an exercise, for instance, by letting citizens participate. Another way is to use actual experience in developing crisis scenarios, for instance, by using the findings of this thesis or other studies based on events involving the public.

Yet another motivational issue mentioned by the leaders is their own need of support in managing crisis. In the preparedness phase, support is related to the engagement of co-workers and fellow colleagues. During the crisis with tough working conditions, leaders expressed the need to be recognized for the work they do (**Paper I**). The need and form of useful psychosocial support during an event should be discussed and developed in the pre-crisis phase preferably within the crisis management group.

Paper IV deepens the knowledge about driving forces for motivation to preparedness issues by introducing the motivational model which demonstrates the close links between different motivational factors. A potential application of the model is to use it in developing and maintaining motivation. Especially the person-related factors are emphasized by leaders, thus indicating the importance of a sense of efficacy, personal responsibility, and involvement. Interestingly, motivational factors are both shared and different between various roles and competences (**Paper III**, **Paper IV**). This variation might have implications for co-operation, and needs to be considered in planning and developing exercises.

Regarding the post crisis phase and development of evaluation after crisis experience, **Paper II** highlights the value of group reflection led by an objective facilitator in order to gather useful knowledge and capture experiences useful to future events. When, or if, these aspects are considered and included in preparedness activities, it is likely that the crisis managers' mental preparedness for forthcoming crises will be developed. Practical knowledge from experience is important not only for the crisis manager, but also for the crisis management system. It is necessary to have well-

reviewed evaluation of practice to implement empirical knowledge when developing a policy. It is argued that correspondence between practice and policy development is of great importance, if the policy is to be relevant and useful during an event (Elliott, 2009). In addition, findings in **Paper II** can serve as a tool for individual application of crisis experience in the CEP.

5.4. Suggestions for future studies

Based on the results presented in this thesis, the following suggestions for future research are made:

- Develop knowledge about what kind of support, and from whom leaders get/ need in different types of crisis
- Study ways to implement reflection as a tool for evaluation after a crisis/crisis exercise in different contexts
- Study the kinds of general crisis experience leaders have that affect both the perception of individual preparedness and motivation for preparedness efforts, and how that experience can be used in crisis management
- Study underlying factors causing different role holders to have different views on crisis management
- Study the motivational aspects of crisis management in other contexts than the municipality
- Study loyalty conflicts (e.g. home vs work) that crisis managers may encounter and how these can be planned for in the preparedness phase
- Investigate if and/or what kinds of individual concerns that could be barriers to municipal leaders' capacity to perform their crisis management tasks.

A final remark and suggestion: The government has given all municipalities directives to develop and promote planning for total defence. This is presently a new aspect of crisis management that municipal leaders have to take into account. The following question is therefore a final suggestion for further research:

- How do municipal leaders perceive the new focus on crisis *and* war preparation?

5. References

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Crisis management

"I have my daily duties and then there are the crisis and risk issues in a kind of sideline track /.../ this area tends to be postponed until the summer when we have more time to address it."

This quotation is from an interview with a Swedish municipal leader. It suggests that everyday work and crisis management are seen as separate tasks. Other leaders, however, see crisis management as part of their regular duties and as integrated with their personal values. It is of interest how municipal leaders perceive crisis management as they will react and act on their perception.

This thesis aims to gain knowledge about how leaders at the municipal level, holding the role as crisis manager, perceive and experience crisis management in the preparedness, acute, and post-crisis phases.

The thesis demonstrates that psychological theories and concepts, especially motivational factors, are of importance for understanding the municipal leaders' perceptions of their role as crisis manager as well as their challenges, and provides knowledge of value to crisis management development.

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