Journal on Baltic Security, 2022; 8(2): 83-129

Research Article

Open Access
https://doi.org/10.57767/jobs_2022_0015

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Higher Education and the Changing Situation of Societal Security in the Baltic Sea Region

Received: 24 June 2022
Accepted: 4 October 2022

Abstract: While concepts like risk and crisis management have grown ubiquitous at all levels of government, they have also cemented their place in academia as interdisciplinary fields of study in higher education. In the Baltic Sea Region (BSR), these types of educational programmes are typically labelled under the umbrella term 'societal security' in English. This article provides a succinct depiction of the state of the art of societal security in higher education in this region. After a brief introduction of the concept, the article comprehensively analyses second level degree programmes (master's equivalent) in this field. Particularly, four conceptual and thematic areas appear to constitute the core of societal security degree programmes, though in different combinations and under a variety of labels, those being risk, crisis management, safety management, and resilience. We note, however, that these concepts and their respective research objectives exhibit extensive overlaps.

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This paradigm reflects how the field of societal security has emerged and evolved through a combination of different disciplinary and interdisciplinary traditions that closely follow changing policy needs. It is concluded, conceptual difficulties notwithstanding, that a common, or at least a more shared, understanding of what constitutes societal security in the BSR has emerged and continues to develop, particularly in its so-called functional understanding. This situation allows for truly transnational learning, and in so doing, also enhances cross-border cooperation in educating and training the next generation of risk and crisis managers in the BSR and beyond.

Keywords: societal security; higher education; Baltic Sea Region

1. Introduction

While issues such as risk management and management have become commonplace at all levels of government, these issues have also become established in academia, particularly as interdisciplinary higher education fields of study at the bachelor's, master's, and doctoral levels. This line of higher education is increasingly relevant and popular across the world, albeit with regional variations in nomenclature (Staupe-Delgado, Abdel-Fattah and Pursiainen, 2022). In English, and particularly in the Baltic Sea Region (BSR)[1], the respective higher education field or discipline has some transnational currency under the term 'societal security', which is sometimes called 'societal safety' or 'societal safety and security'.

[1] According to the Council of the Baltic Sea States (CBSS) membership, the BSR has typically included the following countries, despite some of them not sharing a direct border with the Baltic Sea: Denmark, Estonia, Finland, Germany (especially its most Northern constituent states), Iceland, Latvia, Lithuania, Norway, Poland, the Russian Federation (especially its Northwest districts), and Sweden. While this is still a valid definition, it has to be noted that Russia was suspended from CBSS cooperation in March 2022, due to its violation of international law and order by starting the war against Ukraine. Russia has since withdrawn its membership in the CBSS altogether.

The article has both a theoretical and practical focus. We begin with a discussion on what societal security entails since, as we argue, the concept is far from self-explanatory. We then provide a detailed overview of higher education degree programmes focusing on societal security in the BSR, after which we discuss and conclude the main findings and implications from our programme mapping exercise.

2. An emerging discipline with many names?

Rather than being an established academic discipline, societal security is a fragmented multi- or interdisciplinary field, whose identity and boundaries are not yet fully defined (Staupe-Delgado, Abdel-Fattah and Pursiainen, 2022). As expressed in academic journals and degree programmes, as well as in several national and organisational reports, societal security is contested by and overlapping with several other concepts. As shown in Table 1, these include, inter alia, concepts such as civil defence, civil protection, civil security, crisis management, disaster risk management, disaster risk reduction, emergency management, homeland security, human security, internal security, resilience management, risk governance, risk management, safety and security management, and soft security.

Table 1. Societal security and similar or overlapping concepts

Concept	Definition (examples)
Societal security	Protection of society from, and response to, incidents, emergencies and disasters caused by intentional and unintentional human acts, natural hazards, and technical failures. (ISO, 2012)
Civil defence	The system of protective measures and emergency relief activities conducted by civilians in case of hostile attack, sabotage, or natural disaster. (Merriam-Webster, n.d.).

Civil protection	Measures taken and systems implemented to preserve the lives and health of citizens, their properties and their environment from undesired events. (ISO, 2012)
Civil security	Law enforcement, crime fighting and counter terrorism (e.g., activities of police and forensics, customs and border control, etc.) and 'first responder' tasks (e.g., firefighting, ambulance/health-emergency, etc.), as well as the protection of critical infrastructure and utilities. (EC, n.d.)
Crisis management	Holistic management process that identifies potential impacts that threaten an organization and provides a framework for building resilience, with the capability for an effective response that safeguards the interests of its key stakeholders, reputation, brand, and value-creating activities – as well as effectively restoring operational capabilities. (ASIS, 2009)
Disaster risk management	The systematic process of using administrative directives, organizations, and operational skills and capacities to implement strategies, policies and improved coping capacities in order to lessen the adverse impacts of hazards and the possibility of disaster. (UNDRR/UNISDR, n.d.)
Disaster risk reduction	The concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events. (UNDRR/UNISDR, n.d.)
Emergency management	The organization and management of resources and responsibilities for addressing all aspects of emergencies, in particular preparedness, response and initial recovery steps. (UNDRR/UNISDR, n.d.)
Homeland security	Efforts to ensure a homeland that is safe, secure, and resilient against terrorism and other hazards. (Reese, 2013; according to the US Department of Homeland Security in 2012)
Human security	The right of people to live in freedom and dignity, free from poverty and despair. All individuals, in particular vulnerable people, are entitled to freedom from fear and freedom from want, with an

	equal opportunity to enjoy all their rights and fully develop their human potential. (UN, 2012)
Internal security	Fighting and preventing serious and organised crime, terrorism and cybercrime, in strengthening the management of our [EU] external borders and in building resilience to natural and man-made disasters. (EC, 2010)
Resilience	The ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions through risk management. (UNDRR/UNISDR, n.d.)
Risk governance	Risk governance "looks at the complex web of actors, rules, conventions, processes and mechanisms concerned with how relevant risk information is collected, analysed, communicated and how management decisions are taken" (Renn, 2008). Governance refers to the actions, processes, traditions, and institutions by which authority is exercised and decisions are taken and implemented. Risk governance applies the principles of good governance to the identification, assessment, management, and communication of risks. (IRGC, n.d.)
Risk management	Coordinated activities to direct and control an organization with regard to risk. (ISO, 2009)
Safety management	Safety management is an organisational function, which ensures that all safety risks have been identified, assessed and satisfactorily mitigated. (SKYbrary, n.d.)
Soft security	A freedom from non-military threats, challenges, and risks, such as environmental, economic, societal, information and other problems. (IGIGlobal, n.d.)

Our solution is not to challenge these competing concepts. We welcome institutional and conceptual plurality, but there is much untapped potential to use this plurality to the field's advantage, resulting in the justification of

alternative interpretive frameworks and new knowledge creation. We would also benefit from exchanging this knowledge systematically, so as to avoid reinventing the wheel in different academic and policy contexts.

Therefore, we pose the question: in the BSR context, how can societal security be an inclusive English-language concept in this rather nebulous field, thus helping to enhance transnational understanding and collaboration, particularly in higher education?

2.1 Two understandings of societal security

The concept of societal security is somewhat contested, not only by other concepts but also within its own terms. Looking at the roots of the concept, it draws on two academic traditions (Rhinard, 2021). The first one arises from social constructivist debates in the early 1990s and is sometimes called an identity-based use of the societal security concept, developed within the so-called Copenhagen School, which is most notably known for also developing the related concept of securitization. In this conceptualization, societal security is a term for political science, international relations, or sociology that refers to "the defence of a community against a perceived threat to its identity" (Waever, 2008, p. 581, and 1993). This is closely related to, or overlaps with, a later social constructivist concept that was developed in the early 2000s, ontological security. The latter similarly discusses how societies and citizens who have adopted a national group identity strive for certainty about their own identity, and the continuity of their worldview constructed through it (Mitzen, 2006).

The second understanding of societal security conceptualises it as a more practice-oriented through what is typically called a functional approach (Rhinard, 2021). This functional approach was originally presented as a European equivalence of the US post-9/11 concept of homeland security (Kastrup, 2004; Sundelius and Grönvall, 2004; Sundelius, 2005). The societal security concept was presented as correcting the perceived shortcomings of the concept of homeland security, namely the latter's implicitly nationalist approach (thus neglecting transnational and cross-border characteristics of

contemporary crises). Early on, the concept of societal security also intended to avoid the one-sided concentration on counter-terrorism and adopted an all-hazards approach.

Both conceptualisations of societal security continue to be present in the literature. This, however, has caused some confusion when discussing the various safety and security challenges and trying to locate them under the umbrella of societal security.

Looking at three volumes from 2016, 2018, and 2021 respectively that deal with societal security in the BSR reveals the spectrum of the debate on societal security as well as some transformations over time. The 2016 edited volume titled *Baltic Sea Region: Hard and Soft Security Reconsidered* reveals that the overall spirit of analyses is centred on traditional security, energy security, and transport corridors rather than about societal security as a well-defined, holistic concept (Andžāns and Bruģe, 2016). However, in addition, the concept as raised in several of the volume chapters reflects a Swedish and partly Norwegian functional perspectives. It is argued that societal security is an emerging field of scholarship underpinning respective practices in the BSR.

Two years later, the edited volume entitled *Societal Security in the Baltic Region* is more to the point, as it explicitly reflects the use, or lack thereof, of the concept in the region (Aaltola et al., 2018). Though societal security is used as an umbrella concept in this volume, its meaning in the book is an ambiguous mix of the above-mentioned identity-oriented and functional-oriented societal security concepts, possibly due to the largely international relations disciplinary backgrounds of the authors for each of the respective country profiles. They seem to be more familiar with the Copenhagen School definition, whereas some other authors, though in the minority, have their reference point more in the functional understanding of societal security.

Following the aforementioned 2018 edited volume, the concept of societal security becomes even more complicated if one looks more closely at country profiles in the above volume from a comparative perspective. The official

Danish approach, according to the authors of the respective chapter, is on understanding the role of a small and open society and its national security strategy in times of global upheaval and turbulence (Stokholm Banke and Hjortshøj, 2018). The Estonian (Juurvee, 2018), Finnish (Aaltola and Juntunen, 2018), and Icelandic (Ómarsdóttir, 2018) approaches to societal security come closer to the functional understanding of the concept but present a variety of country applications. The Norwegian concept of *samfunnssikkerhet* is discussed in terms of societal security, though parallel applications of societal safety and public security are introduced in more functional meanings of the terms (Morsut, 2018). The Swedish narratives of societal security are described in terms of the older concept of total defence (1950-1990), which competes with the more current concepts of human security (1990-2017) and emergency preparedness (1994-2017) in the Swedish discourses (Syk and Rådestad, 2018).

In the Latvian case, the concept of societal security does not seem to be prevalent in official and public debates, which are instead dominated by the external Russian hard security threat, issues related to the status of the Russian language in Latvian society, and economic security (Potjomkina and Vizgunova, 2018). The Lithuanian discourse is similarly overshadowed by the perceived national security threat from Russia (Vitkus, 2018). The concept of societal security, therefore, reflects the Copenhagen School meaning in this context, where security is understood from the dual perspective of the state and society. This is similarly found in Poland, where the conceptualisation of societal security as per the Copenhagen School is used to understand and analyse not only traditional military security threats but also other related threats the country faces, such as cyber and information security challenges and threats to Polish identity (Kowalska, 2018).

In the Belarusian case, sometimes also considered a BSR country, the concept of societal security "neither [has] an adequate translation into the Russian or Belarusian languages, nor any appropriate equivalents conveying the essence of the concept in the Belarusian political and academic discourse which are still based on state-centric views" (Sivitski, 2018, p. 185). However, the author

manages to draw a systematic picture of the internal and external threats to the country. Finally, regarding Russia, the concept of societal security has no real bearing in current official policy and academic debates (Sergunin, 2018). Instead, one looks at the related issues from the perspective of national security doctrines, where external and internal threats coexist, but where the Copenhagen School's emphasis on identity is perceived by the chapter author as too vague and all-encompassing.

The 2021 edited volume *Nordic Societal Security. Convergence and Divergence* focuses on a more limited geographic area but still draws a rather fragmented picture of the concept (Larsson and Rhinard, 2021). In its in-depth historical reconstruction, the authors argue that although it is not necessarily always explicitly referred to as societal security, the core components, and strategies of it were first present in Swedish and Norwegian government reports from the early 2000s onwards. From these two countries, the concept spread to Finland, Denmark, and Iceland.

The aforementioned 2021 volume concludes that while the concept of societal security has coexisted with other similar concepts in the Nordic countries, the most consistent and systematic use of the concept of societal security (*Samfunnssikkerhet*) is found in Norway. Indeed, for the past twenty years, the Norwegian government has regularly prepared and published rather lengthy societal security reports for parliamentary discussions (the latest being: *Det Kongelige Justis- og beredskapsdepartementet*, 2020), thereby not only legitimising the concept but also institutionalising it within the respective policy arenas as a summarising concept. Nonetheless, societal security has faced conceptual and definitional changes over time in Norway as well, in addition to having clear overlaps with other concepts.

2.2 Societal security as an Umbrella Concept in the BSR?

Thus, particularly in the region's respective national languages, there exists a variety of different terms. However, in the BSR, educational and research

programmes and also policies dealing with civil contingencies and emergencies often fall best under the English-language umbrella concept of societal security. For example, Nordic national public research funding institutions use that English-language concept to facilitate and coordinate research collaboration. This practice is transnationally institutionalised also by NordForsk, a regional research council under the Nordic Council of Ministers, in its *Nordic Societal Security Programme* (NordForsk, n.d). The rationale is that there is a "need to build a common knowledge base to promote a shared understanding of the risks and threats that the Nordic societies may have to confront in the future" (NordForsk, 2013, p. 14).

In its English-language version in the wider BSR in most regional *policy* settings, the concept of societal security has currently become a common denominator for intergovernmental safety and civil security cooperation. This might be partially due to the fact that none of the BSR countries have English as their official language and they have to rely on some common concept. The holistic concept of societal security, one which combines a variety of safety and civil security fields, emphasises an all-hazards approach and is suitable for such a purpose. Furthermore, as a shared term, it reflects the necessity of cooperative transnational activities. Thus, in May 2017, the CBSS-facilitated *Joint Position on Enhanced Cooperation in the Civil Protection Area* of Directors-General for Civil Protection in the BSR stated that "the concept of 'societal security' should be a basis for developing a common societal security *culture* [italics added], as this concept is regionally and globally well standardized" (Joint Position, 2017).

There have been many efforts to define what this common BSR societal security 'culture' includes and entails, but these efforts are, for the large part, fragmented in both initiation and implementation. Nonetheless, we can find some normative and prescriptive reviews as well as more analytical accounts in pursuit of this continuing quest for a common understanding of civil contingencies and disasters under the umbrella of societal security (e.g., Larsson and Rhinard, 2021; Wolanin, 2017; Stålvant and Visuri, 2015; Hart and Sundelius, 2013; Stern and Sundelius, 2002).

However, to some extent, we may also identify a relative loss of interest in utilising societal security as an over-arching concept recently. Globally, it has been abolished from the International Organization of Standardization (ISO) vocabulary, where it was the core and title of one of its Technical Committees a decade ago (ISO, 2012). However, after the merging of two related committees in 2015, the concept seems to have almost disappeared from the ISO parlance (Pursiainen and Abdel-Fattah, 2021, p. 6). The same development seems to be taking place in the European Union, where the concepts of civil protection and disaster risk management have become the main ones acting as the basis of the common practical actions taken in this field.

Nevertheless, a common transnational understanding of civil emergencies and contingencies needs to some extent a common, shared concept. Could social security, then, be the unifying notion in the BSR? We shall argue that, of all competing notions, societal security as a holistic all-hazard concept, is best fitted to that task. This is especially true for higher education.

3. Societal security in BSR higher education

Despite different national vocabularies or labels being used, societal security has gradually become established as a higher education study programme in its own right in most BSR countries. This is true particularly in its functional form rather than as a political science approach to identities; while the latter is still sometimes used in the study of social sciences, it does not constitute any study programme or discipline as such. Therefore, for the rest of the article, we will focus on societal security in higher education in its functional understanding.

We mapped the relevant societal security degree programmes in the BSR[2] and identified the main curricula taught in each programme. Based on each

[2] In the case of the Russian Federation, we focused only on the higher education institutions in the Northwest Russian Federal District.

programme's publicly available website information, and consultations with the respective study leaders, we identified 27 first cycle (bachelor's or equivalent) and 37 second cycle (master's or equivalent) degree programmes in the field of (functional) societal security proper. For the purposes of this article, we focus on second cycle programmes to represent higher education. The identified second cycle programmes in the BSR are shown in Table 2 (see at the end of the article), some of which represent societal security from a holistic perspective, whereas others are somewhat more loosely connected to the concept.

Second cycle degree programmes, compared to first cycle degree programmes, are typically more concise and tailored degree programmes that have fewer generic courses, instead focusing on a few key areas. A second cycle degree requires a first cycle degree – in the same or a related field – and they often lead to a degree equivalent to a master's degree, although the degree might be termed differently depending on whether they represent a qualification in the engineering or social sciences, also depending on higher education institutions. Table 2, listing the second cycle degree programmes by title, is not quite self-explanatory for understanding what is taught in BSR societal security programmes. We therefore reviewed the curricula for each programme in some detail to identify the core courses and areas of study that are taught. In order to operationalise this approach, we included only mandatory courses in our mapping, which can be understood to be the central subjects of teaching for each respective degree curricula. There are some countries, and their respective higher education institutions, where we find degree programmes that provide more specific or professional/vocational degrees. Typically, research universities in turn offer more generic societal security degrees, often reflecting social scientific approaches rather than engineering-related ones in their curricula. Table 3 (see at the end of the article) outlines the curricula we reviewed.

As seen in Table 3, a few mandatory course subjects with a variety of titles stand out as a commonality across various degree programmes. In particular,

four conceptual and thematic areas constitute the core of BSR societal security degree programmes, in different combinations and under a variety of labels: risk, crisis management, safety management, and resilience. We elaborate shortly on each of these concepts below.

3.1 Risk Management and Risk Governance

As seen in Table 3, risk is a concept that is found in most second cycle societal security degree programmes. The concept of risk, in its various applications and representations, is well-established in a variety of disciplines, but it is still a rather engineering-oriented academic subject, informed by numerous peer-reviewed journals and textbooks (Aven, 2015; Pritchard, 2015; Ostrom and Wilhelmsen, 2012; Yoe, 2012; Coleman, 2011). The study of risk uses quantitative, semi-quantitative, and qualitative techniques and methods. It is notable that risk studies mostly focus on pre-crisis situations and conditions. When brought together, this field is usually called risk management, following the ISO 31000 Risk Management standard (ISO, 2018). Risk management's main component is risk assessment. This is in turn divided into risk identification, risk analysis, and risk evaluation. A somewhat rival conceptualisation of risk is offered by the Society of Risk Analysis, where the umbrella concept is instead risk analysis, understood as "a distinct science covering risk assessment, perception, communication, management, governance and policy in the context of risks of concern to individuals, public- and private-sector organizations, and society at a local, regional, national, or global level" (Society of Risk Analysis, n.d.). While the former definition is well-established in more practical industrial and organizational applications of risk, the latter represents the definition often deployed by the academic community.

From a more social scientific perspective, the technological or management approach to risk, however, is challenged by the broader risk governance approach (Renn, 2008; Renn, 2019). This approach can be understood as a constructivist-normative school within societal security, with roots in both

older, so-called risk society discourse as well as multilevel governance discourse in European studies. The risk society discourse (e.g., Beck 2006) going back to the early 1990s, emphasises world risk society as a new phase of modernity. The current mega-risks and the resulting global crises are, in one way or another, artificial and human-induced, and yet, they are also amorphous so that no one individual actor is responsible for them. Further, there is no clear target group or location for their occurrence. These new and emerging risks are the result of (un)organised irresponsibility, an extensive phenomenon that has become part of our daily lives (Beck, 1992; Matten, 2004), giving rise to ever-increasing risk reflexivity on the part of societies. Issues such as climate change, global financial crises, and global terrorism, and most recently COVID-19, are proof of the existence of this kind of world risk society (Beck, 2006; Mohapatra, 2020; Sadati, Lankarani, and Bagheri Lankarani, 2020). These phenomena share attributes that arguably set them apart from previous more localised and visible risks.

The risk governance school follows these latter lines and therefore draws on a 'tragedy of the commons'-based logic but also emphasises that risks are not unambiguous since they are always related to conflicting perceptions, values, and interests, hence a focus on reflexivity towards risks. Risks must therefore be seen as socially constructed and often politicised discourses, which are typically underpinned by a strategy of change. These circumstances therefore require a multi-level risk governance system based on horizontal communication and the search for common solutions based on the widest possible cooperation among international organisations, as well as governmental and non-governmental actors. In a globalised world, such risks become systemic risks where complex and unpredictable dependencies and interdependencies lead to cross-sectoral and transboundary cascading effects (e.g., Schweizer and Renn, 2019).

3.2 Crisis Management

As seen in Table 3, crisis management can be found, in its different variations and under different labels, in most second cycle societal security degree

programmes as part of their mandatory curricula. These courses are typically more social science-oriented, drawing on leadership, psychology, and public administration perspectives, even though the concept itself also includes many socio-technical elements and operational perspectives.

Crisis management is a broad multidisciplinary field, typically understood as being at the core of societal security. While there is no one all-encompassing theory of crisis management, the field has a few early pivotal works (Dynes, Quarantelli, and Kreps, 1972; Perrow, 1984; Reason, 1990, Beck, 1992). These works typically focus more on risk rather than materialised crises, but several recent textbooks, particularly in the fields of public policy and political decision-making, focus more on crises in terms of managing them from a more holistic perspective (Boin, McConnell, and Hart, 2008).

For the purposes of higher education, this part of societal security is often discussed in terms of the crisis management cycle (Drennan, McConnell, and Stark, 2015; Pursiainen, 2018; for a critique see: Bosher, Chmutina and van Niekerk, 2021). To this end, the crisis management cycle is commonly conceptualized as consisting of at least three phases: pre-crisis, during-crisis and post-crisis. Thus, if a crisis can be understood as a time-limited phenomenon, the crisis management cycle perspective is not. It also covers the situation before and after a crisis, such as prevention (based on risk assessments), preparedness, response, recovery, and post-crisis learning. However, protracted crises or so-called creeping crises challenge the delineation of onset-impact-aftermath (Boin, Ekengren and Rhinard, 2020). Therefore, due to this comprehensive focus, crisis management, like the recently popularised concept of resilience, tends to become an umbrella or core concept for societal security education.

3.3 Safety management

Safety management, under different labels, as seen in Table 3, is often another common compulsory topic for second cycle degree societal security education

programmes in the BSR. In simple terms, safety management is an organisational function, which ensures that all safety risks have been identified, assessed, and satisfactorily mitigated (SKYbrary, n.d.).

Safety management as a field of study is sometimes seen as one of the most comprehensive and famous theoretical schools within societal security, with a tendency to emphasise the reason why things go wrong in complex systems (Perrow, 1984; Reason, 1990). Another and more recent orientation, differentiating between the Safety I and Safety II schools of thinking, claims that the former presumes that things go wrong because of identifiable failures or malfunctions of specific components: technology, procedures, the human workers and the organisations in which they are embedded (Hollnagel, Wears, and Braithwaite, 2015). Safety II instead assumes that everyday performance variability provides the adaptations that are needed to respond to varying conditions, and hence is the reason why things go right (ibid). The latter is therefore more about adaptive capabilities than pre-emptive efforts.

As these definitions show, risk analysis is a critical component of safety management. Another issue connected to safety management is accident investigation, which can be seen as an element of crisis management in terms of post-crisis learning (Harms-Ringdahl, 2004). Safety management, in some ways connects proactive risk management with reactive accident investigation, with the aim to make an organisation, procedure, or system safer (Gillman and Pillay, 2018).

3.4 Resilience

The concept of resilience has rapidly become a new catchword in several academic fields and a firm part of the political lexicon related to societal security. Though it is still new topic in these curricula, we found that some universities in the BSR use the term explicitly in the labels for degree programmes and individual courses. Furthermore, we could identify a number of elective courses on resilience. Consequently, the concept has entered BSR higher education degree programmes in many variations.

Practical and political applications of resilience are apparent in fields such as disaster risk management, safety management, environmental protection, climate change adaptation, critical infrastructure policies, business continuity, spatial development, urban planning, public management, health policies, national security, and psychology. From a more academic perspective, one can distinguish several research domains associated with resilience that have developed their own approaches and, thus, have their own ontological, epistemological, and normative assumptions and methodologies. While these can represent different 'resilience schools of thought', we nonetheless find that within these domains, there often is a focus on the following forms of resilience: societal/community resilience, organisational resilience, technological/engineering resilience, team resilience, psychological resilience, economic/regional resilience, and ecological/environmental resilience. Considering the spectrum of disciplines in the aforementioned list, the field of resilience is quite interdisciplinary, which provides an opportunity for cross-disciplinary comparison and learning.

In contrast to the pre-crisis character of risk management but in concert with the broader idea of crisis management, the concept of resilience often covers the before-the-event, during-the-event, and after-the-event phases (Park et al., 2013; Rød et al., 2020). In so doing, it has considerable overlaps with the concept of crisis management (cycle). While it is also an umbrella concept like crisis management, it perhaps differs from the latter in that the study of resilience includes a clear impetus to measure the ability to adapt and recover as part of its focus on comprehensive vulnerability reduction.

4. Discussion

We have drawn a general, though nonetheless selective, picture about the state of the art of societal security higher education in the BSR. We began with a rather comprehensive introduction to the concept of societal security, particularly in the BSR. It was noted that the concept has two roots, one related to identity or ontological security studies and the other to a more

functional and practice-oriented approach, focused on enhancing issues such as resilience of society and public crisis management.

While the identity-based approach still has some leverage in political science, sociology, and international relations debates and is thereby more impactful in respective individual higher education courses, we see that the more promising approach, which constitutes a quickly growing academic field and basis for higher education degree programmes, comes from the functional understanding of the concept. Societal security, therefore, as an English-language umbrella concept has the potential to be a cohesive concept in higher education, particularly in the BSR.

Moving to mapping higher education societal security programmes in the BSR, we narrowed our focus to second cycle degree programmes (master's equivalent). While the disciplinary picture remains fragmented and hazy, particularly in terms of national languages and labels, we could find relevant societal security degree programmes in all BSR countries. Typical issues are mostly represented in engineering studies in terms of programmes or courses on risk and reliability engineering, but we could also identify societal security degrees with a clear social science orientation, albeit only in the Nordic countries and not in other BSR countries.

To make sense of this fragmented representation of societal security in higher education in the BSR – with the term itself rarely emerging in programme titles – we scrutinised second cycle curricula. We could identify four thematic areas that constitute the core of societal security degree programmes, namely risk, crisis management, safety management, and resilience. It was noted that these concepts and their respective research foci have many overlaps, reflecting a field that has grown together as an un-orchestrated combination of different academic traditions. As a result, this situation could be transformed into a more holistic, integrated theoretical and conceptual framework for what societal security entails, which would involve developing and elaborating the theoretical links between the four conceptual thematic areas identified.

Where are we in terms of higher education if one of the goals in the BSR is to create 'a shared societal security culture'? Obviously, higher education institutions play a crucial role in educating the next generation of societal security professionals. The majority of current academics and professionals in the field of societal security have their academic backgrounds in the more traditional social sciences, engineering, or natural science disciplines; there was previously no societal security academic higher education. Therefore, most current academics and professional have largely learned about societal security-related concepts and methodologies through their own experiences and self-education, rather than through any formal mechanisms. We can identify the emergence of professionals in some countries only recently, during the past decade or so, who have gone through their higher education focusing particularly on such issues as crises, risks, resilience, safety, and security through their degree programmes.

Given the increasing importance of these issues, as well as the growing focus of global, transnational, and transborder cooperation on them, it is critical that higher education institutions and their societal security degree programmes are up to date on the latest developments in this field. An increased focus on global crises, temporally stretched risks, and the global commons suggests that the field is changing. More emphasis on the necessity of thinking beyond national and regional borders is required.

The nebulous identity of societal security, and the fact that this concept is not widely used in BSR degree programme titles, however, poses an obstacle for the coordinated development of the discipline as a transnational concept in higher education. Therefore, societal security experts in the BSR should work toward a higher level of consistency in terminology and its usage to be able to create a better shared understanding. With a rapidly expanding terminological landscape, partially due to novel kinds of risks and societal challenges, some conceptual flexibility will still also be necessary for academic plurality and fruitful collaboration across sectors, agencies, and borders. To work towards this goal, we recommend a systematic increase in cross-border staff and

student exchanges, exchange of good practices, lessons learned, workshops, summer schools, and exercises, and an open and sustained dialogue between different societal security degree programmes and curricula to further develop and enhance societal security education in the BSR.

5.Conclusions

In the current article, we have taken an in-depth look at the state of the art of higher education of societal security in the BSR. We conclude that conceptual difficulties notwithstanding, a basis for common understanding has emerged and continues to develop in this field transnationally. This development provides an opportunity for truly transnational learning and, in doing so, also enhances cross-border cooperation in educating and training the next generation of risk and crisis managers in the BSR and beyond. While we look at this field from the perspective of one concept, namely societal security, we are not advocating for a rigid dogma around this concept. Given the abundance of previously developed safety and security concepts, it is not effective to strive for any definitive conceptual priority. After all, academic research benefits from conceptual plurality. Rather, we aim to show that the concept of societal security might be appropriate as a common English-language denominator for facilitating practical policy and higher education collaboration in the BSR. It acts as a satisfactory and inclusive framework for facilitating higher education collaboration and functional approximation in the BSR. Furthermore, coordinating the related study programme titles would enhance cross-border collaboration and exchanges. Moreover, we hold that both the study of technology, engineering, and social sciences should be better integrated into and within societal security education. Thus, curricula developers should make better use of the theoretical and methodological plurality of societal security. Providing multi- and interdisciplinary study tracks and electives is a solution for diverging needs while still developing a common core for societal security higher education in the BSR.

Funding Statement

Dina Abdel-Fattah and Christer Pursiainen would like to acknowledge the Erasmus+ Strategic Partnership in Higher Education multinational project 'NEEDS –The Needs-based education and studies in societal security', project nr. 2020-1-SE01-KA203-078013. The contribution of Reidar Staupe-Delgado was funded by the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No. 897656.

Acknowledgments

The authors are indebted to the NEEDS project partners and other colleagues for their invaluable information and comments, particularly Guna Bazone, Adrian Bralewski, Roger Flage, Katie Goldie-Ryder, Pawel Gromek, Henrik Hassel, Kamrul Hossain, Eva Johansson, Magnus Johansson, Karla Jonsson, Björn Karlsson, Jürgen Krempin, Sergejs Latnikovs, Andriy Martynenko, Andrej Masloboev, Karl Modig, Hanna Iisakkila Rojas, Franziska Seufert, Maksim Shishaev, Morten Sommer, Tim Sufin, Are Sydnes, Oksana Telak, Piia Tint, Kaspars Vārpiņš, and Stephanie Young. We would also like to express our special thanks to the study programme leaders and students who anonymously responded to the questionnaires, the generic results of which were used as data and inspiration in this article.

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Table 2. Identified second cycle degree programmes in societal security in the BSR

Higher education institution	Degree label*	ECTS	Duration	Language**	Main disciplinary focus
Denmark					
University of Copenhagen	M.Sc. in Security Risk Management	120	2	EN	Social Sciences
University of Aalborg	Risk and Safety Management, Master	120	2	EN	Engineering
Estonia					
The Estonian Academy of Security Sciences	Master of Internal (Homeland) Security	120	2 Distance	EE	Four tracks: a) Crisis Management b) Internal (Homeland) Security c) Policing d) Agency-specific
University of Tallinn	Environmental Management, M.Sc.****	120	2	EE	Natural sciences
Finland					
Laurea University of Applied Sciences	Master of Business Administration	90	1,5-2,5	FI	Social (business and organisation) sciences
Tampere University	Master of Security and Safety Management	120	2	EN	Two tracks: a) Safety Management and Engineering b) Security Governance (social science -oriented)
University of Jyväskylä	Security and Strategic Analysis – Master	120	2	FI	Social (information) sciences, focus on intelligence studies

Germany					
Rheinische Friedrich-Wilhelms-Universität Bonn	Master of Disaster Management and Risk Governance	120	3 Part-time/mixed (experience-based)	DE	Social sciences/natural and technological sciences
Carl Remigius Medical School	Crisis and Emergency Management, M.Sc.	90	2	DE	Social sciences
Magdeburg-Stendal University of Applied Sciences	Safety and Hazard Defence, M.Sc.	90	1,5	DE	Engineering
Iceland					
University of Iceland	Civil Engineering, M.Sc.	120	3	IS	Engineering, only some individual courses focusing on risk/reliability engineering (e.g., earthquakes-focus)
Latvia					
Riga Technical University	Labour (Occupational) Protection – Master****	60	2	LV	Social sciences
Lithuania					
The General Jonas Žemaitis Military Academy of Lithuania	Public Security and Defence, Master of Public Security	120	2	LT	Social sciences
Klaipėda University	Ecology and Environmental Studies, Master	120	2	LT	Societal/environmental sciences

Norway					
UiT The Arctic University of Norway	Societal Security – Master	120	2	NO	Social sciences
UiT The Arctic University of Norway	Technology and Safety in the High North – Master	120	2	EN	Three engineering tracks: a) Risk and Reliability b) Nautical Science c) Automation
UiS University of Stavanger	Societal Security – Master	120	2	NO	Two tracks: a) Societal Security (social science - oriented) b) Technological Societal Security
UiS University of Stavanger	Master in Risk Analysis	120	2	EN	Two tracks: a) Engineering Risk Analysis and Management b) (Social science -oriented Risk Analysis and Governance
UiS University of Stavanger	Experience-based Master in Risk Management and Security/ Safety Leadership	90	1,5 Part-time flexible	NO	Social sciences
Norwegian University of Technology and Science (NTNU, Trondheim)	Reliability, Availability, Maintainability and Safety (RAMS), Master	120	2	NO	Engineering
Norwegian University of Technology and Science (NTNU, Trondheim)	M.Sc. in Safety, Health and Environment	120	2	NO	Engineering
Nord University, Bodø	Preparedness and Crisis Leadership	90	2,5 Part-time	NO	Social sciences

Poland					
The Main School of Fire Service	M.Sc. or Master of Fire Engineering	90	1,5 Alternative: Stationary /distance	PL	Two tracks: a) Civil engineering b) Fire engineering
Russia (North-Western Federal District)					
The Northern Arctic Federal University named after M.V. Lomonosov, Archangelsk	Environmental Risks Management in the Arctic	120	2	EN	Safety and environmental engineering, law
Saint-Petersburg University of State Fire Service of Emercom of Russia	Technological Safety (Fire Safety), Master	***	2	RU	Engineering
Saint-Petersburg University of State Fire Service of Emercom of Russia	Legal aspects of Life Support Safety, Master	***	Distance	RU	Law
Saint-Petersburg University of State Fire Service of Emercom of Russia	State and Municipal Administration (profile: material and technical safety), Master	***	Distance	RU	Administrative sciences, law

Sweden					
Lund University	Disaster Risk Management and Climate Change Adaptation - Master's Programme	120	2	EN	Social sciences
Lund University	M.Sc. in Risk Management and Safety Engineering	120	2	SE	Engineering
Lund University	Master's Programme in Human Factors and System Safety (for already professionals)	60	1	EN	Social sciences
Lund University	International Master Programme in Environmental Studies and Sustainability Science	120	2	EN	Social sciences
University of Karlstad	Risk Management in Society	120	2	SE	Social sciences
Swedish Defence University	Master's Programme in Politics, Security and War: M.Sc. in Political Science/M.Sc. in War Studies.	120	2	EN	Social sciences, two tracks: a) Political Science with a focus on Crisis Management and Security b) War Studies
Swedish Defence University	Leadership and Management for Defence, Crisis Management and Security - Master's Program	120	2	SE	Social sciences

* English translation if the degree label is in some other language
** EN refers to the fact that the official teaching and degree language is English
*** Information on ECTS not available at the HEI's website
**** Only loosely connected to societal security and/or very specialised

Table 3. Mandatory curricula in societal security second cycle degree programmes in the BSR

HEI	Degree label*	Alternative tracks	Mandatory Courses (ECTS)
Denmark			
University of Copenhagen	M.Sc. in Security Risk Management		Security Studies (7.5) Organisation and Risk (7.5) Political Risk Analysis (7.5) Knowledge Production and Evaluation (7.5) Security Risk Management (7.5) Master's Thesis Seminar and Master's Thesis (30)
Aalborg University	Risk and Safety Management, Master		Industry Standards and Legislation (15) Systems Engineering (5) Applied Statistics and Probability Theory (5) Risk Analysis (5) Risk Analysis and Management (15) Risk Management (5) Decision Making (5) Operational Risk Management in Projects (15) Simulation of Emergencies (5) Emergency Management (5) Master's Thesis (30)

Estonia			
The Estonian Academy of Security Sciences	Master of Internal (Homeland) Security (distance)	For all	Strategic Management (8) Research Methodology and Research Seminar (8) Academic Writing and Research Seminar (6) Data Analysis (5) Legal Regulation of Internal Security (5) Cyber Security, Privacy and Data Protection (5) Internal Security Policy Development and Cooperation (5) Hostile Influence, Psychological Defence and Media Communication (4) Security Theories and Their Research Applications (5) Security and Hybrid Threats and a Broad Approach to National Security Master's Thesis (30)
		Crisis Management	Crisis Communication and Psychology (5) Crisis regulation and management (7) Risk management and business continuity (5 Emergency preparedness (4)
		Internal Security	Knowledge management in security (2) Organized Crime and Money Laundering (4) Border Security and Migration Management (5) Law of the Sea in Conflict (4) Terrorism and International Missions (6)
		Policing	Knowledge Management in Security (2) Criminal Analysis (2) Organized Crime and Money Laundering (4) Border Security and Migration Management (5) Current Problems of Criminal and Penal Policy (3) Police Management and Location in the System of Government (5)

		Agency-specific orientation	(21 specialised ECTS, subjects not defined)
Finland			
Laurea University of Applied Sciences	Master of Business Administration		Individual and Organisational Safety/Security Behaviour (5) Business Continuity (5) Strategic Leadership (5) International Security Leadership (5) Cybersecurity Leadership (5) Emerging Technologies in Security/Safety Leadership (5) Master's Thesis (30)
Tampere University	Master of Administrative Sciences	Safety Management and Engineering	Safety Management and Engineering (20) Systems RAMS Engineering (5) Systems Reliability Centred Maintenance (5) Information Security Management (5) Safety Engineering (5) Enterprise HSEQ management (5) Safety and Risk Analysis (5) Master's Thesis Seminar (5) Master's Thesis (30)
		Security Governance (social science - oriented)	Security Governance (20) Societal Security: Contemporary Challenges (5) Governance of Security (5) Approaches to International Security Studies (5) Current Themes in International Security (5) Global and EU Security Governance (5) Crisis Management and Leadership (5) Master's Thesis Seminar (5) Master's Thesis (30)
University of Jyväskylä	Security and Strategic		(Security and Leadership, incl.:) Concept of Security (5)

	Analysis – Master		Crisis, Conflicts, and Security (5) History of organisational and business leadership (5) (Strategic Intelligence, incl.:) Basics of Intelligence (5) Intelligence Analysis (5) Intelligence Products and Governance by Knowledge (5) Methodologies (5 + 5) Master's Thesis Seminar (5) Master's Thesis (30)
Germany			
Rheinische Friedrich-Wilhelms-Universität Bonn	Master of Disaster Management and Risk Governance (part-time/mixed)		Basics and Terms of Disaster Risk Reduction and Disaster Management (5) Social Science Basics and Methods (5) Natural Sciences and Engineering Basics and Methods Specialization (5) Risk Analysis and Risk Communication (5) Selected Concepts and Measures of Disaster Risk Reduction (5) Public Health, Medical and Psychosocial Prevention and Emergency Aid (5) Risk and Crisis Communication (5) Dealing with Special Risks (5) Disaster Management Leadership (5) Crisis and Security Management with Staff Exercise (10) Master's Thesis (30)
Carl Remigius Medical School	Crisis and Emergency Management, M.Sc.		Scientific Methodology (5) Emergency Medicine: Triage & Life Support in Operations (5) Mission & Emergency Care (5) Crisis Management & Medical Hazard Defense (5) Operational Planning (5) Coordination (5)

			Personnel Management in Crisis and Emergency Management (5) Legal Aspects in Crisis and Emergency Management (5) Intercultural Action & Ad Hoc Qualification of Emergency Services (10) Applied Scientific Methodology in The Context of Crisis and Emergency Management (5) Digital & Analog Corporate Security (5) Emergency Medicine in the Context of Staff Work (5) Extended Ability to Act Abroad (5) Thesis and Colloquium (20)
Magdeburg-Stendal University of Applied Sciences	Safety and Hazard Defence, M.Sc..**	Fire Protection	Further Mathematics and Probabilistics Safety Research and Practice Heating Technology Risk Prevention and Emergency Provision Extension of Structural Fire Protection Fire and Explosion Protection in Industry
		Industrial Safety	Further Mathematics and Probabilistics Safety Research and Practice Fluid and Heating Technology Industrial Safety Plant Safety Law
Latvia			
Riga Technical University	Labour (Occupational) Protection – Master****		Basics of Labour Protection law (3) Labour Protection and Safety (5) Basics of Occupational Health and Occupational Medicine (3) Business Economics (3) Business Management (2) Work Psychology and Ergonomics (2) Environmental Protection (2)

Lithuania			
The General Jonas Žemaitis Military Academy of Lithuania	Public Security and Defence, Master of Public Security		Contemporary Society Studies (8) National Security and Prevention of National Security Threats (8) Scientific Research Methodology (7) Statistical Analysis in Scientific Research (7) Civic Education Studies (6) Intelligence Studies (6) Strategic Communication (6) Modern Military Conflict Studies (8) Terrorism Studies (6) Information Security Studies (6) War and Peace Studies (8) Master's Thesis Seminar (6) Master's Thesis (30)
Klaipėda University	Ecology and Environmental Studies, Master		Environmental Risk Assessment and Management (6) Marine and Coastal Management (6) Statistical Methods in Sea Ecology (6) Management of Aquatic Ecosystems and Living Resources (6) Biodiversity and ecosystem functioning (6) Application of GIS and Spatial Analysis Methods in Marine and Coastal Research Studies (6) Methodology of Scientific Work, Project Preparation, Scientific Communication (6) Legal Regulation of Environmental Protection in the European Union (6) Research Work (6) Blue Biotechnology (6) Blue Economy (6) Research Work (6) Master's Thesis (30)

Norway			
UiT The Arctic University of Norway	Societal Security – Master		Quantitative methodologies (10) Qualitative methodologies (10) Crisis Management (10) Risk Assessment and managements (10) Resilience (10) Safety Management and Accident Investigation (10) Master's Thesis (30)
UiT The Arctic University of Norway	Technology and Safety in the High North – Master		Reliability Engineering (10) Stochastic Processes (10) Safety Management and Accident Investigation (10) Advanced Techniques for Risk and Reliability (10) Cold Climate Engineering (10) Master's Thesis (30)
UiS University of Stavanger	Societal Security – Master	Specialisation in Societal Security	Philosophy of Science and Research Methods (10) Social Science Research Methods (10) Risk and Societal Security (10) Crisis Management (10) Infrastructure and Vulnerability (10) Risk-based Management (10) Master's Thesis Seminar (0) Master's Thesis (30)
		Specialisation in Technological Societal Security	Numerical Modelling (10) Risk and Societal Security (10) Crisis Management (10) Infrastructure and Vulnerability (10) Risk-based Management (10) Technical Security Systems (10)

			Master's Thesis Seminar (0) Master's Thesis (30)
UiS University of Stavanger	Master in Risk Analysis	Risk Analysis and Governance, International Master's degree Programme Engineering Risk Analysis and Management	Philosophy of Science and Research Methods *or* Probability and Statistics (10) Foundations of Risk Analysis and Governance (10) Risk, Society and Governance (10) Risk Management, Communication and Policy (10) Risk Assessment and Decisions (10) Selected Topics in Risk Management *or* Reliability (10) Master's Thesis (30)
UiS University of Stavanger	Experience-based Master in Risk Management and Security/ Safety Leadership		Risk, Security/Safety and Vulnerability (20) Master's Thesis (30)
Norwegian University of Technology and Science NTNU, Trondheim	Reliability, Availability, Maintainability and Safety (RAMS), Master		Safety and Reliability Analysis (7.5) Maintenance Management (7.5) Risk Management in Projects (7.5) RAMS Engineering and Data Analytics (7.5) Elements of Model Engineering (7.5) Risk Analysis (7.5) Methods and Tools in Safety Management (7.5) Industrial Systems Engineering (7.5) Applied Statistics (7.5) Experts in Teamwork courses (7.5) Reliability, Availability, Maintainability and Safety, Specialization Project (15) Data Driven Prognostics and Predictive Maintenance (7.5)

			Design and Reliability Analysis of Digitalized Safety Systems (7.5) Safe Operation and Maintenance (7.5) Dependability and Performance Design (7.5) Master's Thesis (30)
Norwegian University of Technology and Science NTNU, Trondheim	M.Sc. in Safety, Health and Environment		Programming and Numerics (7.5) Working Environment (7.5) Environmental Management and Corporate Strategy (7.5) Safety Management (7.5) Methods and Tools in Safety Management (7.5) Health, Safety and Environment, Specialization Project (7.5) Health, Environment and Safety, Specialization Course (7.5) Master's Thesis (30)
Nord University, Bodø	Preparedness and Crisis Leadership, Master		Leadership of Change and Crisis (7.5) Preparedness Organisations and Crisis Management (7.5) Strategic Media Management (7.5) Preparedness and Crisis Leadership (7.5) Digital Preparedness (7.5) Applied Methods (7.5) Master's Thesis (7.5)

Poland			
The Main School of Fire Service	Safety Engineering and Civil Protection Faculty – Master**		Foreign Language Course Principles of Running a Business Selected Issues from Philosophy and Ethics Methods and Techniques of Human Resource Management Cooperation with the Media in the Activities of the State Fire Service Methodology of Scientific Research in Safety Engineering Mathematical Decision Descriptive Statistics Information Management Application of Modern Techniques in Safety Engineering Modelling of Fires Analysis of the Effects of the Explosion Contemporary Problems of Environmental Engineering Management of the Operation of Rescue and Firefighting Equipment Reliability and Safety of Structures Spatial Information Systems Managing Rescue Operations Operational Preparation in Civil Protection Contemporary Terrorist Threats Risk Analysis in Safety Engineering Master's Seminar Master's Thesis

Russia (North-Western Federal District)			
The Northern Arctic Federal University named after M.V. Lomonosov, Archangelsk	Environmental Risks Management in the Arctic		Basic Module (5) Mathematical and Instrumental Methods in Ecology and Environmental Management (15) Environmental Law (10) Environmental Monitoring (15) Environmental Management and Nature Protection (15) Risk Management (15) Clean Production Technologies (15) Master's Thesis (30)
Sweden			
Lund University	Disaster Risk Management and Climate Change Adaptation - Master's Programme		Societal Resilience (7.5) Foundations for Risk Assessment and Management (7.5) Capacity Development (7.5) Direction and Coordination in Disaster Management (7.5) Risk Based Land Use Planning (7.5) Climate Smart Risk Reduction (7.5) Preparedness and Planning (7.5) Risk Perception, Communication and Human Behaviour (7.5) Humanitarian Logistics (7.5) Research Methodologies (7,5) Master's Thesis (30)
Lund University	M.Sc. in Risk Management and Safety Engineering		People, Technology, Organization and Risk Management (7.5) Fundamentals of Risk Analysis and Management (7.5) Risk Analysis in Security (7.5) Statistical Methods for Safety Analysis (7.5) Risk Analysis for Health and the Environment (7.5) Risk Management Process (15) Master's Thesis (30)

Lund University	M.Sc. in Human Factors and System Safety (for already professionals)		The New View of Human Factors and System Safety (10) The Sociology of Safety and Accidents (10) Accountability and Learning from Failure (10) Methods in Safety Science (15) Master's Thesis (15)
Lund University	International Master Programme in Environmental Studies and Sustainability Science		Earth Systems Science (10) Social Theory and Sustainability (10) Sustainability Science (10) Governance of Sustainability (7,5) Urban and Rural Systems and Sustainability (10) Economy and Sustainability (7.5) Knowledge to Action (5) Master's Thesis (30)
University of Karlstad	Risk Management in Society		Introduction to Risk Management in Society (7.5) Personal Safety I: Injury Analysis and Risk Assessment (7.5) Management of Natural Disasters 1 (7.5) Personal Safety II: Injury Prevention and Safety Promotion Work (7.5) Management of Natural Disasters 2 (7.5) Theory Formation in Risk Management (7.5) Quantitative Scientific Method (7.5) Qualitative Scientific Method (7.5) Master's Thesis (30)
Swedish Defence University	Master's Programme in Politics, Security and War	Political Science with a focus on Crisis Management and Security	Politics, Security and Crisis (15) Methods (15) Master's Thesis (30)
		War Studies	The Study of War and Conflict (15) Methods (15) Master's Thesis (30)

Swedish Defence University	Leadership and Management for Defence, Crisis Management and Security - Master's Programme		Leadership in Stressful Conditions - Theoretical Foundations (7.5) Management Science - Theoretical Foundations (7.5) Individual Perspectives on Leading (7.5) Qualitative And Quantitative Methods with Theory of Science (7.5) Organizational Perspectives on Leadership (7.5) Inter-Organizational Perspectives on Leadership (7.5) Synthesis - From Individual to Social System (7.5) Advanced Course in Qualitative and Quantitative Methods with Theory of Science (7.5) Master's Thesis (30)

* English translation if the degree label is in some other language

** ECTS not available on the respective website