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Measuring societal safety

An analysis of societal safety-related composite indices and their alignment with the Norwegian understanding of societal safety

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Abstract: This study is concerned with societal safety-related composite indices. By means of an analysis, the aim is to uncover the normative assumptions of three prevailing indices. The goal of the analysis to understand how the indices are measured, which focus is implied by the ways it is measured, and how the indices can relate to prevailing understandings of societal safety. The objective of this thesis is to answer: <i>What are the normative assumptions underpinning some of the main global indices related to societal safety and how suitable are these as measures of societal safety as the term is understood in Norway?</i>	
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Abstract

The continuous emerge of new technologies and increased globalization and connectedness shape the global society. The world is constantly faced with new consequences, and “multiple threats from COVID-19, digital technology, climate change, and biodiversity loss, have become more prominent or taken new forms in recent years” (UNDP, 2022, p. iii). One can more broadly say that “...the world is plagued by a duo of dangerous crises: climate and conflict” (WEF, 2024, p.4). The consequences of events caused by these risks will initially affect locally, but the consequences will thereafter affect internationally, thus evolving a local problem into a global problem (Gupta, Van Der Leeuw, 2007). Evidently, the need for monitoring, evaluation, and governance of risks is essential, firstly as a way of locally handling consequences, and secondly as a way of avoiding consequences impacting somewhere else. The objective of the thesis is to answer: *What are the normative assumptions underpinning some of the main global indices related to societal safety and how suitable are these as measures of societal safety as the term is understood in Norway?*

By means of a type of content analysis, three societal safety-related composite indices are analyzed. The outcome of the analysis is related to the research questions, which are complementary to the research problem. Some key findings are that the indices are measured differently, and that a more complex methodology does not imply a more correct measurement. Furthermore, the ways in which the indices are measured affects the focus areas of the indices. As a part of this, one can differentiate between the index system and the report-specific focus, and that they shape each other, although in many practical cases they can be viewed as one. In analyzing observations from the indices, the degree of interpretation applied to establish an alignment with the principles related to the Norwegian understanding of societal safety, can affect how valid it is. All indices align with the principles, to varying degrees. The World Risk Report provides explicit observations, and the Global Peace Index, implicit observations. In each aspect, both indices align strongly with the principles. Since explicit statements require less interpretation and contextualization, the World Risk Index most closely resemble the Norwegian understanding of societal safety. The outcomes of the analysis provide a good foundation in understanding the normative foundations of the composite indices, referring to how they are measured, what focus this entails, and the indices’ underlying values.

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1 Introduction

The continuous emerge of new technologies and increased globalization and connectedness shape the global society. In doing so, it alters how risks can impact, and therefore the view of societal safety is constantly changing. In the World Economic Forum's *The Global Risks Report 2024*, managing director Saadia Zahidi noted that "...the world is plagued by a duo of dangerous crises: climate and conflict" (WEF, 2024, p.4). In light of the occurrence of events in the last decade, namely the COVID-19 crisis, and recently the Russia-Ukraine conflict, the state of the world is constantly being impacted. In the United Nations Development Programme's report '*New threats to human security in the Anthropocene*', Secretary-General António Guterres notes that "multiple threats from COVID-19, digital technology, climate change, and biodiversity loss, have become more prominent or taken new forms in recent years" (UNDP, 2022, p. iii). The consequences of events caused by these risks will initially affect locally, but the consequences will thereafter affect internationally, thus evolving a local problem into a global problem (Gupta, Van Der Leeuw, 2007). By improving local capacities, one can firstly reduce the consequences if an event occurs, and secondly, be more robust to consequences from events happening somewhere else.

Evidently, the need for monitoring, evaluation, and governance of risks is essential. Globalization has made the world interconnected, and countries compare themselves not only based on their own performance but aim towards being as good or better than other countries. Therefore, it is natural that countries want to increase their performance. Composite indices assess countries on a set of indicators, and ultimately score them based on their overall performance, which then is comparable to other countries performance. In this thesis I will deduct an analysis of three composite indices that refers to a societal safety issue with the intent to answer the following problem statement:

What are the normative assumptions underpinning some of the main global indices related to societal safety and how suitable are these as measures of societal safety as the term is understood in Norway?

This problem statement will be studied through three complementary research questions:

1. How are prevailing societal safety composite indices measured?
2. What kind of focus is implied by the way that each of the indices are measured?

3. Which index most closely resembles the Norwegian understanding of societal safety?

The aim of this thesis is to analyze the normative assumptions underpinning key societal safety-related indices

Research question 1

The first research question is concerned with how the indices are measured. To understand how the indices are measured, examining firstly what the indices are meant to measure, and secondly how the indices propose to measure it is the central elements which need to be uncovered. Answering this question sufficiently requires insight into the methodology, analysis framework, indicators, and information on data source.

Research question 2

The second research question is concerned with the indices' area of focus. Assessment on the goals, purposes, aims, and areas of priority can provide insight into the implied focus for the indices. Indices may have more than one focus, for example by differentiating between the focus of the index system and the focus of the report-specific topic.

Research question 3

The third research question is related to the alignment between the indices and the Norwegian approach to societal safety based on four principles. The degree of alignment each index displays can provide essential basis for assessing the normative assumptions which make up its foundation.

1.1 The structure of the thesis

In chapter 2 I will present the thesis' analytical approach. Chapter 3 is about the thesis' methodological framework. In chapter 4 I will present the empirical findings, which in chapter 5 will be discussed in accordance with the theoretical framework. Lastly, in chapter 6, I will present the concluding remarks, limitations of the thesis, as well as potential for further research.

2 Analytical approach

In this chapter, the thesis' analytical approach will be presented. In the following subchapters, societal safety and security, public management, risk and risk complexity, risk governance and risk management, performativity, and notes on composite indices will be presented.

2.1 *Societal safety and security*

When discussing societal safety and security, one often speak of events that can affect a number of people, either directly or over time. These events are often a product of several factors, where the impacts of the events are shaped by the severity of the event and the degree of preparedness (Engen et al., 2016, p. 280). Societal safety can be defined in a number of ways, but two key factors seem to be consistently present. Firstly, the society has a set of values, often centered around the citizens, and secondly, society has critical infrastructure. A society can therefore assess its societal safety based on how well these key factors are maintained and protected.

The term societal safety is often used in some parts of the world, predominantly in Scandinavian countries (Olsen, Kruke & Hovden, 2007, p. 70). Internationally however, the term societal security is predominantly used. While there has been some research about the similarities and differences between societal safety and societal security (i.e. Høyland, 2018), there seem to be no clear consensus about the absolute limitations of each term. Often, the term is contextually adapted, fitting the relevant theme. Societal security can be defined as “the ability of a society to persist in its essential character under changing conditions and possible or actual threats” (Wæver et al., 1993, in Engen et al., 2016, p. 29). Though broad, it provides some insight into the main characteristics of the term.

The Norwegian term for societal safety embodies both safety and security aspects (Høyland, 2018). Both by definitions and by practical principles, both aspects are incorporated, not necessarily distinguishing between the two. Norwegian societal safety can be defined as “society's ability to maintain important societal functions and protect citizens' lives, health and basic needs under various forms of stress” (St.meld. nr. 17, (2001-2002), p. 4, my translation). Although vague and very wide in its potential interpretation, some main factors are evident. Firstly, values of the Norwegian society are outlined, secondly the threats or risks are presented, and thirdly the function is to possess and maintain the capacities which prevent said risks of damaging the values. These points are evident in later definitions as well: “society's ability to

protect itself against and manage events that threaten fundamental values and functions and endanger life and health” (Samfunnssikkerhetsinstruksen, 2017, my translation).

At the core of Norwegian societal safety work is four principles. These principles are evident throughout all governmental actors, and many corporate actors, and express the standard for how societal safety work in Norway. The four principles are responsibility, equality, proximity, and collaboration (Meld. St. 10, 2016-2017, pp. 20-21; Meld. St. 5, 2020-2021, p. 35; KS, 2020).

The principle of responsibility implies that actors have responsibility in preparing for and managing extraordinary events in the areas where the actor is normally responsible (Meld. St. 10, 2016-2017, p. 20). The principle of equality implies that while managing extraordinary events, the organizational structure should be as close to normality as possible (Meld. St. 10, 2016-2017, p. 20). The principle of proximity implies that extraordinary events are to be handled at the lowest possible level to ensure efficient management (Meld. St. 10, 2016-2017, p. 21). The principle of collaboration implies that in order to best manage a crisis, all actors with relevant capacities should be included in the management process (Meld. St. 10, 2016-2017, p. 21).

2.2 Public management

The evolution of public management, through a series of phases, shows a move from pure governmental management to an increasingly weighted citizen-based management form (Bryson, Crosby, & Bloomberg, 2014, pp. 445-446; Cooper, Bryer, & Meek, 2006). In turn, the ideas and values focused upon change as citizens are involved. Evidently, standards of living, economics, global politics, and many other factors play part in the changes. Traditional public management where the need for efficient government was the main focal point (Bryson, Crosby, & Bloomberg, 2014, p. 447) was well suited in times, like for example after World War two. During the end of the 20th century however, New Public Management (NPM) emerged, which aimed to “enhance efficiency and effectiveness of public services” (Hyndman & Lapsley, 2016, p. 388). During these times, distrust to government was an important basis for the emerge of NPM (Bryson, Crosby, & Bloomberg, 2014, p. 446).

Public management is affected by politics, which lays the foundation for values and principles for the management. This is often called paradigms, and Aucoin (1990, p. 116) notes that the paradigms provide a description of reality, a reasonable explanation to why reality is as it is, as

well as solutions to change directions to a more desired reality. More specifically, paradigms are models with a set of themes, which provides some principles that affect the methods and management processes (Dunleavy, Margetts, Bastow & Tinkler, 2006, pp. 469-470). As paradigms gain traction, new forms of public management can emerge. Because the field of public management is constantly changing, the constant emerge of new paradigms and models are caused by societal changes – and societal needs are continuously evident (Bryson, Crosby, & Bloomberg, 2014). In all public management applications, the need for valuable information which can support decisions is therefore crucial. In turn, this implies not only having the theoretical understanding of for example risks, but also the contextual information, for example how a nation is compared to others.

2.3 Risk

In the most basic sense, risk can be seen as the relationship between “...probabilities and expected outcomes...” (Olsen, 2020, p. 4). In some cases, this may be an adequate definition, yet the consensus seems to be that this definitions’ application provides a superficial grasp of risk. The term is used in many different fields of science and is therefore subject to different interpretations. As Rausand notes, risk may interchangeably be defined as “*chance, likelihood, or possibility... [or] ...hazard, threat, or danger*” (2013, p. 16). More precise, risk is connected to an activity, and “... risk is about both desirable and undesirable consequences of the activity...” (Aven & Thekdi, 2021, p. 9). Furthermore, risk is dynamic (Birkmann et al., 2013, p. 196), meaning it changes over time. As a result, actors need to continuously adapt to changes. This may not always be easy because “Risk refers to uncertainty about the severity of the consequences of an activity or event with respect to something that humans value” (IRGC, 2017, p. 5), implying that although measures are in order, the factor of uncertainty is something that we cannot control.

Notably, there are several attributes that can be associated to risk. A holistic understanding could define risk as something related to an activity’s consequences, contextually affected, and is a continuum which partly can be described as a duality to vulnerability in a risk nexus. Manifestation of risks, without proper management can result in a crisis (McConnell, 2020, p. 4). Birkmann et al (2013, p. 196) notes that “While risk and vulnerability can be seen as continuums, a disaster is but a moment or materialization of these underlying conditions”. In order to mitigate risks so that crisis does not occur, successful management is a prerequisite.

As the world grows steadily more complex, so do the risks that can affect societal security. By means of for example globalization, technological advancement, and climate change, both the basis for which societal risks can be understood, as well as the grounds for risk management and crisis management simultaneously grows more complicated. Furthermore, several risks can affect simultaneously, increasing the difficulty of risk management (Troy, Pinto & Cui, 2022, p. 1470; Pörtner et al., 2022, p. 18). This entails a professionalization on parties which handle said risks, as well as the continual aspiration of improvement. Thus, the need for control, evaluation, monitoring, and prediction of risks related to current and future societal interests is of utmost importance.

Because of the complex nature of risks, evaluating one's performance may be similarly complex. In many cases, countries may evaluate themselves on a temporal scale, internally reviewing their own performance comparing their current performance with their past performance. Although this may provide some data which can improve performance, the foundation may be insufficient, or the performance goals unrealistic or disproportionate. Both internal and external influences can affect the requirements concerning measurement of performance on risk management. Internally by means of the populations' opinions, expectations, and concerns (Chelli & Gendron, 2013, p. 1-2), and externally by means of different agencies, political groups, civil society organizations (Hutter & Jones, 2007), or other countries. In risk management, the risk complexity affects not only the management directly, but the strategic aspects as well. Juhl (2019, p. 27) notes that ranking risks in a management priority aspect can be difficult because it can be difficult knowing which risks to consider. With more complex risks to assess, this could further complicate the risk management process.

2.4 Risk governance and risk management

The fields of risk and crisis management is extensively researched, and along the way a number of terms used to describe processes and activities related to this has been presented. There seem to be no agreed upon consensus as to the boundaries of the different terms, but some key factors seem to be present amongst literature. Most closely connected with risk governance is the term 'risk management'. Whilst evidently having some traits in common, a general understanding is that risk management is concerned with risk management actions, while risk governance is concerned with risk management as a process. Lundqvist (2015, p.445) proposes a brief generalization of processes/areas for both risk management and risk governance (table 1). From

this overview, it is clear that risk governance provides a more holistic approach than risk management, which in turn focuses on the individual management activities.

Table 1: Risk management and risk governance (Lundqvist, 2015, p. 444)

Management forms	Processes/areas			
Risk management	Risk identification	Risk measurement	Risk monitoring and reporting	Auditing of process
Risk governance	Structure	Responsibility	Formality	Centralization

As risk management is directly connected with processing risks, the potential for influencing the risks’ occurrence and consequences is inherent. Juhl (2019, p. 33) notes that the main objective of risk management is both to avoid negative consequences and reduce the severity of consequences of risks if they occur. Risk management is often approached systematically (Olsen, 2020, p. 6). By means of standardization, one can establish certain processes and actions which are necessary to do based on the risk at hand. For well-known risks, this can be useful as it simplifies the management process. The dangers of applying a systematic approach to risk management is that the risk proves difficult to manage due to lack of adaptation. Risks can change over time, and as Juhl (2019, p. 35) points out, “risk is more than anything characterized by diversity and variability”.

Another way to approach risk management is by means of strategies. Strategies are not that different from standardizations, yet they focus more on applying the correct management by means of risk characterization rather than risk generalization. Although risks can be ambiguous, one can generalize risks based on some characteristics. Renn (2008, pp. 37-40) notes four distinctions: (1) Simple risk problems, (2) complex risk problems, (3) risk problems due to high unresolved uncertainty, and (4) risk problems due to interpretative and normative ambiguity. More simplified, one can note risk problems as simple, complex, uncertain, and ambiguous (Renn & Jäger, 2008, p. 127). Different risk problems acquire different actions, whether it be by means of standardizations or strategies.

The International risk governance council (IRGC) gives a broad definition of governance and risk governance “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, 2019). Although broad, the general interpretation is that risk governance is governance related to risk problems. Whilst the principles mentioned are valid, they may not be complete. Renn & Jäger provides some clarification to the principles, noting them as the four phases of risk governance: (1) pre-assessment, (2) appraisal, (3) tolerability and acceptability judgement, and (4) management (2008, p. 124). In addition to these phases, one should consider “Inclusion of the societal context” (Aven & Renn, 2010, p.53). This concerns the interplay of actors, differently perceived risks amongst actors, and the potential trade-offs by being included in the process (Aven & Renn, 2010, pp. 53-54). Lastly, “Categorization of risk-related knowledge” (Aven & Renn, 2010, p. 54) should be considered. Broadly, this means that knowledge is categorized for individual risk problems which later can be used again.

Contextually, risk management can be seen as a part of risk governance. This is evident in the definitions and generalization of risk governance phases. This does not unequivocally imply that risk management is a sub-process of risk governance, but rather the execution of the risk governance processes. As follows, one should consider the risk management process as an integral part of risk governance. In this view, the risk management actions are seen as a direct outcome of the risk governance processes. This implies that successful risk governance facilitates for good execution of risk management actions.

2.5 Performativity

The performative approach is often applied as a speech act. In general, speech acts can be used to enhance or change the message, based on underlying factors such as trust, dependency, and knowledge (Szerszynski, 1999, p. 239). By means of performative language, one can purposely avoid describing reality as it is, and rather construct a new and improved reality where the message is received in an improved way. In other words, performative language can alter the receiver’s interpretation of the message, contextualizing it in a different reality than how the receivers perceive it themselves (Szerszynski, 1999, p. 246).

Nyberg and Wright (2016, p. 619) notes that risks can be performative, based on how risks are communicated. In other words, by communicating risks using modified speech (Fleming & Banerjee, 2016, p. 258) a contextual bias may be implemented. This can include ways of framing, wording, or explaining the risks in a context which can affect the receivers. More specifically, by use of performative speech, one focuses on "...the contingent outcomes of the manner in which they are performed and reiterated " (Cochoy, Giradeau & McFall, 2010, p. 139). This is evident when constructing risks. Risks are based on facts, yet the perception of risks may alter significantly based on how they are communicated. Certain elements of risks, like for example uncertainties, can be difficult to correctly address and communicate when constructing risks (Themsen & Skærbæk, 2018, p. 21).

The act of performativity seems inter-contextual, meaning that it can be applied to many different fields of science, undergo different adaptations, and be presented as speech acts, text acts, or physical acts, such as body language to mention some. Thus, defining performativity could differentiate based on the context and medium concerned with. Spence (2016, pp.25) provides four definitions of performativity: "as a capacity for action (though not always individual agency), as a process of performance, as active engagement (embodied, mental, energetic, and the like), and as an indication of markers of theatricality or a performance frame." The definitions provide a wide explanation of performativity, yet the notion of performativity as an influencing factor for achievement is recurrent. Performativity can in some contexts be seen directly connected to performance. Although connected, there is no guarantee that enhanced performance is caused by well executed performative acts. Given that risks are fact based, by use of performative acts, improved performance can indicate that the impact of the communicated risks may differentiate between actors. More simplified, if one actor applied performative language and another one did not, one can presume that the presence of modified speech was more impactful than a purely factual representation.

Some conditions need to be present in performative acts to ensure firstly that it is performative, and secondly that it is successful. Austin (1975, p. 22) notes that two conditions normally must be achieved, firstly that someone must perceive the act, and secondly that the act and its promised outcome is trustworthy. This indicates that the party expressing the performative act, as well as the contextual factor bear weight on the effectiveness. For example, the performative act will have little credibility if performed by an actor on stage (Austin, 1975, p. 22), but may have more credibility if performed by a head of state or an expert panel. In other words, the outcome of performative acts is the "realization of actions described by the performed

utterance” (Gond, Cabantous, Harding & Learmonth, 2016, p. 444). The realization may be sufficient, and it may not. If a performative act is done correctly, the receivers will accept the act as a promise with conveyed realization of said promise, and receivers will trust that the actor is sufficiently trustworthy and has capacities to realize said promise.

2.6 Composite indices

The production of composite indices has increased with an increasingly digital world (Nardo et al., 2005, p. 14). Composite indices’ area of applicability is vast, and can provide valuable information to decision makers, scientists, and civil society. Beneficially, composite indices can summarize and simplify information regarding complex issues, thus enabling enhanced interpretation of the issue as a whole (Nardo et al., 2005, p. 8). The terms ‘indices’, ‘index’, and ‘indicators’ are more or less interchangeable, and mostly contextually dependent. Notably though, ‘index’ refers to a singular index, while ‘indices’ refers to a plural amount. In short, by describing it as ‘composite’ implies that it is a summary of several sub-indicators, mostly called just ‘indicators’, and in some instances ‘variables’. More precisely, “Composite indicators are generally used to summarise a number of underlying individual indicators or variables” (Freudenberg, 2003, p. 7). By placing these individual indicators in a model, like for example component analysis models, factor analysis models, or data envelopment analysis models (Greco, Ishizaka, Tasiou, & Torrisi, 2019, p. 69), one can summarize the indicators in a composite index. By doing this, the aggregated data can make more sense than the individual indicators by themselves. Thus, composite indices serve as a function which organizes and aggregates enormous amounts of information and provides a simplification of reality (Greco et al., 2019, p. 62). This information can afterwards be further processed, for example by ranking different actors.

Nardo et al. (2005, p. 8) notes that “Composite indicators (CIs) which compare country performance are increasingly recognised as a useful tool in policy analysis and public communication”. The rankings could affect both governmental and public opinion and could incentivize adaptation or enhancement efforts. Data presented in the composite indices are contingent upon qualitative assessment during the construction of indicators. Inherently, composite indices can easily be flawed due to methodological issues relying on a heavily criticized framework (Greco et al., 2019, p. 61). Composite indices can be “... poorly constructed or misinterpreted” (Nardo et al., 2005, p. 8), thus they can be “... misleading and easily manipulated” (Freudenberg, 2003, p. 3). Indicatively, the construction of composite

indices is reliant on honest and correct assumptions. By providing transparency, both regarding the construction of individual indicators, as well as the data used in the composite indicators could reduce skepticism (Nardo et al., 2005, p. 12). By doing so, the composite indices gain more trust, which can positively affect the potential for influence.

3 Methodology

In this chapter I will present the thesis' methodological framework. First, the thesis' research strategy will be presented, followed secondly by the selection of data, which includes both the data collection process and criteria for choice of data. Thirdly, the methodological approach, before fourthly the thesis' analysis structure, and lastly notes on validity and reliability.

3.1 Research strategy

The aim of this thesis is to answer the problem statement: *What are the normative assumptions underpinning some of the main global indices related to societal safety and how suitable are these as measures of societal safety as the term is understood in Norway?* In order to do so, a content analysis of composite indices related to societal safety is to be concluded. The information gathered can assist in answering three complementary research questions, which then can answer the problem question.

A general assumption is that quantitative research methods are related to assessing text and numbers, while qualitative research methods are based on observations. This is to some degree true, as it often can be this way. Contextualization of the problem, sources of information, and choice of theoretical framework in this thesis is best accompanied by a qualitative research strategy. In short, qualitative research strategies are generally concerned with broad questions about the social and political world (Consorti & Consorti, 2023, p. 424; Gerring, 2017). In this thesis, I will use an inductive approach to qualitative research, which is "characterized by a search for patterns" (Graneheim, Lindgren, & Lundman, 2017, p. 30). In adapting an inductive approach, I will search for patterns by means of content analysis on the thesis' five composite indices. More precisely, "During the analysis the researcher looks for similarities and differences in the data, which are described in categories and/or themes on various levels of abstraction and interpretation" (Graneheim et al., 2017, p. 30). In doing so, a general tendency will be present, which can provide a good foundation for discussing and comparing the different indices.

Collecting empirical data should be done with rigor, which involves being accurate when presenting information (Cypress, 2017, p. 254). One can directly site the report, but to be able to categorize information, thus giving it some extra meaning, one need to interpret the information. In methodology literature, the act of interpreting information is often called

hermeneutic (Graneheim et al., 2017, p. 29). A hermeneutic approach to interpretation of information involves that one interprets empirical findings solitarily, but in the context of existing literature (Consorti & Consorti, 2023, p. 424). In other words, I will, by means of a hermeneutic approach, be able to sort and categorize information based on their degree of similarity.

3.2 Selection of data

When building the literary foundation for a thesis, having a strategy regarding gathering of information is crucial (Rowley & Slack, 2004). Having a solid foundation of existing literature is crucial for any thesis, both with regards to “Building your research on and relating it to existing knowledge” (Snyder, 2019, p. 333). One can often refer to literature reviews when establishing a literary foundation, yet they are not interchangeable terms. The literature review concerns the process of reviewing literature related to a specific subject within a field, or as Rowley and Slack (2004, p. 32) puts it “... the objective of the literature review is to summarize the state of the art in that subject field”. Thus, the act of literature gathering can be seen as a part of the literature review. In the literature review of this thesis, the act of a ‘systematic review’, which “identifies key scientific contributions to a field or question” (Tranfield, Denyer, & Smart, 2003, p. 209) is to be used initially. This is to provide a good basis, which thereafter can be supplied by extra sources. Following this, I will use what Rowley and Slack calls the “citation pearl growing” (2004, p. 35). In doing so, I will start from credible documents, and from there go to their reference list to review other literature which I can use.

To deem literary sources as credible can be challenging if it is not a renowned document, yet a good starting point is to choose documents from peer-reviewed journals. The importance of credibility is also important in the selection of composite indices. For this, I will apply the following criteria:

- (1) The composite indices are concerned with a contemporary issue related to societal safety.
- (2) The composite indices are renowned and is of a reasonably large scale, meaning that it covers a large geographical or political area and is concerned with countries on an international scale.
- (3) The composite indices have some way of showing their results as a comparative ranking of countries based on their performance.

- (4) The composite indices' individual indicators or variables, and how they are constructed, is available.
- (5) The composite indices are published after 2020.

By adhering to a set of pre-chosen criteria, three indices were chosen:

World Risk Report

The World Risk Report 2023 is produced by Bündnis Entwicklung Hilft, which is an alliance comprised of several relief organizations which aims to “combat the root causes of hunger, poverty and violence” (UNDRR, n.d.).

Global Climate Risk Index

Germanwatch, which is the publisher of the Global Climate Risk Index 2021 is an “independent development, environmental, and human rights organization that lobbies for sustainable global development” (Germanwatch, n.d.).

Global Peace Index

The Global Peace Index 2023 is published by the Institute for Economics & Peace, which is an “independent, non-partisan, non-profit think tank dedicated to shifting the world’s focus to peace as a positive, achievable, and tangible measure of human well-being and progress” (IEP, 2023, p. 1)

After selecting which indices to include, the following objective is to establish an understanding of how the indices are structured and established. The fourth selection criteria for choice of indices are directly connected with this, which relates to the transparency of the indices' construction. Some indices have a document of sorts, either directly in the published index report or on their website, which explains the technical or methodological foundation, mostly referring to the variables which make up the index. I will assess the relevant documents for each of the indices, having an analytical and interpretive approach when doing so. Some variables may be purely quantitative, while others qualitative, or a mix. The data upon which variable is constructed is important and can affect the indices' quality and trustworthiness.

Evidently, there will be a difference in the structural complexity of the indices. Some indices might have a set of individual variables, weighted equally, which summarized produce a direct

overall score. Other indices might have several ‘levels’ or categories, each of which comprised of a set of individual variables, and differentiated weighting, or advanced algorithms. The degree of complexity should to some degree be coherent with the degree of transparency, meaning that a simplistic approach may not require the same degree of detail as a complex one. This being said, all the necessary information needed to understand the technical or methodological foundation should be a prerequisite. Determining if the complexity and transparency is coherent will be a subjective assessment. An interpretive approach to these assessments is essential.

3.3 Methodological approach

Content analysis is inherently a systematic approach (Elo et al., 2014; Cheng, Edwards, Darcy, & Redfern, 2018), with the intent of obtaining information, where “manifest content is to be described and latent content to be interpreted” (Graneheim et al., 2017, p. 31). Content analysis can be used both qualitatively and quantitatively (Seuring & Gold, 2012, p. 564), and inductively and deductively (Elo et al., 2014, p. 1). All these factors will say something about the processes and steps one take before, during, and after the analysis. Since this thesis will have a qualitative, inductive research strategy, the content analysis should be qualitative and inductive as well. Elo et al notes three phases of content analysis: “preparation, organization, and reporting of results” (2014, p. 1). The *preparation* in this thesis is reflected in the selection of analysis units. The units of analysis can be words, phrases, or themes, for example (Robson, 1993 in Elo et al., 2014, p. 5). *Organization* refers to the creation of categories and the degree of interpretation (Elo et al., 2014, p. 3) and *reporting of results* is reflected in the empirical findings. In addition to the generalized phases, I have a list of actions which will be followed in the preparation phase of the content analysis process: (1) skim read the report, (2) inspect the methodology, (3) inspect the construction of indicators, (4) inspect the scope, (5) inspect the key findings, (6) inspect the developer(s) and author(s), and (7) inspect concluding remarks/recommendations. This will ensure that the indices are treated equally before commencing the analysis.

Whilst the seven-point list provides a practical foundation, it is not to be mistaken for the analytical process. The aim of the analysis is to facilitate gathering of information which is relevant in answering the problem question. To do this, I will define some traits that can help in answering each research question. In doing so, the individual research questions can be answered, thus giving grounds for answering the problem question. In the process of collecting

this information, the act of analysis will require some interpretation. Hermeneutics is a comprehensive term but is often seen as a means of interpretation in a given context. Hermeneutics in the context of content analysis involves a relationship between the degree of interpretation and level of abstraction (Graneheim et al., 2017, p. 31). In many cases, hermeneutics is adapted as a holistic process or a general approach (Consorti & Consorti, 2023), yet the essence of it, namely interpreting texts according to the context, will be adapted in this thesis.

Interpretation of text stretches beyond the pure, descriptive dimension. In turn, interpreting explicit and implicit statements will require different degrees of interpretation. By adapting an interpretive approach to this analysis, one can interpret texts on different 'levels' (Thagaard, 2018, p. 37). In other words, the contextual meanings that are not inherently outlined. In this thesis, the content analysis offers a few challenges. Firstly, interpretation can be difficult because the reader needs to understand the context correctly. Noting an observation, statement, or other text and correctly assessing the theme may prove difficult. Some observations may be overlapping, which may cause a singular observation relevant in several. In this thesis, observations will be thoroughly examined in order to fit it to the correct category or theme. If, however, an observation is directly relevant on several occasions, it can be applied non-exclusively.

3.4 Reading the normative foundation – a type of content analysis

In this thesis, many of the traits from content analysis methodology will apply. Normally, one creates categories, themes, or other categorically defined units which encapsulates a certain subject. These categories are meant to reflect key aspects of the indices, while also be relevant to a research question. In this thesis, however, the content analysis is not thematically organized but rather organized by the research questions. As a measure of consistency, some key points

Research question 1: *How are prevailing societal safety composite indices measured?*

In order to understand how the indices are measured, information about the indices need to be available and understandable. In other words, there need to be a degree of transparency. Some key points connected to this research question which need to be addressed is whether the source data is good and whether the construction of indicators is correct. In addressing these key points, the information gathered can say something about how the indices are measured.

Research question 2: *What kind of focus is implied by the way that each of the indices are measured?*

Addressing the focus and scope of the indices, both by means of the report and the index framework. Some key points can provide information that illuminates the underlying focus of the report. By assessing the inclusion of vulnerable groups, providing comparable scores, and having appropriate scope and focus, the objective is to obtain information on the indices' focus based on the way indices are measured.

Research question 3: *Which index most closely resembles the Norwegian understanding of societal safety?*

The principles of equality, proximity, responsibility, and collaboration will be key points for this research question. Finding examples in the indices that aligns with these principles will say something about the indices' degree of resemblance to the Norwegian understanding of societal safety.

3.5 Validity and reliability

Validity often refers to accuracy (Rose & Johnson, 2020, p. 435) and concerns the creation of results (Elo et al., 2014, p. 1). One of the main aspects of validity is to verify that what you are trying to measure is what really is being measured (Ringdal, 2018, pp. 107-108). Holistically, one can say that validity refers to the soundness of the research (Thagaard, 2018, p. 19), in other words, whether the research is valid or not. Thus, the term says something about the quality of the document. It is often accompanied by the term reliability, which refers to replicability and methodological consistency (Rose & Johnson, 2020, p. 435). These two terms often define the quality of a document. Cypress (2017, p. 257) notes that both validity and reliability is of importance in all parts of writing a study, from the planning phase, and to the results. In other words, the terms provide some principles which shape all processes of writing a study. Consequentially, "validity is embedded in the analytic process" (Konradsen, Kirkevold, & Olson, 2013, p. 66). When constructing indicators in this thesis, I will carefully add relevant indicators until they satisfy in describing the theoretical framework. One could frame this as including indicators "until saturation is reached" (Denny & Weckesser, 2022, p. 1166).

More contemporary approaches suggest that the terms 'rigor' (Cypress, 2017) and 'trustworthiness' (Elo et al., 2004) either are better terms for describing the same phenomenon,

or as supplementary terms to give a more fulfilling description. As the terms mostly refer to the same concepts, the terms validity and reliability will in this thesis embrace the extra dimensions provided by rigor and trustworthiness.

4 Empirical findings

In this chapter I will present the findings from the analysis. Each of the three sub-chapters are concerned with each one of the research questions. The analysis provided insight into the indices and highlights the notion that they sometimes can be viewed in two dimensions: the index system, and the report. The first is often viewed as a methodological framework, and the latter in light of the publication – the report-specific details which is not a part of the methodological system. It is evident however that the index and the report are shaped to some degree to complement each other and are intertwined. This is because the indicators used in the report may be presented as inherent elements of the index system. In other words, differentiating between the index system and the report-specific details can prove challenging.

4.1 How are prevailing societal safety indices measured?

In order to understand how the indices are measured, one first need to know their methodological approach. At the center of the indices' methodology is the construction of an index score. The World Risk Index is structured with two main indicators, namely exposure and vulnerability which describes a risk score. Exposure refers to a number of the population, which is exposed to natural events and their severity, while vulnerability refers to susceptibility, lack of coping capacities and lack of adaptive capacities (BE Hilft, 2023, pp. 42-43). The indicators are scored on a scale of zero to one hundred. Scores are classified between five categories, ranging from 'very low' to 'very high'. The scores needed to fulfill for example 'very low' differs vastly between indicators, with the 'exposure' indicator ranging from 0.00-0.17 and the 'lack of adaptive capacities' indicator ranging from 0.00-25.28 (BE Hilft, 2023, p. 54). This implies that the indicators are weighted differently. Figure 1 shows the formulas and weightings applied for each indicator.

$$\text{Susceptibility (SC)} = \frac{2}{7} \left(\frac{A1 + A2}{2} \right) + \frac{1}{7} (C1) + \frac{2}{7} \left(\frac{D1 + D2}{2} \right) + \frac{2}{7} \left(\frac{E1 + E2}{2} \right)$$

$$\text{Coping Capacity (CC)} = \frac{4}{9} \left(\frac{A1 + A2}{2} \right) + \frac{4}{9} \left(\frac{C1 + C2}{2} \right) + \frac{1}{9} (E1)$$

$$\text{Adaptive Capacity (AC)} = \frac{1}{4} \left(\frac{A1 + A2}{2} \right) + \frac{1}{4} (B1) + \frac{1}{4} \left(\frac{C1 + C2 + C3 + AC4}{4} \right) + \frac{1}{4} \left(\frac{E1 + E2 + E3}{3} \right)$$

$$\text{Vulnerability} = \frac{SC + (1 - CC) + (1 - AC)}{3}$$

$$\text{Exposure} = \frac{A + B + C + 0.5D + 0.5E}{\text{Total Population Number}}$$

$$\text{WorldRiskIndex} = \text{Exposure} * \text{Vulnerability}$$

Figure 1: "Statistical Formulas and Weights for the WorldRiskIndex" (BE Hilft, 2023, p.3)

It is noted in the report that one hundred variables are included in the World Risk Index (BE Hilft, 2023, p. 41). These variables are quantifiable metrics which are aggregated for each indicator. For example, the indicator ‘susceptibility’ consists of five sub-indicators, each with a set of variables. For example, socio-economic variables such as ‘life expectancy at birth’ and ‘income Gini coefficient’, as well as ‘prevalence of HIV and AIDS’ are noted as variables (BE Hilft, 2023, p. 42). In the calculations of the World Risk Index, advanced algorithms are applied. These algorithms “analyze correlations between values of individual countries across years and indicators” (BE Hilft, 2023, p. 41), including an additional 150 categories. The algorithms are utilized to provide plausible values in cases where data is missing. The World Risk Report uses quantifiable data metrics, yet the yearly topics are qualitative (BE Hilft, 2023, p. 13). It is noted in the report that “collection and availability of detailed and disaggregated data is a challenge” (BE Hilft, 2023, p. 7), and emphasizes the need for it in understanding the effects of disasters on specific population groups. Furthermore, only indicators “provided by scientifically recognized and publicly accessible data sources...” are incorporated (BE Hilft, 2023, p. 41). In some cases, however, the data is of insufficient quality, especially for some smaller countries (BE Hilft, 2023, p. 48). It is evident that the World Risk Index applies advanced methodology, formulas, and algorithms to calculate a World Risk Index score.

The Global Climate Risk Index on the other hand provides a more simplistic approach. Overall, the index provides a measurement of the level of exposure and vulnerability (Eckstein, Künzel & Schäfer, 2021, p. 3). Four indicators were used in analyzing the Climate Risk Index score: “1. number of deaths, 2. number of deaths per 100 000 inhabitants, 3. sum of losses in US\$ in purchasing power parity (PPP) as well as 4. losses per unit of gross domestic product” (Eckstein, Künzel & Schäfer, 2021, p. 28-29). These indicators are purely quantitative, and the calculation of Climate Risk Index score is derived from a “country’s average ranking in all four indicating categories, according to the following weighting: death toll, 1/6; deaths per 100 000 inhabitants, 1/3; absolute losses in PPP, 1/6; losses per GDP unit, 1/3” (Eckstein, Künzel & Schäfer, 2021, p. 29). The calculation of the Global Climate Risk Score is pretty straight forward.

$$\text{CRI Score} = 9 \times 1/6 + 37 \times 1/3 + 13 \times 1/6 + 37 \times 1/3 = 28.33$$

Figure 2: Climate Risk Index calculation (Eckstein, Künzel & Schäfer, 2021, p.29)

Figure 2 is an example provided in the index, where one can see that ‘9x1/6’ refers to the first indicator, implying that there were nine deaths, and the weighting as one sixth. The following three similar sections refers to the commencing indicators and their respective weighting. In order to have calculation this simple, one is reliant on good data sources, as the margin of error is small. The data used in the Global Climate Risk Index is from the “Munich ReNatCatSERVICE, which is considered worldwide as one of the most reliable and complete databases on this matter” (Eckstein, Künzel & Schäfer, 2021, p. 6). Though this may be the basis, it is noted that some availability and quality issues may arise , especially with regards to “small ... or extremely unstable countries...” (Eckstein, Künzel & Schäfer, 2021, p. 29). The data used is purely quantifiable, which is applied in the aggregation of the indicators and the Climate Risk Index score.

While the World Risk Report and Global Climate Risk Index aims to calculate risk based on exposure and vulnerability, the Global Peace Index aims to measure peacefulness by assessing “internal peace” and “external peace” (IEP, 2023, p. 77). While self-explanatory, internal peace is “A measure of how internally peaceful a country is”, and external peace, “A measure of how externally peaceful a country is (its state of peace beyond its borders)” (IEP, 2023, p. 77). The index includes a total of twenty-three indicators which are sorted amongst these dimensions. In addition, the index provides three domains: “ongoing domestic & international conflict”, “societal safety & security”, and “militarisation” (IEP, 2023, p. 76). The domains can be viewed as categories, thematically dividing the indicators among them. Each domain contains indicators which is necessary in achieving its individual purpose. For example, the ‘ongoing domestic & international conflict’ domain, seeks to “investigate the extent to which countries are involved in internal and external conflicts, as well as their role and duration of involvement in conflicts” (IEP, 2023, p. 75). The first domain contains several indicators, for example “intensity of internal conflict” and “deaths from external conflict” (IEP, 2023, pp. 76-77). The first one is aligned with the internal peace dimension, and the latter in the external peace dimensions.

Scoring Bands

1/5	2/5	3/5	4/5	5/5
0-126.405	126.406-252.811	252.812-379.217	379.218-505.624	>505.625

Figure 3: Scoring bands - quantitative assessment (IEP, 2023, p. 80)

The index methodology provides great insight to detail, noting several aspects of each indicator, notably whether it is qualitative or quantitative, its weighting, and its data source (IEP, 2023, p. 79). In addition to this, the overviews provide means of measuring each indicator. In short, the report provides “scoring bands”, which is a quantifiable metric and “scoring criteria”, which is a qualitative metric (IEP, 2023, p. 79). Figure 3 is based on the indicator “Number of Jailed Population per 100,000 People” and figure 4 on the “Ease of Access to Small Arms and Light Weapons” (IEP, 2023, p. 80). The potential score of the indicators, combined with their weighting produces the impact each indicator has.

Scoring Criteria:

- 1 = Very limited access:** The country has developed policy instruments and best practices, such as firearm licences, strengthening of export controls, codes of conduct, firearms or ammunition marking.
- 2 = Limited access:** The regulation implies that it is difficult, time-consuming and costly to obtain firearms; domestic firearms regulation also reduces the ease with which legal arms are diverted to illicit markets.
- 3 = Moderate access:** There are regulations and commitment to ensure controls on civilian possession of firearms, although inadequate controls are not sufficient to stem the flow of illegal weapons.
- 4 = Easy access:** There are basic regulations, but they are not effectively enforced; obtaining firearms is straightforward.
- 5 = Very easy access:** There is no regulation of civilian possession, ownership, storage, carriage and use of firearms.

Figure 4: Scoring criteria - qualitative assessment (IEP, 2023, p. 80)

The weighting of indicators in the index is intricate and starts with the division between internal peace and external peace. The indicators noted in the dimension of internal peace is weighted to sixty percent, whilst the ones in the external peace dimension is weighted to forty percent (IEP, 2023, p. 77). In addition to this, each indicator has an individual weighting within the dimensions. Some indicators, such as “deaths from internal conflict” are weighted as five because of its impact on the internal peace dimension (IEP, 2023, pp. 77, 82-83). A similar

indicator which is weighted five in the external peace dimension is “deaths from external conflict” (IEP, 2023, p. 77). The total index weight for these indicators however is not identical. Because of fewer indicators in the external peace dimension, the individual indicators have a higher weighting than the ones in the internal peace dimension. This is despite the higher weighting of the internal peace dimension. For example, the indicators which have an individual weighting of five in both dimensions, will have an overall index weight at 6,3% in the internal peace dimension and 7,1% in the external peace dimension (IEP, 2023, pp. 80, 82, 85-86).

The index applies a variety of data sources, for example international organizations like the United Nations Committee of Contributions, as well as publications by universities and governmental agencies. In cases where data is void or insufficient, the index uses three different methods. The first way is by use of estimates, for example the use of “multivariate imputation by chained equations to create country-level estimates” (IEP, 2023, p. 79). The second and third are expert assessments and use of proxy data (IEP, 2023, p. 70). By means of a comprehensive team of experts, the index utilizes these experts, for example in the lack of sufficient data (IEP, 2023, p. 78). Some quantified data, which one can argue is inherently qualitative, like the Gallup World Poll is used as a quantitative metric for a quantitative indicator, namely “level of perceived Criminality in Society” (IEP, 2023, p. 79). This may be due to the size of the poll making it a quantitative data source. The poll is based on the question “Do you feel safe walking alone at night in the city or area where you live?”, and the score, which is percentage bands on a scale of one to five, reflects the amount of people which answered ‘no’ (IEP, 2023, p. 79). By using a single question from the poll, the data source is applied as a quantitative source.

4.2 What kind of focus is implied by the way that each of the indices are measured?

The focus of the indices can on one hand be seen in correlation with the index system. For example, in the World Risk Report 2023, the World Risk Index 2023 which is an analysis tool that can assess latent disaster risk (BE Hilft, 2023, p. 39) is applied. More precisely, it can assess “the risk of disasters resulting from extreme natural events and the negative impacts of climate change” (BE Hilft, 2023, p. 48). The function of the index system can be seen as such since this is its goal and purpose. The focus can also be implied by the report-specific focus, which for the World Risk Report 2023 was ‘diversity’, referring to “individual, structural, and social differences and similarities between individuals and groups” (BE Hilft, 2023, p. 9). By combining the focuses from both the index system and the report, an overall focus provides the foundation of the report. This overall focus can be understood as the effects of diversity on

disaster risk, with the concept of exposure and vulnerability, which make up the foundation of the World Risk Report 2023 approach (BE Hilft, 2023, p. 13). The focuses are linked in the report, noting that “existing inequalities and discrimination reinforce the impact of disasters on the people affected” (BE Hilft, 2023, p. 7).

The diversity focus can be further examined, unveiling a general approach to the inclusion of marginalized and vulnerable groups. The report notes several sub-categories to the diversity focus, hereunder for example gender inequalities (BE Hilft, 2023, pp. 9). The report notes that inequalities are more prominent during disaster, displaying four sub-factors: «education and child labor», «economic security and social protection», «life expectancy and mortality», and «mental and physical health» (BE Hilft, 2023, p. 33). Each of these sub-factors have a set of gender-specific impacts, for example that men suffer higher suicide rates and women are more prevalent to forced marriages. The division of impacts is not equally distributed, and «negative post-disaster impacts are significantly stronger and more common for women (or people read as female)» (BE Hilft, 2023, p. 33). The protection and inclusion of vulnerable and marginalized groups are seen in light of both disaster risk reduction and humanitarian aid processes. The world risk report 2023 includes a total of 193 countries in its analysis, with the objective goal of identifying each country’s disaster risk (BE Hilft, 2023, p. 6) in light of diversity. The scoring provided is comparable, which means it allows for comparison amongst countries. Each country is given a World Risk Index score, as well as scores on the individual indicators. At the end of the report, several recommendations are presented. These recommendations are divided into four main categories, namely “Include vulnerable groups in planning processes”, “promote research and detailed data collection”, “Assume responsibility for climate justice”, and “Recognize and implement legal frameworks” (BE Hilft, 2023, pp. 51-52). For example, in the category ‘include vulnerable groups in planning processes’, the specific recommendations refer inclusion of vulnerable people in disaster risk reduction efforts (BE Hilft, 2023, p. 51). A general understanding of the recommendations provided by the report, is that there needs to be a closer relationship between policy and practice to include the challenges of marginalized groups in society.

In the World Risk Report, one could differentiate between the index system and the report. In the Global Climate Risk Index 2021, however, there is no clear divide between the two. This being said, the distinction between the two could be made. By first noting the purpose, the index “analyses and ranks to what extent countries and regions have been affected by impacts of climate related extreme weather events...” (Eckstein, Künzel & Schäfer, 2021, p. 1). The aim

of the index however is “to contextualize ongoing climate policy debates...” (Eckstein, Künzel & Schäfer, 2021, p. 3). In this context, the purpose can be seen as the index systems focus, and the aim as the reports focus. The purpose and aim are however connected, whereas the index system provides a scoring of countries, a sort of status quo. It highlights the impacts of a set of hazards and risks, for which the integration of policies can address effectively. The aim is initially projected at countries on an individual level, noting that one should “... minimise potential losses and damages through effective mitigation, adaptation and risk reduction measures...” (Eckstein, Künzel & Schäfer, 2021, p. 24). However, by means of international policies, financial aid systems, and humanitarian aid structures, the aim is relevant on an international level as well.

The report provides results in two dimensions, on a yearly basis, and on a basis from year 1999 to 2018. Whilst the yearly Climate Risk Index is strongly shaped by singular extreme weather events, where six out of the ten most affected countries were hit by tropical cyclones, the long-term Index is prominently occupied by vulnerable countries (Eckstein, Künzel & Schäfer, 2021, p. 13). The report notes two groups of vulnerable countries: countries that are repeatedly exposed to extreme weather events, and developing countries. Developing countries, which often are poor countries, can lack the necessary coping mechanisms needed to properly respond and recover from extreme weather events. In the top ten countries on the long-term Index, three of them are prominently exposed to extreme weather events, while five countries are among the world’s least developed countries (Eckstein, Künzel & Schäfer, 2021, pp. 5, 13).

The index analyzed a total of 180 countries, and the general conclusion proposes that both the countries that “were most affected due to exceptional catastrophes” and those “affected by extreme events on an ongoing basis” (Eckstein, Künzel & Schäfer. 2021, p. 14) suffers the impacts hardest. In turn, the more industrialized countries are less affected than the developing countries (Eckstein, Künzel & Schäfer. 2021, p. 5), due to strengthened coping capacities. Several recommendations can be drawn from the index. Firstly, that countries establish strategies to adapt and cope with extreme weather event, both as policies, for example by stricter building codes, and as physical entities such as floodgates and shelters (Eckstein, Künzel & Schäfer. 2021, p. 21).

The report provides a brief overview of the top ten yearly and long-term most affected countries but does not provide the same for the rest of the countries included in the analysis. An illustration, color-coded with respective Climate Risk Index ranking intervals is presented in

the report, which encapsulates the entire world. However, the intervals are relatively wide, where the 51st to 100th ranking countries are colored the same, and all above one hundred the same. This means for the latter that a country does not know if they are ranked 101st or 180th. Furthermore, the countries not included in the yearly or long-term Climate Risk Index lists, does not have access to the scoring of the indicators for their country. This makes the comparability of scores difficult.

The objective for the Global Peace Index 2023 is to “Measure global peacefulness”, and “...trends in peace, its economic value, and how to develop peaceful societies” (IEP, 2023, p. 2). This can be seen as the purpose of the index. Peacefulness, as applied here, is contextualized in two dimensions: negative peace and positive peace. Positive peace can be understood as “the attitudes, institutions and structures that create and sustain peaceful societies”, and negative peace as “the absence of violence or the fear of violence” (IEP, 2023, pp. 64-65). In this index, positive peace is derived from the Positive Peace Index and consists of eight pillars which “describe the workings of the socio-economic system” (IEP, 2023, p. 65). Seen in light of the beforementioned understanding of positive peace, these pillars can be understood as factors which affect the “attitudes, institutions and structures that create and sustain peaceful societies” (IEP, 2023, pp. 65-66). These pillars are interconnected and mutually influenced. For example, the pillars “low levels of corruption” and “well-functioning government” can easily be seen as interrelated pillars (IEP, 2023, p. 66). In other words, having high levels of corruption most likely implies that the government is not well-functioning.

It is noted that “Negative Peace is a complement to Positive Peace” (IEP, 2023, p. 75), implying a symbiotic relation. Furthermore, the report notes that “the most peaceful countries in the world perform strongly on all eight Pillars of Positive Peace” (IEP, 2023, p. 5). This implies that establishing a good foundation by means of positive peace can be understood as a prerequisite for negative peace. In other words, maintaining high levels of negative peace in countries with low levels of positive peace reduces the capacities for stability and recovery after shocks (IEP, 2023, p. 5), making the negative peace fragile. Evidently, developing countries such as Yemen is the second least peaceful country in the world, but saw great decreases in their conflicts due to a truce (IEP, 2023, pp. 17, 56). This increases the levels of negative peace, but maintaining that peace if the truce ends, may be very unlikely. Measuring negative peace can be a complex process, yet that is the function of the Global Peace Index (IEP, 2023, p. 75). Combined with the report-specific objective, the overall focus can simply be to measure global

peacefulness. This being said, several aspects of peace attributes to this measurement, and the process is complex.

The Global Peace Index 2023 included analysis on 163 countries. A general trend is that global peacefulness has worsened each year over the last nine years (IEP, 2023, p. 2). The region which is least peaceful is the middle east and north Africa, whilst Europe is the most peaceful (IEP, 2023, p. 13). Russia and Eurasia had the worse decline in peacefulness, mainly caused by the Russia-Ukraine conflict – the domain of ongoing conflicts impacted the deterioration of global peacefulness significantly (GPI, 2023, pp. 7, 10, 13). The findings are presented in five distinct sections: (1) Results, (2) trends, (3) economic impact of violence, (4) conflict trends and hotspots, and (5) positive peace (GPI, 2023, pp. 4-5). This shows that there are many dimensions to peacefulness, and impacts that are difficult to measure. The index provides comparable scores and notes whether a country has changed its ranking, both positive and negative (GPI, 2023, p. 8). Rankings are displayed in total, including all countries, but also divided into nine regions. This give a more nuanced result, showing how countries that are geographically close are scored compared to each other. Furthermore, the countries are given individual scores and rankings for each of the index domains, as well as the individual economic cost of violence.

4.3 Which index most closely resembles the Norwegian understanding of societal safety?

The indices provide many statements which can be interpreted in a way that makes them align with the four principles of societal safety. This being said, finding explicit statements prove difficult. By analyzing approaches and focus points which often are implicit is heavily dependent on interpretation in order to correctly contextualize it. For example, the World Risk Report emphasizes consistent, multi-sectoral approaches to risk management. It is noted that multi-dimensional approaches (BE Hilft, 2023, p. 10), which can imply planning for a variety of risks and a variety of impacts, is necessary. The need for cooperation between actors to «enable the development of comprehensive disaster risk reduction strategies...» (BE Hilft, p. 52), which implies these approaches to risk management should be integral across sectors. This aligns with the proximity principle, enabling and strengthening local capacities and cooperation. By cooperating in the development, the establishment of consistent approaches seems inevitable. Furthermore, the need for cooperation and collaboration, and advocacy for enhancing preparedness measures, internationally, nationally, and locally (BE Hilft, pp. 31-32, 51-52) is highly emphasized. This aligns with the principles of collaboration, responsibility,

and equality. Furthermore, a statement from the World Risk Report emphasizes the responsibilities countries have, which also aligns with the responsibility and proximity principles:

“Those primarily responsible for the global climate crisis, specifically the governments of the United States of America, Australia, Europe, and China, and the main carbon-emitting industries must shoulder their responsibility for the damage caused by the climate crisis. This could take the form of reparations, for instance.” (BE Hilft, 2023, p. 52).

The Global Climate Risk Index shares many similar traits with the World Risk Report. The Global Climate Risk Index highlights the importance of integrated risk and preparedness efforts (Eckstein, Künzel & Schäfer, 2021, pp. 20-21), including various levels of government and communities. For example, “community-based adaptation projects” (Eckstein, Künzel & Schäfer, 2021, p. 21), and the importance of “national and local disaster risk reduction strategies” (Eckstein, Künzel & Schäfer, 2021, p. 24) is noted. This aligns with the principles of collaboration and proximity, since it implies cooperation and the strengthening of local capacities. Enhancing cooperation enables integration of the strategies with the pre-existing societal structure enhances capacities under normal circumstances, thus making the normal governance structure apply during extraordinary events as well. This aligns with the equality principle. It is noted in the report that several countries have adapted risk reduction strategies, for example the Puerto Rican government which planted trees to avoid coastal erosion (Eckstein, Künzel & Schäfer, 2021, p. 21), taking responsibility for risk mitigation, which aligns with the responsibility principle.

Some of the most peaceful countries, according to the Global Peace Index 2023, have high levels of positive peace. This implies that governance structures which are intended to handle crisis have the capacity to do so. In turn, this implies that actors which handle crisis do so in a consistent and efficient way. This aligns with the principle of equality, implying that empowerment of actors will facilitate crisis management in areas of which they normally are responsible. Furthermore, this can align with the principle of responsibility. The Index states that countries such as Iceland had its first ever terrorist attack (IEP, 2023, p. 15), which implies that the governance structures have previously been successful in preventing it. This aligns with the principle of responsibility since the Icelandic government seeks to maintain peacefulness as part of their national strategy. In the coastal region of West Africa, processes which have focused on “the social and economic concerns of local communities” (IEP, 2023, p. 33), have

been successful in reducing conflict. By including local-level government and other crisis actors, the empowerment facilitates local crisis management. This aligns with the principle of proximity. The indicator “UN peacekeeping funding and military expenditure” had a vast improvement (IEP, 2023, p. 4), which implies that member countries are contributing economically. This aligns with the principle of collaboration, implying that the member countries want to contribute to peacekeeping efforts beyond their country’s borders.

5 Discussion

In this chapter I will discuss areas that are insufficiently covered in the previous chapters in this thesis. To start, I will address the challenges of credibility, which is a methodological issue that affects the analysis. Credibility is combined by the aspects of trust and transparency. Thereafter, I will address the challenges surrounding the alignment between the indices and the Norwegian understanding of societal safety. Lastly, some theoretical and empirical challenges and their potential impacts will be discussed.

5.1 *Assessing credibility*

One could argue that one of the key factors in any report, document, or statement, is that the information presented is credible. Credibility in this sense is based on the readers perspective, and the level of credibility associated with a specific document can be attributed to several factors. In this thesis, a list of criteria regarding the choice of indices were presented. While these criteria set objective criteria, the choice of indices who fit these criteria is a subjective assessment. In this process, the index publisher, professional relations, and the index' overall reputation was some of the main attributes addressed in the assessment of credibility. Thus, the composite indices included in this thesis were developed by highly credible organizations who participate in international collaboration with other organizations and is made up of a wide portfolio of highly educated personnel. Initially, this can imply that the indices are highly credible. Though, while some may assess the indices included in this thesis as highly credible, others might not. This could be due to a vast array of reasons. For example, different views on politics or ethics can affect the subjective assessment of credibility.

The self-descriptions of the publishers of the indices may provide some insight into their vision. For example, the publisher of the World Risk Report, Bündnis Entwicklung Hilft, aims to “combat the root causes of hunger, poverty and violence” (UNDRR, n.d), whilst Germanwatch, the publisher of the Global Climate risk index is an organization that “lobbies for sustainable global development” (Germanwatch, n.d.). In order to understand whether the publisher can be viewed as something that can affect credibility in a document, one could assess the publisher's goals and their similarity with the goals portrayed in the index. The World Risk Report 2023, for example, aims to assess “the risk of disasters resulting from extreme natural events and the negative impacts of climate change” (BE Hilft, 2023, p. 48), with the intent to focus on “individual, structural, and social differences and similarities between individuals and groups”

(BE Hilft, 2023, p. 9). The summary is two-part, and both parts can be seen in context of the publisher's self-description. Inherently, climate change related impacts can be seen as a root cause of hunger, poverty and violence. Furthermore, socio-economic differences, and the differences among individuals and groups within society can affect the degree of hunger, poverty and violence. To some extent, a correlation between the description of the publisher and the objective of the index can imply consistency, thus increasing credibility.

The indices included in this thesis are prevailing in their field, and the publisher should therefore be viewed as credible. This could imply that people are less critical to statements in the indices because it is overshadowed by the reputation of the indices themselves, or the publisher. Furthermore, the indices push a certain narrative, whether it is about climate risks, like the Global Climate Risk Index, or about global peace, like the Global Peace Index. The reports based on the indices are naturally focused on the area of which the specific index is relevant. Thus, more or less all information provided in the reports are shaped to fit the specific narrative. In other words, communicating risks in this context will to some degree be shaped by the narrative. By modifying wording and phrasing, a contextual bias may be latent. This can affect how readers understand the statements, to which Cochoy, Giradeau, and McFall notes that "...the contingent outcomes of the manner in which they are performed and reiterated" (2010, p. 139). More clearly, the action of stating something wherein the context and potential bias are evident, can not only shape the ways in which it is stated, but also the ways in which it is interpreted. Trusting and believing the statements provided in any document, however, is based on an overall assessment.

Trust is an important aspect in conveying information (Szerszynski, 1999, p. 239). Due to the indices' reputation, it has many avid readers, and one could argue that the readers trust the report and the information it conveys. Combined, this aligns with the two preconditions of successful performative acts, namely that the act is perceivable and that the message which is being communicated is trustworthy (Austin, 1975, p. 22). In this context, the trust is not merely in the information presented, but similarly as with credibility, an overall assessment of the publishers and the document in question. A clear division between credibility and trust may not be sensible, as they can be seen as two dimensions of the same phenomena. Both are subjective assessments, yet one could argue that credibility can relate more to professional credentials, and trust more towards associations. This being said, lack of credibility can imply a lack of trust, just as a lack of trust can imply a lack of credibility. Lack of credibility can however be influenced by means of transparency.

Evidently, transparency is a prerequisite in assessing credibility. Transparency refers both to the availability of documentation, and that the information is presented in a way which is understandable. For the indices in this thesis, the two most important aspects of transparency are related to the data sources and the construction of indicators. An initial observation is that if the data sets are credible, one can assume that the purely quantitative calculations will inherently be credible because qualitative data involves some degree of uncertainty. This uncertainty is often based on the fact that production of qualitative data involves assumptions whilst quantitative data mostly does not. At the same time, the specific quantitative indicators are often inherently chosen by means of assumptions. The developers had to choose some variables which they deemed most fit to answer the questions they sought answers to. In this sense, quantitative data is not entirely quantitative. Therefore, the credibility of indicators is a complex issue, but one of the most crucial factors are transparency on the construction of indicators since it allows for assessment of indicators. An example of this is from the Global Peace Index, where a source which is inherently qualitative is processed and used in a way that makes it quantitative. Without further research on this, it is difficult to state whether this is a correct practice. It is not stated in the index how the Gallup world poll has collected its data, apart from it being a questionnaire. Whether the data is collected by means of mandatory or voluntary participation, and other information about the population which participated in the poll can have some impact on the results. Assessing credibility is therefore a complex task, and is altered by not only subjective interpretations, but also the degree of trust and extent of transparency. Furthermore, assessing credibility is affected by one's alignment of values and agreeableness with the author and the information presented.

5.2 Indices' alignment with the Norwegian understanding of societal safety

As part of the analysis and directly connected with research question three, examples from the indices which aligns with the principles of equality, proximity, responsibility, and collaboration was to be uncovered. Since the indices does not provide explicit statements that confirm or deny alignment with the principles, the observations need to be interpreted to unveil the underlying values. This implies that the observations, without appropriate contextualization, is difficult to align with the principles. For example, in the Global Peace Index 2023, it is stated a massive improvement for the indicator "UN peacekeeping funding and military expenditure" (IEP, 2023, p. 4). In and by itself, this statement does not align with any of the principles. However, the statement implies that there has been observed an improvement in the contributions of member countries. Since member countries actively contributes to the UN

funding, it implies that the international peacekeeping interests of the United Nations is also a national interest. Furthermore, this implies that the member countries are invested not only in peacekeeping efforts domestically, but also about foreign peacekeeping efforts. In this context, the United Nations is an arena which benefits from joint participation, and the contributions of member countries can be seen as ways to enhance this collaboration. Thus, an improvement in this indicator aligns with the principle of collaboration, referring to the inclusion of all relevant actors in the process. It could be argued that this statement can align with other principles as well. Since an increased funding facilitates for increased capacities for the United Nations, it can align with the principle of responsibility since it strengthens its presence in areas in which it already has claimed some sort of responsibility. It can align with the principle of equality since it can enhance the organizational structure, enabling it to handle extraordinary events without greater reorganizations, and with the proximity principle since the organization which has great capacities and the general responsibility most likely is the most suitable actor to handle extraordinary events at the lowest governance level. This being said, the level of interpretation required to state this observation as an alignment with all four principles can easily be contradicted. While the object is so interpreted latent content (Graneheim et al., 2017, p. 31), successive interpretations can result in absurdity. This is because it is an interpretation of an interpretation. Claiming an alignment with the principle of proximity for example, to some extent requires an alignment with the principles of responsibility and equality, which could render the successive claims redundant. Graneheim et al (2017, p. 31) refers to the relationship between the degree of interpretation and level of abstraction, and while it could be argued that all successive interpretations are valid, the end result is rather abstract and has weak connections to the original observation.

The observations from the indices are subjectively acquired as part of the analysis. Because of this, a set of observations is presented in the empirical findings. However, there may be other, undiscovered observations which better visualize an alignment with the principles. The observations and the grounds for claiming an alignment with one or more of the principles vary strongly. For example, in the World Risk Index 2023, the report mentions the importance of a multi-dimensional approach to risk management (BE Hilft, 2023, p. 10). This observation is dependent of contextualization, but combined with an observation about cooperation amongst actors of varying governmental levels align with the principles of proximity, enabling local capacities to handle extraordinary events. A more explicit statement however may not need the same extent of interpretation, for example:

“Those primarily responsible for the global climate crisis, specifically the governments of the United States of America, Australia, Europe, and China, and the main carbon-emitting industries must shoulder their responsibility for the damage caused by the climate crisis. This could take the form of reparations, for instance.” (BE Hilft, 2023, p. 52).

This statement clearly aligns with the principle of responsibility since it highlights the importance of actors managing extraordinary events in areas which they normally are responsible – or rather the consequences of actions in areas for which they are responsible. Furthermore, the statement aligns with the principle of proximity since the proposed solution refers to managing the events at a low governance level – by means of reparations. While statements are good observations for assessing an alignment with the principles, explicit, direct examples are even better. In the Global Climate Risk Index 2021, the report notes that the Puerto Rican government have implemented strategies to reduce the risk of coastal erosion. Practically, this strategy entails planting of trees in coastal areas (Eckstein, Künzel & Schäfer, 2021, p. 21), which makes the ground more resilient to erosion. This is a clear alignment with the principle of responsibility, where the government managed the risk within an area of which they normally are responsible. One can view the examples from both the World Risk Index and the Global Climate Risk Index as explicit observations, as little interpretation is needed to contextualize it.

To evaluate which of the indices most closely resembles the Norwegian understanding of societal safety, many factors need to be considered. Whether the observations noted in the empirical findings are representable for claiming an alignment with one or more of the principles is a good starting point. Since the analysis is subjective, others might disagree with the empirical findings. As an empirical finding in the Global Climate Risk Index, it is emphasized that cooperation between local and national actors and strengthening local risk management capacities will influence the construction of risk management strategies which is easily integrated in the normal governance structure. In turn, this aligns with the principle of equality. The report does not explicitly provide statements which support this claim, yet as an outcome of the analysis, the observation was made, and it seemed reasonable enough that it could be supported as a claimed alignment. This is however something that one easily could disagree on since the claim is based on implicit content. One could argue that uncovering implicit content is the key point of the analysis, and the index which best aligns with the principles by means of interpreting implicit content most closely resembles the Norwegian understanding of societal safety. While this could be true, one could just as easily argue that the

index which most explicitly aligns with the principles most closely resembles the Norwegian understanding of societal safety. Since all indices to some degree, and in different ways, show an alignment with the principles, stating which index that aligns the most is not a clear-cut answer.

Reviewing the empirical findings, it is evident that the World Risk Report provides more explicit observations, while the Global Climate Risk Index and the Global Peace Index provides more implicit observations. Since explicit observations require less interpretation and contextualization, one could argue that the World Risk Index aligns the most with the principles. However, there is no clear-cut divide between explicit and implicit observations, and the observations are therefore not necessarily completely explicit or implicit. Observations are often somewhere in between, neither exclusively explicit nor exclusively implicit since it will always require some degree of interpretation. The Global Peace Index' observations are mostly implicit, yet it has good examples which can be interpreted as an alignment with the principles. One could argue that the Global Peace Index aligns the most with the principles because of this. In turn, the Global Climate Risk Index also relies on implicit observations, yet claiming an alignment with the principles requires several steps of interpretation. Thus, the notion is that both the World Risk Index and the Global Peace Index aligns with the principles yet based on different grounds. Both show resemblance of the Norwegian understanding, one more explicitly, and one more implicitly. However, due to explicit observations requiring less interpretation and contextualization, the index which provides the most explicit alignment with the principles can be seen as the one that most closely resembles the Norwegian understanding of societal security.

5.3 Empirical and methodological challenges

As with any analysis, a set of challenges will become evident. This thesis is shaped by the methodology and the indices which are analyzed, and any shortcomings or problems will be evident throughout the thesis. After concluding the analysis, one main challenge is that the empirical findings provide a one-sided dimension. This means that by retrieving information from one 'perspective' only, will not provide the depth that may be necessary to confidently answer questions that inherently are multi-dimensional. However, whilst it may provide challenges, it concomitantly provides opportunities to focus solely on the three indices included in this thesis. This can allow for a strong emphasis on the indices without the interference of other material which can drive the attention away from what is to be analyzed.

The risks presented in the indices may be relevant just in the context which the indices present. Furthermore, the risks may considerably change over time. More precisely, risks are dynamic (Birkmann et al., 2013, p. 196) and can be altered due to a magnitude of factors. To counteract this, one of the criteria for choice of indices is that they are published after 2020. However, this does not provide a limit on how old the data applied in the indices is. The Global Climate Risk Index 2021 provides a yearly report, but additionally provides a report which covers the last twenty or so years. Whilst this is not the central point of the index, it is clearly an important aspect. It is integrated in the report, comparing the results from the yearly scores to the long-term index scores. On one hand, it could be argued that the long-term index scores provide perspective, since it allows for an integrated way to present changes. On the other hand, it could imply that the yearly scores are, to a degree, redundant since it provides information for just one year. Furthermore, instead of providing a yearly report, a decade-long report for instance could provide a better picture. This would allow for more in-depth analysis and a better overview of the individual countries' progression. The problem of doing this is that the data presented will not be new and relevant. Changing the criteria to specify the temporal relevance of the indices' data could be a way to ensure that all data applied is contemporary, as one could argue that statistics from 1999 is not considered relevant. However, by presenting historical data as a way of gaining perspective on the current data may be beneficial.

6 Conclusion

The object of this thesis was to analyze three prevailing societal safety-related composite indices in order to answer the following problem statement: *What are the normative assumptions underpinning some of the main global indices related to societal safety and how suitable are these as measures of societal safety as the term is understood in Norway?*

By assessing the methodological foundation and the data sources, the empirical findings suggest that the composite indices are foundationally different in the calculation of scores. The degree of complexity as well as the application of advanced methodology, expert panels and algorithms does not imply a more correct measurement, but rather a way of adapting to the lack of available data. An implication of how the indices are measured is the focus, and it is evident that one can differentiate between the index focus and the report-specific focus. This is important as the report-specific focus can vary between different publications, yet the index focus refers to the methodological system and should be unaffected by the report-specific focus. It is clear however, that the index system and the report influence and shape each other, and that it therefore can be seen as one system in most cases. Thus, the structure of how the indices are measured impacts which focus the indices have. Regarding the alignment with societal safety principles, it is clear that the degree of interpretation applied to a specific observation can affect how valid it is. Evidently, the World Risk Report and the Global Peace index provided the best basis for assessing resemblance with the Norwegian understanding of societal safety. From the discussion, it is evident that by means of explicit observations, the World Risk Report most closely aligns with the principles, while the Global Peace Index aligns the most based on implicit observations. It could be argued which of these indices most closely resembles the Norwegian understanding of societal safety. However, explicit observations can be seen as more transferable to the principles due to less required interpretation and contextualization. Thus, the World Risk Report most closely resembles the Norwegian understanding of societal safety.

This thesis has outlined some normative assumptions on global composite indices in a societal safety context and provided some basis for claiming resemblance between the indices and the Norwegian understanding of societal safety. The outcomes of this thesis provide a good foundation in understanding the normative foundations of the composite indices, referring to how they are measured, what focus this entails, and the indices' underlying values.

6.1 Limitations of the thesis and further research

This thesis provides a perspective on the normative assumptions of three prevailing composite indices related to societal safety. However, the thesis is shaped by its structure, both empirically and methodologically. Firstly, since the analysis only referred to three indices, and possibly accompanied methodological or technical documentation, the outcome of the analysis can present a one-sided perspective. Secondly, the three indices are somewhat similar. Including more societal safety-related indices with different approaches and themes can provide more variety and a more nuanced result.

As a way of doing this thesis differently, one could do a comparative analysis on composite indices, each specifically focused on a certain aspect of societal safety. This could provide a more nuanced answer, where one index may align strongly with one principle while showing no alignment with other principles. One could also execute an analysis with several reports, for example the World Risk Report from ten and five years ago and compare it to the latest publication. In doing this, one can assess the changes in the index' alignment over the years. By referring to political changes in the periods in between the reports, one could say something about how adaptable the indices are to political changes.

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