

# **PERSUASIVENESS OF SOURCES IN THE COVID-19 PUBLIC HEALTH CRISIS**

**Jyväskylä University  
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**Author: Körkkö, Laura  
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Supervisor: Luoma-aho, Vilma**



**JYVÄSKYLÄN YLIOPISTO  
UNIVERSITY OF JYVÄSKYLÄ**



## ABSTRACT

Authors Körkkö Laura	
Title Persuasiveness of sources in the COVID-19 public health crisis	
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<p>This thesis aimed to clarify features contributing to individuals' informational needs, processing, as well as estimation of the credibility of specific sources during the coronavirus epidemic in Finland. In other words, the study looked at which sources were the most pivotal, as well as most influential in terms of information concerning the coronavirus epidemic and face masks. In addition, cues of source credibility were identified.</p> <p>The theoretical foundation relied on persuasive communication and Elaboration Likelihood Model, especially on the peripheral cues (Dillard &amp; Shen, 2013; Petty &amp; Caccioppo, 1986), such as source credibility (Lucassen &amp; Schraagen, 2013), and crisis communication literature (e.g. Coombs 2020, 2014; Ulmer, Sellnow &amp; Seeger, 2018), including the role of emotions during crises (e.g., Witte, Meyer &amp; Martell, 2001). The data in this study consisted of twenty episodic interviews conducted in late December 2020 and in early January 2021. Chosen for their impact and reach among their peers, the interviewees were students responsible for communication in student unions or chairmen of student unions.</p> <p>The results suggest that the most prominent sources for covid related information during the pandemic in Finland were legacy media (Yle), health research authorities (THL) and friends, family, and colleagues. Whereas source credibility was seen to consist of expertise, authority, as well as trustworthiness, confirming previous theories on the topic. The results show that individuals' information seeking behavior changed as the epidemic proceeded. It began with a great motivation and need for knowledge, even beyond routine sources. Later on, however, information overflow was partly regarded to lead to fatigue, and information avoidance by some. Results also partly confirmed what the Elaboration Likelihood Model suggested in terms of credibility being a central peripheral cue. The study results highlight the need for crisis communication that reaches beyond mere information sharing and updating.</p>	
Key words Crisis communication, COVID-19, Emergency communication, Persuasion, Risk communication, Source credibility	
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<p>Tutkimuksessa selvitettiin mitkä tekijät vaikuttavat yksilöiden informaation tarpeisiin, informaation prosessointiin ja arvioimiseen koronavirusepidemian aikana. Toisin sanoen, tutkimuksessa kysyttiin, mitkä lähteet olivat keskeisimpiä ja vaikuttavimpia koronaepidemiaa ja hengityssuojaimia koskevan tiedon suhteen. Lisäksi valittujen lähteiden lähdeluotettavuuden muodostumista tarkasteltiin.</p> <p>Työn teoreettinen pohja rakentui Elaboration Likelihood mallista, erityisesti periferisistä vihjeistä, kuten luotettavuudesta (Dillard &amp; Shen, 2013; Petty &amp; Caccioppo, 1986), kriisiviestinnän roolista (Coombs 2020, 2014; Ulmer, Sellnow &amp; Seeger, 2018), sekä tunteiden merkityksestä paitsi informaation prosessoinnissa, myös yksilöiden käyttäytymisessä (e.g., Witte, Meyer &amp; Martell, 2001). Havainnoitava aineisto puolestaan koostui kahdestakymmenestä joulukuussa 2020 ja tammikuussa 2021 toteutetusta episodisesta haastattelusta. Haastatteluihin osallistuvat olivat opiskelijakuntien tai ylioppilaskuntien viestintävastaavia tai puheenjohtajia.</p> <p>Tulosten perusteella näyttää siltä, että keskeisimmät lähteet koskien tietoa epidemiasta ja hengityssuojaimista olivat Yle, THL, sekä läheiset ihmiset, viitaten ystäviin, perheenjäseniin sekä kollegoihin. Lähdeluotettavuuden muodostumisessa puolestaan asiantuntijuus, auktoriteetti ja luottamuksen arvoisuus nähtiin merkittävinä tekijöinä. Yksilöiden tiedonhaku puolestaan muuttui epidemian myötä. Epidemian alkuvaiheessa informaatiota etsittiin myös rutiininomaisten lähteiden ulkopuolelta. Epidemian edetessä informaatiotulvan nähtiin kuitenkin osittain johtavan uupumukseen ja tiedon välttelyyn, minkä seurauksena käyttäytymistä muutettiin. Tiedon etsimistä ei koettu tarpeelliseksi, vaan tieto tuotiin yksilöiden luokse, halusivatpa nämä sitä tai eivät, joko teknologioiden tai esimerkiksi lähipiirin kautta. Tutkimuksen tulokset korostavat tarvetta kriisiviestinnän moninlaisille rooleille, jotka eivät rajoitu ajankohtaisen informaation jakamiseen.</p>	
Asiasanat COVID-19, Kriisiviestintä, Koronaepidemia, Lähdeluotettavuus, Riskiviestintä	
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## CONTENTS

1	INTRODUCTION .....	8
2	COMMUNICATION & CRISIS.....	11
	2.1 Emergency communication.....	12
	2.2 Crisis communication.....	13
	2.3 Risk communication.....	14
	2.4 Crisis communicators.....	15
	2.4.1 Public sector.....	16
	2.4.2 Social media influencers .....	18
	2.4.3 Interpersonal influencers.....	18
	2.5 Crisis communication platforms .....	19
	2.5.1 New media.....	20
	2.5.2 Traditional media .....	22
	2.6 Summary .....	23
3	PROCESSING PERSUASIVE COMMUNICATION DURING A CRISIS..	25
	3.1 Distinction between attitude and behavior change .....	26
	3.2 The Elaboration Likelihood Model of persuasion.....	27
	3.2.1 Peripheral cues of ELM.....	29
	3.2.2 Public health crisis and ELM .....	30
	3.2.3 Possible shortcomings of ELM.....	31
	3.3 Emotions during a crisis .....	32
	3.3.1 Uncertainty .....	33
	3.3.2 Fear .....	34
	3.3.3 Guilt .....	35
	3.4 Summary .....	36
4	SOURCE CREDIBILITY .....	38
	4.1 Evaluation of source credibility .....	40
	4.2 Effect of source credibility .....	41
	4.3 The structure of source credibility .....	42
	4.3.1 Trustworthiness .....	43
	4.3.2 Expertise.....	44
	4.3.3 Authority.....	45
	4.3.4 Goodwill .....	45
	4.4 Summary .....	45
5	DATA & METHODOLOGY .....	47
6	RESULTS .....	54
	6.1 Changing information seeking behavior.....	54
	6.2 Shaping features of individuals' information source selection.....	56
	6.3 Evaluation of source credibility .....	62
	6.4 Persuasiveness of sources .....	66
	6.5 Summary .....	69

7	DISCUSSION .....	72
8	CONCLUSIONS .....	78
8.1	Evaluation of the study .....	79
8.2	Limitations .....	79
8.3	Future research.....	80
	REFERENCES.....	82
	APPENDIX 1 The proceeding of interviews.....	99

## **LIST OF TABLES AND FIGURES**

TABLE 1 Notable issues and features for crisis communication from an individual's perspective.

TABLE 2 Factors influencing individuals' attitude and/or behavior change.

TABLE 3 Cues of source credibility.

TABLE 4 Ways to display credibility cues.

TABLE 5 Changing information seeking behavior during the COVID-19 epidemic.

TABLE 6 Mentioned sources of information during the COVID-19 epidemic.

TABLE 7 Cues of source credibility manifested in the interviews.

TABLE 8 Summary of the features influencing individuals' information environment and attitude and/or behavior.

# 1 INTRODUCTION

On March 11th, 2019, the World Health Organization, henceforth WHO, characterized COVID-19 as pandemic (WHO, Timeline: WHO's COVID-19 response). Preventive measures were taken all over the world including wearing a face mask, using a hand sanitizer, keeping a safe distance to others as well as setting restrictions on free mobility.

Communication during a health crisis is crucial, since communication of disease and containment information to the community by the public health system can determine, to a large degree, the extent of an epidemic (Koenig & Schultz, 2010, 95-96). In addition, communication before, during and after health emergencies has a direct impact on public safety (Ulmer, Sellnow & Seeger, 2018).

However, crisis situations radically change the context in which public health organizations communicate with citizens (Van Velsen, et al., 2012, 2). In addition, the current media landscape has shaped the way crisis and risk communication is executed. Public health organizations and authorities are not the only crisis communicators. Instead, social media has changed the role of the public from passive receiver to active content creators (Utz, Schultz, & Glocka, 2013). It enables citizens to participate in crisis communication (Zheng, Liu & Davison, 2018, 56), thus becoming crisis communicators themselves (Coombs & Holladay 2014, 44).

With the rise of user-generated content, evaluating the credibility of information has become increasingly important (Lucassen, Muilwijk, Noordzij & Schraagen, 2013, 254). Whereas traditional media, such as television and newspaper, may not have lost its importance as a source of information during a crisis (e.g., Utz, Schultz & Glocka, 2013; Moreno, Fuentes-Lara & Navarro, 2020, 10).

In public health crises, such as the crisis that has followed the spreading of coronavirus, henceforth COVID-19, the scale of available information is vast. In general, individuals might have the needed motivation to process information, but they may not have the needed expertise to understand and evaluate presented arguments as well as study results due to not being professionals of epidemiology, or related fields. This in turn raises a question of how individuals evaluate the value of information, and whether to act upon it or not?

Indeed, this study answers the question of how individuals choose and evaluate their information sources and process information in the context of an epidemic.



Thus, what kind of sources and information are comprehended as credible in the context of COVID-19. This can provide valuable insights to risk, crisis, and emergency communication, as well as understanding whether the aforementioned factors influence the compliance with authorities' recommendations, as well as taking protective actions.

It is widely agreed that it is crucial to provide the public with accurate and timely information to prevent spread of the infectious agent (Koenig & Schultz, 2010, 95-96). Indeed, the actions taken to control and prevent the transmission of COVID-19 rely on change in individuals' behavior and the maintenance or endurance of that change (Arden & Chilcot, 2020, 231).

As such, another interest of this study is the connection between the persuasive features of information and sources, as well as the impact of various persuasive features on individual's attitudes and behavior. This in mind the elaboration likelihood model, especially peripheral cues, guide the attention given to different persuasive factors in this study.

The study aims to answer to the following research questions:

RQ 1. How has the information seeking behavior concerning COVID-19 and face masks changed over time?

RQ 2. What shapes individuals' information source selection?

RQ 3. How is the credibility of a source estimated?

RQ 4. From which source of information has persuasion been the most effective?

There have been several studies focusing on the effect of source credibility on the persuasiveness of a message in the field of consumer behavior (e.g., Sternthal, 1978), crisis management (e.g., Latré, Perko & Thijssen, 2018), crisis communication (e.g., Van Zoonen & van Der Meer, 2015; Park & Cameron, 2014) and social psychology (e.g., Tormala, Briñol & Petty, 2006) among others.

However, studies focusing on the effect of source credibility in the context of health crisis are often tied to the appearance of different viruses and virus infections, such as Zika virus (e.g., Toppenberg-Pejcic, et al., 2019) or Ebola virus (e.g., Tsai, Morse & Blair, 2020) as well as bacteria and bacterial infections such as the enterohemorrhagic *E. coli* (EHEC) bacterium (e.g., Van Velsen, et al., 2012). As such, there is a lack of research on COVID-19 and source credibility, as well as more general knowledge concerning the sources of information and how they are perceived by the public during COVID-19.

One of the key elements in a crisis communication is to disseminate communication through channels that are available to target groups (Ndlela, 2019, 142). In the public health crisis of COVID-19 these target groups go beyond a specific confining, touching the public as a whole. As such the ability to understand individuals' informational behavior opens the possibility to address the public more comprehensively as well as accordingly.

There is an agreement in the global public health community that a pandemic could take place at any time. In preparation, governments and health care organizations around the world prepare emergency plans to guide them in the event of an outbreak. (Holmes, Henrich, Hancock & Lestou, 2009, 793.) Thus, the threat of pandemics remains a constant concern for public sector organizations (Coombs, 2020, 991), as well as the public in general.

This study will proceed as follows. First a definition for crisis and crisis communication is offered, as well as observation of risk and emergency communication. The need for separate examination follows the close relationship between the mentioned fields of communication in research literature. In addition, it aims to clarify as well as justify the use and need of research literature from various fields of science, for example psychology and sociology. As a part of this section, some of the possible crisis communicators as well as crisis communication platforms are observed, however without the intention of an exhaustiveness.

After the observation of different fields of communication, processing of persuasive communication is reviewed, in which the elaboration likelihood model is presented with a specific focus on peripheral cues and public health crisis. As a part of processing persuasive communication, some of the most studied emotions that are likely to rise during a crisis and influence the processing of communication are observed.

Source credibility, which functions as a peripheral cue is emphasized in its own chapter. This is done due the specific interest of this study in explaining how individuals construct source credibility during COVID-19, and does it function as a main peripheral cue in deciding whether to act based on instructional messages or not. Various cues of source credibility are presented including trustworthiness, expertise, authority, and goodwill, each of which have also been an interest of research on their own.

After this data and methodology, as well as study results are elaborated. Discussion about the practical implications study results suggest to crisis communication are observed on their own separate Discussion-chapter. Finally, the study ends with conclusions, including a review of possible limitations of the study, as well as further research suggestions.

## 2 COMMUNICATION & CRISIS

This chapter builds a framework for analyzing the informational needs and available information, thus the information environment, during the public health crisis caused by COVID-19. Mentioned can also be regarded as laying the prerequisite to the observation of the factors influencing individuals' compliance towards authorities' recommendations, due to the notion that through communication information is shared, meanings are constructed and negotiated, relationships established and maintained, as well as individuals persuade and are persuaded (Berger, Roloff & Roskos-Ewoldsen, 2010, 203-394). Next the concept of crisis is elaborated as well as communication during crises, including observation of crisis communicators and the used platforms for communication and interaction.

Crises can be defined in various ways due to a wide field of application. Thus, there are no explicit boundaries as to what constitutes a crisis. (Ndlela, 2019, 4.) Indeed, there are several different crisis types in the crisis typology varying from terrorist attacks to natural disasters. Similarity in different definitions and typologies of crisis is the unpredictable nature, even though some warning sign or cues might have existed. Crises are situations that cause high uncertainty and are somewhat unpredictable in nature (Coombs, 2014, 3; Sellnow & Seeger, 2013, 2; Stephens, Malone & Bailey, 2005, 392-393). As such, crises necessitate learning and changing (Laajalahti, Hyvärinen & Vos, 2016, 1). In addition, during a crisis there is a radical shift from the status quo, thus changing the idea of what is normal as well as making predicting the future challenging. (Sellnow & Seeger, 2013, 6).

Indeed, crisis can be defined through personal, communal, or cultural perception (Sellnow & Seeger, 2013, 5). As such, a crisis can be defined as a violation of stakeholders' expectations, which can have potential to create negative outcomes for an organization and its stakeholders (Allen, 2017, 291). Aforementioned definition however consists of an assumption that there is an organization as an actor in the middle of a crisis, which is not suitable for this study, that focuses on crisis due to the spreading of COVID-19, that affects organizations and individuals beyond a specific confining.

A definition of a crisis as a sudden and uncontrollable event that threatens the lives of several people (Thelwall & Stuart 2007, 525), would be suitable for this study. However, uncontrollability is not seen as a definite factor since it would make efforts to control the spreading of COVID-19 questionable. These efforts include wearing a face mask as well as following restrictions.

The definition of crisis chosen for this study is narrowed down to a public health crisis, which is understood as a threat to the public health and is not limited to a

specific geographic area (Coombs, 2020, 991). As COVID-19 was declared to be a pandemic (WHO, Timeline: WHO's COVID-19 response), it is a matter of global community and is connected to numerous deaths worldwide.

One of the crucial elements in public health crisis and emergencies is communication (Raina, 2018). The containment success of the public health crisis has been argued to be partly dependent on effective communication about the risk factors as well as measures of protection (Drylie-Carey, Sánchez-Castillo & Galán-Cubillo, 2020, 2). Thus, in the context of COVID-19 communication plays a major role in sharing information and feelings, as well as framing events and actions.

Next the concept of communication is elaborated further, to construct an understanding of the nature of communication, its role, used platforms as well as communicators that take place in a public health crisis. When observing the influencing factors in individuals' compliance with authorities' recommendations, as well as informational needs and behavior, communication becomes a core action. Compliance referring to a particular request that can be direct or implicit, but common for both is that the target of a request recognizes being urged to respond in a desired way (Cascio, Scholz & Falk, 2015, 592). Through interaction knowledge, information and data are shared as well as discussed between various actors in the society resulting in a perception of a crisis.

## **2.1 Emergency communication**

Some scholars make a distinction between crisis, risk, and emergency communication. The last mentioned aiming to form effective messages that warn people about potential hazards and encourage attitude and behavior change needed to adjust to the hazard (Allen, 2017, 409).

Emergency communication is not a rigidly defined field of communication. Instead, it contains areas from risk communication as well as crisis communication. (Allen, 2017, 408.) Emergency communication can be regarded to be a part of crisis and risk communication for example through the Crisis and Emergency Risk Communication model (CERC), which describes the different stages following the development of a crisis. These stages include the pre-crisis, initial event, maintenance, resolution, and evaluation stage. Each of these stages contains its own features and needs concerning communication. (Reynolds & Seeger 2005, 51, 52,53.)

Similar to crisis as well as risk communication, emergency communication aims to fulfill the public's informational needs to aid them to make decisions concerning their safety as well as wellbeing based on current knowledge. Another aim is

to meet the needs of emergency response agencies as well as civilian authorities to coordinate and interact with each other. (Allen, 2017, 409.)

In this study, emergency communication is understood as part of crisis communication, which is similar to scholars' perceptions (e.g., Schwarz, Seeger & Auer, 2016; Sellnow, Seeger, & Sellnow, 2013, 105). However, emergency communication is not seen to take place throughout the crisis. Instead, it can be seen to focus on the initial event of a crisis, in which information is needed in a fast, understandable, and effective way.

## 2.2 Crisis communication

Crisis communication has been presented as an area of strategic communication (e.g., Coombs, 2020, 991). As such, communication should be constructed strategically in the context of different crisis stages and types, relevant publics, and response strategies (Ha & Boynton, 2014, 30). However, several other fields of science besides strategic communication have contributed into the study of crisis communication. These include public relations, psychology, economics, mathematics as well as sociology (Ha & Boynton, 2014, 29) among others.

In this study crisis communication is defined as an ongoing process of creating shared meaning among and between groups, communities, individuals, and agencies, within the context of a crisis, for the purpose of preparing for and reducing, limiting, and responding to threats and harm (Sellnow & Seeger 2013, 13). As such, crisis communication consists of managing information and meaning during a crisis (Allen, 2017, 291). In other words, what is said and done to manage the crisis (Coombs, 2020, 991).

As was mentioned before in the context of crisis, a high level of uncertainty is one characteristic of a crisis. Crisis communication can be seen to answer this uncertainty by explaining a specific event and its possible consequences as well as outcomes. However, the public's desire for absolute certainty is at odds with the nature of medicine and crisis (Dalrymple, Young & Tully, 2016, 460), which in turn proposes a challenge in the context of public health crisis.

In a crisis, the public has different kinds of needs concerning the information provided. These needs include general and personal information needs as well as a need to discuss a crisis, instead of merely looking for information concerning a crisis. (Thelwall & Stuart 2007, 525.) Indeed, there are various categorizing attempts of the public's informational needs during a crisis. One of these is the idea of instructing messages (e.g., Ndlela, 2019, 139-142).

Instructing messages refer to communication that offers information on how to reduce harm and protect oneself from danger (Ndlela, 2019, 139), which is regarded as a part of crisis communication (Palttala & Vos, 2012, 39; Stephens, Malone & Bailey, 2005, 392-393), and is especially crucial at the acute phase of a crisis (Sellnow, Lane, Sellnow & Littlefield, 2017, 554; Sellnow, Sellnow, Lane & Littlefield, 2012, 642). These messages deliver information, teach skills, answer to curiosity, enhance self-efficacy, persuade to a certain point of view or to a behavior change (Sellnow, Sellnow, Lane & Littlefield, 2012, 634). However, instructional messages are only effective if they are comprehended by the public, as well as acted upon (Ndlela, 2019, 140).

Instructing messages in the context of COVID-19 public health crisis have been presented to contain authorities' recommendations to wear a face mask, use a hand sanitizer as well as maintain a safe distance to others (Bazaid, et al., 2020; Meier, et al., 2020). In addition, specific communication demands for crisis communication in the context of COVID-19 has been suggested to consist of acknowledging the various emotions present in individuals' lives during COVID-19. These emotions include anxiety, empathy, and fatigue. (Coombs, 2020, 992.) Acknowledging the mentioned emotions should act in the context of forming messages. Their content should be easy and simple to comprehend, convey empathy and if needed, fight against the fatigue following the relatively long-lasting and information rich crisis period with creativity in messages. (Coombs, 2020, 995.)

### **2.3 Risk communication**

Risk communication is a concept often used by health professionals, for example psychologists, in their communication content about risks or threats to public health (Schwarz, Seeger & Auer, 2016, 76). It has been generally viewed as health communicators efforts to warn the public about risks related to different behaviors (Seeger, 2006, 234). On the other hand, in the event of a crisis it has been suggested to function as a way to motivate individuals to take protective action (Allen, 2017, 1514).

There are similarities between crisis and risk communication. These similarities include the aim to reduce the likely occurrence of harm to the individual members of public health (Schwarz, Seeger & Auer, 2016, 77). Thus, in both fields public messages are produced to achieve desired responses by the public (Luomaaho, & Canel, 2020, 232).

In addition, similar to crisis communication, risk communication messages should contain some self-efficacy actions that help reduce the risk and possibly return some feeling of self-control (Seeger, 2006, 242). These messages refer to the

earlier mentioned instructional communication and messages (e.g., Frisby, Veil & Sellnow, 2014; Sellnow & Sellnow, 2010, 118-119). Indeed, self-efficacy has been argued to be an important psychological factor that can positively mold an individual's response to an emergency through increasing her or his belief in handling a crisis (Frisby, Veil & Sellnow, 2014; Yip, et al., 2013, 406).

Behind risk communication lays an argument that the public has a right to know about possible risks. Through gaining knowledge concerning the risk, the public can make their decisions regarding the risk. Thus, risk communication can be seen to facilitate risk sharing as well as decision making. (Seeger, 2006, 238; Reynolds & Seeger, 2005, 45.)

There are also differences between the two concepts of risk and crisis communication, for example in terms of what are the goals, how is the timing as well as what is the focus point (Schwarz, Seeger & Auer, 2016, 77). Risk communication can be seen to focus on the risk instead of an event and being more long-term than crisis communication. In other words, crisis communication can be argued to take place in the crisis state: what is happening right now and what can be done right now to reduce harm. Whereas risk communication takes place pre-crisis and includes preparing for a crisis for example through informational campaigning. (Reynolds & Seeger, 2005, 48.) In other words, risk communication can take place without an actual crisis, while crisis communication occurs during a crisis (e.g., Glik, 2007). Some have indeed referred to crises as manifested risks (Coombs & Holladay, 2010; Heath, Lee & Ni, 2009, 125).

The line between risk communication and crisis communication as well as emergency communication is not a strict one and all of them are present in the communication literature concerning crisis. For example, in the context of COVID-19 as a public health crisis, features from all the mentioned communication fields have occurred. Thus, the literature chosen for this study does not make an inflexible separation between risk, emergency, and crisis communication. Instead, these are understood as different areas of the continuum of communication pre, during and after a crisis, as well as varieties in definitions and concepts between fields of communication and other sciences.

## **2.4 Crisis communicators**

According to WHO:

*"During epidemics and pandemics, and humanitarian crises and natural disasters, effective risk communication allows people most at risk to understand and adopt protective behaviours. It allows authorities and experts to listen to and address people's concerns and needs so that the advice they provide is relevant, trusted and acceptable."*

(Communicating risk in public health emergencies: a WHO guideline for emergency risk communication (ERC) policy and practice, 2018, 9). Aforementioned view on risk communication implies not only the stakeholder centric idea of risk and crisis communication (e.g., Ndlela, 2019, 131), but also the importance of relations between communicators and the multivocality in a crisis.

Relations between communicators, for example in terms of trust or perceived credibility can indicate individuals' behavioral responses to recommendations. For example, in the context of COVID-19 the compliance to follow recommendations concerning protective actions (e.g., Zhao, Wu, Crimmins & Ailshire, 2020). These protective actions, as was mentioned earlier, referring to wearing a face mask, washing hands, use of hand sanitizer, as well as keeping a safe distance to others (Bazaid, et al., 2020; Meier, et al., 2020).

Crises tend to generate contradictory information from a wide variety of sources (Parsons, 2001, 181). An information overload can take place during a crisis, referring to a situation in which information is presented at a too fast rate for individuals to process it. Thus, making it hard for crisis managers as well as individuals to recognize what is paramount for the immediate circumstances. (Ndlela, 2019, 147.)

During a public health crisis, communicators that offer information regarding the epidemic go beyond official authorities. These communicators however affect individuals' compliance with authorities' recommendations through their representations of information, whether it is in the form of face-to-face conversation or sharing information through social media platforms. Various communicators create normative patterns about what is acceptable and what is not in the crisis context, as well as who are the victims, culprits, and heroes. Next some of the crisis communicators as well as their roles are observed.

#### **2.4.1 Public sector**

Public authorities are not only evaluated on how well they manage crises but also on how they communicate (Ndlela, 2019, 133). During crisis, communication by public authorities has been presented to be an essential and indispensable part of any response to a situation that may threaten both life and property (Quinn, 2018, 1).

Public crisis communication is a fused entity that encloses several actors at various operational as well as strategic levels. Local health authorities, law enforcement, emergency medical services, as well as agencies at the governmental level, all form a part of the public sector. (Frandsen & Johansen, 2020, 230-231.)



In the context of COVID-19 and crisis communication in Finland the Finnish institute for health and welfare, henceforth THL, has been one of the key actors alongside with the Finnish government. THL functions as a consulting organization in terms of well-being and health of the population in Finland, as such including preparation for health threats. (THL, About us, What is THL?.) In this study THL is regarded as a public sector organization since it is partly funded by the state (THL, About us, Funding). This is in line with the idea of defining public sector organization by focusing on different variables in the publicness of an organization. These variables are for example funding, control, ownership, purpose, values, accountability, employees, and profit. In this way of defining, publicity is seen as a continuum, instead of labeling an organization either as public or private. (Luoma-aho & Canel, 2020, 4.)

In February 2020, THL initiated a practical exercise to analyze risk perceptions and trust towards public authorities in the context of COVID-19. The findings emphasized the need for risk communication to avoid downplaying strong emotions as well as offering factual information and sharing facts about available resources for pandemic planning. In addition, the study suggested that risk communication should include expressing concern and care. (Lohiniva, et al., 2020.)

The same research results suggested a lack of the belief that a person can individually control the spread of the epidemic. Instead, there was a strong belief that authorities were the ones that could control the spreading. (Lohiniva, et al., 2020.)

In addition, the study suggested that trust in authorities was mainly discussed through distrust of information provided as well as actions taken by the authorities. Risk communication recommendations built in the study included the need to repeat and explain information that had already been provided to the public. (Lohiniva, et al., 2020.)

Another proposed challenge in crisis communication and disseminating instructional information has been that the public may rely on the media to attain instructional messages. Whereas government agencies as well as organizations might be providing instructional message content to the media as well. As such, the informational content concerning the protective actions for the public may not reach them. (Ndlela, 2019, 147; Frisby, Veil & Sellnow, 2014.)

During a public health crisis, public sector actors such as government or local health authorities play a crucial role. However, authority does not solely refer to formal power. Instead, it can imply informal power. (Karlsson, 2011, 281.) For example, in a survey of people quarantined in Toronto during the SARS epidemic, a larger number of people claimed that they got more helpful information about the quarantine orders from the media than from public health officials or from their healthcare providers (Koenig & Schultz, 2010, 96).

### 2.4.2 Social media influencers

The idea of influencers has been said to derive from the concept of opinion leaders (Zhao, Zhan & Liu, 2018, 550), who have been described as individuals who are most likely to affect other people (e.g., Enke & Borchers, 2019, 268).

Social media influencers can be regarded as opinion leaders who mold their audience's attitudes through the use of social media. They can be for example bloggers (Jin & Liu, 2010), vloggers (Reinikainen, Munnukka, Maity & Luoma-Aho, 2020, 280) or tweeters. (Freberg, Graham, Mcgaughey & Freberg, 2011, 90.)

The reason to follow social media influencers, henceforth SMI, has been argued to partly consist of interesting content by SMI (Weismueller, Harrigan, Wang & Soutar, 2020, 161), SMI's charisma (Lee & Theokary, 2020, 2), as well as the close relationship SMIs build and nurture between their brand and their followers (Dhanesh & Duthler, 2019, 3).

SMIs in the field of crisis and risk communication have been studied previously especially in the context of organizational crisis, in which they are presented as an innovative approach in strategic communication, but not without risks. (Sng, Au & Pang, 2019, 316.) However, in terms of public health crisis, research is somewhat absent.

### 2.4.3 Interpersonal influencers

SMIs are not the only possible opinion leaders. Instead, another important influencer group is formed of interpersonal influencers, for example family members, friends, co-workers, bosses, teachers, or coaches. These figures may not act only as authority figures, but as peer figures as well. Indeed, interpersonal networks have been argued to have an important part in preventing harmful practices. (Dillard & Shen, 2013, 283-284.)

In the context of a crisis caused by a hurricane, family, relatives, and friends, have been presented as the main influencers in executing protective actions. That is instead of authorities. (Sadri, Ukkusuri & Ahmed, 2021, 8.) This is in line with the argument claiming that people would respond to persuasion by close friends as well as family as opposed to unknown people or authorities (e.g., Singh, Mani & Pentland, 2014, 1907). Indeed, one distinctive factor that appears to function as a way to increase the persuasive power of a message is the closeness between the persuader and the recipient (Feng & Macgeorge, 2006, 67).

However, SMIs that were discussed in the previous section, can become more or less part of an individual's interpersonal network through parasocial relationships. If an individual has a parasocial relationship, she or he can have an illusion of interactivity between the SMI and himself or herself as a follower or a fan, and

experience face-to-face contact or even interpersonal exchange with characters on a television, film, or web program (Allen, 2017, 1179). This in turn can lead for example into an illusion in which the SMI can be regarded as a friend (e.g., Reinikainen, Munnukka, Maity & Luoma-Aho, 2020). As such, the boundaries between online and offline in terms of communication with influencers is not a rigid one.

## 2.5 Crisis communication platforms

Crisis communicators interact with the public as well as with others on various media platforms, each of which offers different abilities for communicating as well as varying communication culture. However, persuasiveness of communicators on online as well as offline worlds have been seen to co-exist (e.g., Singh, Mani & Pentland, 2014). Next these platforms and the ways they relate to the factors influencing publics' informational needs, as well as compliance with authorities' recommendations are observed further.

The colorful and vast media landscape in the form of various technologies and platforms offers the public numerous ways to stay up to date during a crisis. Independent of the physical proximity of individuals, cognitive and emotional effects of following an incident can be shared globally (Iannarino, Veil & Cotton, 2015).

Since different channels are ways in which people receive information, an understanding in selecting sources as channels for accessing information is critical to understand peoples' information seeking (Lu, 2003, 221). One of the vital aspects of communication during an infectious disease outbreak is the selection of communication channels, which ought to have the highest degree of coverage and impact among the public. In addition, messages should be tailored to fit the context. (Van Velsen, et al., 2012, 2.)

The perception of a crisis might be affected by which medium gets the most weight in a person's media mix (Vyncke, Perko & Gorp, 2017, 581). As such, mapping and analyzing the media consumption of individuals can help understanding the way individuals view crisis for example in terms of risk perceptions and needs for behavior change.

It has been argued that most people have more than one important source of information in times of a crisis (Vyncke, Perko & Gorp, 2017, 581). In addition, routines developed pre-crisis concerning individual media usage routines might change during a crisis. Because of increased hunger for information, individuals have been suggested to broaden their media usage. (Westlund & Ghersetti, 2015, 147.)

During a crisis, individuals have been argued to search information to a degree dependent on the expectation that information will decrease the feeling of uncertainty. However, if the information is difficult to interpret, it can lead to disambiguation (Basch, Mohlman, Hillyer & Garcia, 2020.) In addition, if the details related to disease outbreak are unclear, distrust and uncertainty might increase (Sumo, et al., 2019). Uncertainty leaves room for individual's own estimations about the arguments, but in the case of infectious disease epidemic or pandemic, needed expertise to evaluate the presented arguments might be missing.

According to previous research in the context of infectious diseases preferred sources vary slightly internationally. For American citizens, physicians have been presented to be the preferred source of information because of their perceived expertise and credibility. Whereas secondly preferred source of information has been suggested to be television news broadcasts. (Avery, 2010b.) Whereas during Zika virus and swine influenza in 2009, top three information sources for Malaysian citizens appeared to be newspaper, television, and family members (Wong & Sam, 2010).

In the context of the public health crisis due to the spreading of COVID-19, preferred sources in America have been suggested to consist of traditional media sources, such as television, radio, or newspapers. Whereas government websites have been regarded as the largest individual information source used. (Ali, et al., 2020.)

In Europe on the other hand, the most preferred sources during COVID-19 have been suggested to include traditional media, official websites (the website of the Civil Protection), and scientists. The most trusted sources being scientists and official websites. (Falcone & Sapienza, 2020.) Whereas results also support the importance of social media, as well as friends and family as sources of information exists (e.g., Geçer, Yıldırım & Akgül, 2020). However, the research on the matter remains relatively scarce due to the current nature of the crisis.

### **2.5.1 New media**

New media is built by using digital formats that can eventually be transmitted through time and space. Thus, enabling the same content to be consumed globally through various media, such as phones, computers, and laptops. Indeed, content can be easily manipulated, shared, and stored. (Allen, 2017, 1091.) The term new media encloses social media, online discussion groups, multiplayer online games, as well as virtual reality and other online communities (Allen, 2017, 1094). This study focuses on social media as a form of new media, however leaving room for other forms as well, since many features and trends on social media are present at other types of new media as well.

It is challenging to conceptualize social media, since technology is changing and evolving at a rapid pace and various forms of communication enabled in social media are also enabled by other technologies (Obar & Wildman 2015, 746). In this study social media is defined as internet-based applications that are built on the ideological and technological foundations of Web 2.0. These applications allow creating and exchanging user generated content. (Noguti 2016, 696; Obar & Wildman 2015, 746; Kaplan & Haenlein 2010, 61.) Web 2.0. refers to a way of using the World Wide Web as a platform where content and publications are no longer done by individuals but are continuously modified by other users (Kaplan & Haenlein 2010, 61). Examples of social media include Facebook, Instagram, Twitter, YouTube and blogs (Allen, 2017, 1630) among others.

Numerous scholars have studied the use, effects, and pitfalls of social media in crisis communication (Reuter, Hughes & Kaufhold, 2018). Research suggests that social media is increasingly being used as an information source, including information related to risks and crises (Westerman, Spence & Van Der Heide, 2014, 171). It has also been suggested that the use of social media increases in the times of a crisis (Haataja, Laajalahti, Hyvärinen, 2016, 136), as well as general information seeking (Moreno, Fuentes-Lara & Navarro, 2020, 7).

With social media platforms, citizens can communicate about their needs and experiences online in real time and to large audiences as well (Canel & Luoma-aho, 2019, 16). One of the consequences is the overflow of information. Thus, it can be hard to find the best information to meet one's needs from among the possible information providers. (Metzger & Flanagin, 2013, 211.)

Several studies have investigated the use of social media during an infectious disease epidemic (e.g., Lwin, Lu, Sheldenkar & Schulz, 2018; Guidry, et al., 2017; Vijaykumar, et al., 2017; Kim & Liu, 2012). One of the main challenges social media as a crisis communication platform faces is the credibility of sources. Disinformation and rumors can spread fast on social media in times of uncertainty (Kwon, Bang, Egnoto & Raghav Rao, 2016). Also, misinformation as well as inaccurate information can be present in the online environment (Malecki, Keating & Safdar, 2021; Jung, Walsh-Childers & Kim, 2016, 38). Messages are difficult to control, and media content can take life of its own appearing and disappearing on platforms in a cyclical manner (Toppenberg-Pejcic, et al., 2019, 443).

Regardless of the challenge related to source credibility, social media offers arenas to communicate with friends and family (Van Velsen, et al., 2012, 1), as well as to share information (Austin, Liu, & Jin, 2012). Aforementioned being something that people are generally inclined to (Osatuyi, 2013, 2624). In addition, through social media emotions and emphatic concerns can be shared. Especially so in a disaster situation. (Neubaum, et al., 2014.)

Social media proposes a challenge to health professionals in form of misinformation but also a possibility (Malecki, Keating & Safdar, 2021). Through social media health organizations can build meaningful, interactive, and dialogic two-way communication with the public in times of health crises (Guidry, et al., 2017; Dalrymple, Young & Tully, 2016, 458).

Indeed, in the context of COVID-19 social media has been suggested to have an important role in disseminating information concerning health as well as tackling infodemics (Chen, Tisseverasinghe, Yang, Li & Butt, 2021, 175). Aforementioned referring to a situation in which there is an overflow of information including false and/ or misleading information in digital and physical environments during a disease outbreak (WHO. Health topics. Infodemic).

### **2.5.2 Traditional media**

The main differences between traditional media and new media, such as social media, is that in traditional media content is created by a relatively limited group, and the content is seen to be more or less passively consumed by audiences (Allen, 2017, 1091). In this study, traditional media is regarded in a broad sense as referring to different technologies, mediums, or channels of information such as television, radio and newspapers, and various media houses or brands.

Health information provided through media and news outlets are essential in the Western societies (Obregon & Waisbord, 2012, 194). One of the most common ways to obtain information in a crisis is through mass media, for example television, newspaper, and radio. People seek available information as to who, what, when, where and why. (Parmer, et al., 2016, 1215-1216).

Journalist and news medias have been argued to have an impact on how crisis will be understood by framing phenomena, people, and events (e.g., Schwarz, Seeger, & Auer, 2016, 206-212; Iannarino, Veil & Cotton, 2015; Houston, Pfefferbaum & Rosenholtz, 2012).

Indeed, during COVID-19, mass media has played a crucial role in fulfilling the informational needs of the public (Moreno, Fuentes-Lara & Navarro, 2020, 10). In addition, in the context of COVID-19, the use of different social media platforms as primary information channels, has been suggested to have an effect on the framing of the crisis. The choice of medium has been argued to have an impact on the public's sense-making of crisis as well as whether the public accepts crisis messages or not (Moreno, Fuentes-Lara & Navarro, 2020, 8, 11). As such, framing of the crisis reaches beyond a specific type of media.

Some have also argued that traditional media is seen as more credible during a crisis compared to social media (e.g., Utz, Schultz & Glocka, 2013). And even when using social media, individuals discuss matters they have become familiar

with earlier via traditional media (Utz, Schultz & Glocka, 2013). This is in line with previous research results that suggests that individuals use social media for social needs, whereas traditional media is used for educational purposes (Austin, Liu & Jin, 2012). Convenience, involvement, as well as personal recommendations, however, have been presented to motivate the use of both, social and traditional media. Whereas information overload appears to discourage the use. (Austin, Liu & Jin, 2012.)

Social media and traditional media have also been argued to work together. For example, it has been presented that mass media might offer knowledge on various matters, but interpersonal communication, for example via social media applications, with opinion leaders in peer groups might have a greater impact on individual's persuasion (Allen, 2017, 962).

In Finland, a major actor in the Finnish news media landscape is Yle, which is Finland's national public service media company, funded by Yle tax. It has four television channels and six nationwide radio channels, as well as a versatile online news offering including written and oral news. (Yle. 24.05.2018. UPDATED 13.10.2020. About us.) It has been suggested that 96 percent of Finns consume Yle's content on a weekly basis (Yle. 18.12.2020. About Yle. Press releases) highlighting the major role in Finns' news consumption.

## 2.6 Summary

Table 1 Notable issues and features for crisis communication from an individual's perspective on page 24 gathers the findings of this chapter. It lays the framework of the communication and information environment during a crisis and highlights the special needs of crisis and risk communication from an individual's point of view in the development of a crisis. In the pre-crisis phase the relationship between the communicators is a matter of great interest. Relationship referring for example to the trust between the communicators. Whereas pre-crisis information seeking routine refers to the way an individual has consumed various communication contents in terms of communicators, platforms, as well as technologies. An individual is also expected to execute individual decision-making pre-crisis that might be affected by informational campaigning on matters that she or he finds relevant enough to gain her or his attention.

As crisis occurs, there is a shift from the status quo and uncertainty becomes more or less constant. Uncertainty is filled with information overload and misinformation possibly resulting in infodemics. Crisis communicators offer instructional messages to aid individuals to regain a sense of certainty and self-efficacy. Indeed, in case of a public health crisis due to COVID-19 there is an instant demand for individual decision making whether to act upon instructional messages or not.

This decision however may not be done alone, but through interacting with others, including interpersonal influencers, SMIs, as well as authorities.

As information rich crisis proceed, fatigue from information overload may occur. In addition, social and emotional needs get a highlighted role. Again, through communication crisis is framed and meanings are evaluated.

TABLE 1 Notable issues and features for crisis communication from an individual's perspective.

<b>Pre-crisis</b>	<b>Crisis</b>	<b>Prolonged crisis</b>
The relationship between the communicators	Shift from the status quo	Fatigue from information overload
Information seeking routine	Misinformation	Social needs
Individual decision making	Infodemics	Emotional needs
Informational campaigning	Information overload	Framing of the crisis
	Instructional messages	
	Difficulty to predict future	
	Increased need for knowledge	
	Demand for instant individual decision making	
	Framing of the crisis	



### 3 PROCESSING PERSUASIVE COMMUNICATION DURING A CRISIS

Whereas chapter 2 laid the framework of information available during a crisis as well as communication in a crisis, this chapter focuses on how individuals process this information, what might affect processing, as well as what consequences information can have on an individual's attitude and/or behavior in the context of a public health crisis.

Whether the platform of communication is social media or newspaper and whether communicators are representatives of the government or friends, in the end people persuade themselves (Perloff, 2010, 14). As such, a compliance with authorities' recommendations requires persuasion where public health faces individual autonomy (Calain & Poncin, 2015, 129).

Persuasiveness is often observed within the context of certain communication platform, for example persuasiveness of a message on social media platforms (e.g., Teng, Khong & Goh, 2015), as well as with a specific aim, such as political campaign communication (e.g., Thorson, 2014) or health campaign communication (e.g., Paek & Hove, 2018). In addition, several self-help books exist to help individuals be more persuasive in their communication (e.g., Kawasaki, 2011; Axelrod, 2007; Alessandra, 2006).

However, just as was with the concept of crisis, there are several definitions for persuasion. Different persuasion definitions among scholars each highlight different aspects of persuasion. Persuasion can be defined:

*" - as the use of symbols (sometimes accompanied by images) by one social actor for the purpose of changing or maintaining another social actor's opinion or behavior."*

(Berger, Roloff, & Roskos-Ewoldsen, 2010, 203). As well as

*" - - the activity of demonstrating and trying to modify the behavior of at least one person through symbolic interaction."*

(Csapó & Magyar, 2010, 9) or as an action, in which

*" - - one individual or group intentionally uses messages to change the attitudes of one or more others."*

(Allen, 2017, 1224). Similarity in different definitions seems to be the aim to affect others (Dillard & Pfau, 2002, 11), that results in a change (Stiff & Mongeau, 2016, 5). In this study persuasion is understood as

*“ - a symbolic process in which communicators try to convince other people to change their attitudes or behaviors regarding an issue through the transmission of a message in an atmosphere of free choice.”*

(Perloff, 2010, 12). Symbolic process referring for example to language and words (Perloff, 2010, 12), thus seeing the process of persuasion as a form of communication (e.g., Berger, Roloff, & Roskos-Ewoldsen, 2010, 203). Besides verbal language, persuasion can however occur through setting an example, as such through role models, which has been studied for example in the context of leadership (Hoyt, Burnette & Innella, 2012). These role models can also be SMIs, representatives of the government, family, friends, or colleagues. Whereas an atmosphere of free choice refers to the right of self-determination, enclosing individuals' right over their attitude and behavior to a certain limit.

In the context of COVID-19, recent studies concerning persuasion and communication have been focusing on the compliance of restrictions (e.g., Bargain & Aminjonov, 2020; Howard, 2020) as well as the role of emotions in health communication (e.g., Stolow, Moses, Lederer & Carter, 2020), and the use of different social media platforms during COVID-19 health crisis (e.g., Drylie-Carey, Sánchez-Castillo & Galán-Cubillo, 2020). Also, motivation to take protective actions has been studied in the context of health communication and COVID-19 (Kowalski & Black, 2021).

In this chapter individual's attitude and behavior are observed with a special interest towards processing persuasive communication. The chapter continues with an observation of the elaboration likelihood model of persuasion in the context of public health crisis as well as by shortly acknowledging the possible weaknesses of the model. After this, the most mentioned emotions in the context of crisis and health communication are reviewed with the interest of understanding how emotions can affect the information processing as well as changes in individual attitudes and/or behavior.

### **3.1 Distinction between attitude and behavior change**

As can be noticed from the quotes defining persuasion in the previous section, changes due persuasion can occur on an individual's attitude as well as behavior. However, it cannot be taken for granted that the changes happen on both levels (Dillard & Shen, 2013, 54-60), which might consist of different psychological processes. (Itzchakov, Uziel & Wood, 2018, 1.)

Previous research on the matter of the link between attitude change resulting in behavior change, appears to be affected by two key factors, subjective norms, as

well as perceptions of behavioral control. In addition, individuals most likely will not always act according to all their attitudes, but instead, each attitude becomes more prevalent when an issue concerning the attitude becomes more current. (Stiff & Mongeau, 2016, 79.) For example, due to life events.

However, the shift in change does not necessarily begin from attitude change and result in behavior change. Instead, behavior change can produce attitude change. For example, one of the strategies to avoid the uncomfortable feeling due to the contradiction between one's behavior and attitude, is to modify the attitude in question. (Stiff & Mongeau, 2016, 82, 86.)

### **3.2 The Elaboration Likelihood Model of persuasion**

There are several models and theories regarding persuasion, for example discrepancy models enclosing theories such as social judgment theory and cognitive models including cognitive response model and elaboration likelihood model. (Berger, Roloff & Roskos-Ewoldsen, 2010, 205-211.) Aforementioned being the focus of this study.

The elaboration likelihood model, henceforth ELM, has been previously applied especially in the context of advertisement and marketing literature (Kitchen, et al., 2014, 2034). In addition, it has been implemented to health communication (e.g., Jensen, King, Carcioppolo & Davis, 2012) as well as crisis communication (e.g., Xu & Zhang, 2018). However, recent studies combining COVID-19, crisis communication and elaboration likelihood model, are absent from the crisis communication literature.

The elaboration likelihood model is a theory of informational influence presented by Petty and Cacioppo in 1981 to the academic literature (Kitchen, et al., 2014, 2034; Petty & Cacioppo, 1986). The model provides a theoretical framework for understanding how people process persuasive messages and the connection between processing information and change in behavior. Two individuals with their prior experiences as well as personalities may process information in a deviating way as well as end up taking different decisions and actions in terms of behavior change. (Witte, Meyer & Martell, 2001, 42.)

According to ELM, there are two routes by which persuasive messages can be processed. These routes are the central and peripheral route (Kitchen, et al., 2014, 2035). Central route requires a high level of elaboration, whereas the peripheral route involves a low level of elaboration. (Cheung, Sia & Kuan, 2012, 620.) Elaboration in the context of ELM refers to systematic thinking (Dillard & Shen, 2013, 137). It is noteworthy, that even though these two routes are observed separately,

in practice people elaborate messages at a moderate level employing both routes (Sussman, 2003, 50).

Factors that influence the possibility to elaborate persuasive communication include the individual's motivation and ability to process communication content. Motivation in this context refers to the need for cognition and relevance. Whereas ability to distraction, repetition, and previous knowledge and familiarity. (Petty & Wegener, 1999, 41-43.) Need for cognition refers to the degree to which individuals engage in and enjoy thinking (Dillard & Shen, 2013, 138). The amount of concern has been suggested to motivate not only the willingness to receive and process information but to act on it as well (Heath, Lee & Ni, 2009, 126).

When processing a message through a central route, issues are carefully considered, and merits of the arguments evaluated. The recipient will undergo further cognitive processing and put more effort to evaluate a message. (Cheung, Sia & Kuan, 2012, 620.) The outcomes of persuasive efforts will depend on the predominant valence of the receiver's issue-relevant thoughts. If a message evokes predominantly negative thoughts about the presented view, then little or no attitude change is likely to occur. However, if a message sparks to predominantly positive thoughts about the advocated view, a change in receiver's attitude is likely. (Dillard & Shen, 2013, 139.)

The positivity of the evoked thoughts is influenced by whether a message defends a pro-attitudinal position, which the receiver is already inclined to, or a counter-attitudinal position. Pro-attitudinal messages can be expected to create predominantly favorable thoughts, whereas counter attitudinal messages to create predominantly unfavorable thoughts. (Dillard & Shen, 2013, 139.)

Another feature that influences the positivity of the evoked thoughts is the strength of the presented arguments in a message. High elaboration can lead to a more precise scrutinizing of the message content. Thus, a good quality argument can be seen to raise predominantly positive thoughts, and poor-quality arguments predominantly negative thoughts. (Dillard & Shen, 2013, 139.)

Regardless of the distinction between the two routes, persuasion is present and can take place at any point of the elaboration continuum. Hence, low elaboration levels do not necessarily mean that a message cannot be persuasive. (Dillard & Shen, 2013, 138.) However, central, and peripheral routes differ in the long lastivity of change. Through central-route persuasion a long-term benefit can be achieved in the form of more stable attitudes over time (Dillard & Shen, 2013, 141).

Recipient's ability and motivation are key determinants in whether a message goes through the central or peripheral route (Cheung, Sia & Kuan, 2012, 622.)

Ability can be seen to refer to expertise and prior knowledge about the issue (e.g., Sussman, 2003, 52). Thus, defining good enough knowledge to process via central route, has been argued to be a subjective evaluation of an individual's prior experience, professional knowledge as well as the situation of perceptions (Chaoguang, Feicheng, Yifei & Yuchao, 2018, 351).

Processing through the peripheral route includes significantly less cognitive work. Instead of focusing on the message's arguments, so called peripheral cues are used to evaluate the believability of the message. These cues are contextually oriented towards the communication environment rather than the merits of the arguments themselves. (Cheung, Sia & Kuan, 2012, 620.)

### **3.2.1 Peripheral cues of ELM**

Concepts of peripheral cues and heuristic cues are both used in communication research literature. However, peripheral cues are more often used in the context of ELM. Thus, it is also chosen for this study.

Peripheral cues refer to simple rules, which help in deciding whether to agree with the presented view (Dillard & Shen, 2013, 139.) People rely on these cues to judge whether content is true or not (Rotboim, Hershkovitz & Laventman, 2019).

Examples of peripheral cues include recipient's liking for the communicator as well as other individuals' reactions to the message. Liking of the communicator would refer to a statement such as "people I like usually have correct opinions", whereas using individuals' reactions as a peripheral shortcut would refer to a belief that if other people think something is true, then it probably is. (Dillard & Shen, 2013, 140; Witte, Meyer & Martell, 2001, 42).

Aforementioned referring to the concept of so-called bandwagon effect or heuristic, which illustrates that if something is seen as popular among several individuals, people tend to think that to be true, whether it is a question of product consumption (e.g., Dillard & Shen, 2013, 391), or voting behavior (e.g., Barnfield, 2020). Whereas, similar to the cue of liking for the communicator, attractiveness as well as reputation and expertise can also be seen as heuristic cues as well (Witte, Meyer & Martell, 2001, 42).

Communicator's perceived credibility has been argued to be one of central shortcuts in determining the believability of a message and whether to execute a behavior change or not (Witte, Meyer & Martell, 2001, 42). When this heuristic is active, higher-credibility communicators are perceived as more persuasive than lower-credibility communicators. (Dillard & Shen, 2013, 139-140.) Credibility as a peripheral cue is observed later, on a separate chapter because it encloses several other peripheral cues.

One of the proposed reasons behind the power of peripheral cues is that individuals have learned that certain cues lead to certain outcomes. For example, statements made by experts have usually been more veridical (Chaiken, 1987, 9). Thus, the ways expertise has been manifested, through titles or the presence of organizational names that represent expertise in a specific domain of business or science (e.g., Go, Jung & Wu, 2014) has led to an assumption or expectation of more factual information compared to information offered by non-experts.

### 3.2.2 Public health crisis and ELM

ELM is widely cited in studies concerning public health communication intervention (e.g., Lim, et al., 2019). It has also been widely applied in social psychology research to represent how people process information and how they construct attitudes to behavior (Chaoguang, Feicheng, Yifei & Yuchao, 2018, 348). One of the postulates in ELM is the so-called trade off postulate which is phrased as follows:

*“As motivation and/or ability to process arguments is decreased, peripheral cues become relatively more important determinants of persuasion. Conversely, as argument scrutiny is increased, peripheral cues become relatively less important determinants of persuasion.”*

(Petty & Wegener, 1999, 59).

As was mentioned earlier, elaboration ability is influenced by an individual's prior knowledge about the issue or topic. Indeed, a lack of relevant knowledge can interfere with an individual's ability to think carefully about an issue. (Dillard & Shen, 2013, 138.)

In the context of a public health crisis caused by infectious diseases, the public might have some prior knowledge on the matter through their earlier experiences. For example, in 2009 H1N1, swine flu spread fast among the public in Finland and protective measures were taken such as special attention to hand hygiene (Yle. 22.7.2009. Hand Sanitizer Sales Soar amid H1N1 Concerns). However, the scale of the epidemic in terms of infection cases, number of deaths, as well as the extent of restricting actions through legislation were substantially different highlighting the different nature of the epidemic caused by COVID-19.

Whereas ability to process arguments might be lacking, motivation would not. Research suggests that people process information concerning health with great scrutiny. This is because of the vital importance of the information. (Avery, 2010a, 82.) In other words, the personal relevance is high, as such motivating to execute the cognitive work needed (Petty, Cacioppo, & Goldman, 1981).

As such, individuals may have to rely more on peripheral cues to make a decision whether to accept information regarding COVID-19, and for example follow recommendations by authorities. As was mentioned earlier, processing through the peripheral route might lead to attitude as well as behavior changes that do not last as long as changes as a result of central route processing.

Short term behavior changes following peripheral processing, in the context of public health crisis however can be seen as relevant depending on the persevering of the crisis. Short term behavior changes might lead to compliance with preventive actions, and as a result the number of people infected by the disease might decrease. However, due to the continuously changing epidemic situation of COVID-19, the need for and importance of preventive actions changes, thus calling for continuous changes in individuals' behavior.

One of the concrete ways of how the public has been requested to shape their behavior is the changing legislation throughout the epidemic as well as preventive actions, such as wearing a face mask. Aforementioned effectiveness was questioned in the early stages of the epidemic in Finland (Yle. 29.5.2020. Report: Little or no benefit to widespread mask use.), and later acknowledged (Yle. 31.7.2020. Research group says, "face masks work", criticizes ministry report), thus calling for short term behavioral changes among the public.

### **3.2.3 Possible shortcomings of ELM**

Later research indicates that the ELM might be better described as a theory of attitude change than as a theory of persuasion. Even though attitude is an important part of persuasion, it does not necessarily mean a change in an individual's actions. (Dillard & Shen, 2013, 146.) In other words, even though information concerning authorities' recommendations would be evaluated as unanimous and attitudes would be favorable, individuals might still not change their behavior and act based on their attitudes.

The affecting inconsistency between attitudes and actions, is partly explained by normative considerations, as well as lack of knowledge. (Dillard & Shen, 2013, 146). If individuals are under normative influence, they experience social pressure to perform behavior, no matter of their attitudes or beliefs regarding the behavior (Li, 2013, 265).

Normative consideration in the case of COVID-19 and face masks would for example mean that an individual will not wear a mask, because other peers do not either. Thus, so-called social validation is lacking (Jucks & Thon, 2017, 376). Whereas lack of knowledge could mean that an individual does not wear a face mask because of she or he does not know how the mask should be worn or whether it has an impact or not.

The differences between the two routes of ELM have also been questioned. For example, the difficulty or the effortless of judging arguments or peripheral cues has been critiqued. What if cues and arguments are equally complex? Are they then processed similarly, thus producing similar effects? (e.g., Dillard & Shen, 2013, 145).

Regardless of the possible pitfalls of the ELM, it offers a way to study individuals' way of processing authorities' recommendations in a form of persuasive communication in a context of public health crisis, in which the processing of information might not focus on the estimation of argument quality itself. Behind the mentioned statement lies an assumption that individuals' do not possess the knowledge of fields of science touching the information of COVID-19. These fields being for example medicine as well as cell biology. As such, individuals need to base their processing of information on something else than the presented arguments in the framework of science.

### **3.3 Emotions during a crisis**

Various emotions take part in comprehending what is happening and what will happen in the future (Stavraki, et al., 2021, 7). Experiences are partly colored with emotions, which have a part in evaluating experiences as pleasant or unpleasant (Tiedens & Linton, 2001, 974). This in turn relates to the processing of information. Previous research suggests that individuals who are in a negative mood or emotional state may process information more systematically compared to the ones who are in a positive mood, and process information more heuristically (Mohanty & Suar, 2014, 101; Tiedens & Linton, 2001, 973).

Emotions might not only affect the information processing but the shift from attitude change to behavioral change. Unpredictability related to crisis can cause individuals to feel psychological stress and discomfort, which in turn might lead to actions taken to reduce the feeling of discomfort (Sellnow & Seeger, 2013, 6-7).

Indeed, emotions such as fear have been a commonly used strategy to motivate individual behavior change. In the context of COVID-19 tactics to arise fear have been proposed to include the use of provocative language, presenting explicit visual material of the casualties of the virus as well as stigmatizing individuals who do not take part in preventive and protective actions. (Stolow, Moses, Lederer & Carter, 2020). However, the use of emotions in crisis or risk communication is not without challenges. Next, three emotions that have been suggested to rise in crisis are observed in the context of processing persuasive communication and changing individual attitudes and/or behavior.



It is noteworthy that even though emotions discussed in this chapter represent emotions that are generally regarded as unpleasant, crises can also generate positive emotions. Gratitude, love, sympathy, as well as interest are for example reported as possible emotions in the aftermath of a crisis, such as a terrorist attack (e.g., Fredrickson, Tugade, Waugh & Larkin, 2003, 373).

### 3.3.1 Uncertainty

Uncertainty, as was noted at the very beginning of this study, is generally seen as a characteristic feature of crises (Coombs, 2014, 3; Sellnow & Seeger, 2013, 2; Stephens, Malone & Bailey, 2005, 392-393). It has been suggested to rise due to the contradictory data, contradictions between experts, as well as lack of knowledge (e.g., Markon & Lemyre, 2013, 1118-1119).

Regardless of the characteristic nature of various crises, uncertainty is a concept that is often left undefined in crisis communication literature (Liu, Bartz & Duke, 2016, 480). It has however been presented as an uncomfortable state, in which information seeking is a generally applied strategy if the experienced uncertainty is related to a perceived threat (e.g., Liu, Bartz & Duke, 2016, 480; Lachlan, Spence & Nelson, 2010, 39).

As was mentioned earlier, in chapter 2, during a crisis, individuals have been said to look for information to a degree dependent on the expectation that information will lower the feeling of uncertainty (Basch, Mohlman, Hillyer & Garcia, 2020). As such, uncertainty can be regarded as an important motivator for information seeking behavior, if the information does not increase the feeling of uncertainty.

Uncertainty does not only affect an individual's information seeking behavior, but attitude and behavior stability as well. People have been argued to hold their attitudes with increased certainty when they believe their attitudes are built on relevant, important as well as legitimate information (Tormala, 2016, 8). Indeed, people have been suggested to be motivated to hold correct attitudes (Petty & Wegener, 1999, 44). Whereas uncertainty has been suggested to lead advice seeking and taking (Gino, Brooks & Schweitzer, 2012, 497).

In a public health crisis, available information especially at the acute crisis phase might be absent. As correctness is a subjective assessment (Petty & Wegener, 1999, 44), individuals can rely on different cues or arguments in defining some information more legitimate than others. As such, a certain level of certainty can be reached, which in turn might be needed to spark individuals to act based on their attitudes (Tormala, 2016, 9), as such shifting the change from attitude to behavior.

### 3.3.2 Fear

Uncertainty related to crisis can also cause other emotional reactions, for example fear (e.g., Dalrymple, Young & Tully, 2016) that has been one of the most studied emotions in the context of persuasion (Allen, 2017, 1225). Fear appeals have for example been widely used to promote preventive behaviors (Stolow, Moses, Lederer & Carter, 2020).

Fear as a message factor can be seen to contain two elements: threat and efficacy information (Perloff, 2010, 200). Witte (1998) has presented an extended parallel process model, henceforth EPPM, in which there is a message, which contains the aforementioned threat and efficacy. The model has been commonly used in the context of emergency communication (Allen, 2017, 409).

EPPM suggests that health risk messages launch two cognitive appraisals. Appraisal of the threat as well as an appraisal of the efficacy of the recommended response. Based on mentioned appraisals, one of three possible outcomes follows: no response, a danger control response, or a fear control response. (Witte, Meyer & Martell, 2001, 24.)

The first appraisal for threat, has two components susceptibility and severity. If a person estimates the hazard to be low severity or low susceptibility, she or he will reject communication content that encourages protection. However, if the communication content gets past the threat appraisal, in other words, a person believes she or he is vulnerable and/or a serious harm can be suffered, a person becomes fearful and is motivated to act. (Witte, Meyer & Martell, 2001, 24.) As such, similar to uncertainty, fear can motivate individuals to take action, but only if there is a possibility to decrease the feeling of fear.

Risk communication has indeed been argued to operate with individuals' estimation of possible harm following a risk. In other words, how to get people more concerned about a risk they might underestimate or less concerned about a risk they overestimate. (Coombs, 2020, 996; Sandman, 2006.) However, social, and cultural factors, immediacy, uncertainty, familiarity, personal control, scientific uncertainty, and trust in institutions and media are all factors that shape public's perception and response to risk messaging (Malecki, Keating & Safdar, 2021).

Efficacy appraisal, which contains self-efficacy and response efficacy, will follow threat appraisal. If the communication content recipient does not consider the content's targeted behavior to be achievable, low self-efficacy, or efficacious, low response efficacy, the recipient will deny and avoid the message to manage fear, thus rejecting messages. However, if efficacy appraisal is accepted, also message acceptance will follow. This in turn leads to the adoption of the protective behavior described in the message. Steps are taken to minimize the personal risk against the actual hazard. Aforementioned is named as danger control in the

EPPM. According to the EPPM fear can either interfere in the fear control process or facilitate in danger control processes behavior change. (Witte, Meyer & Martell, 2001, 24-25; Witte, 1998, 423-440.)

In the context of the public health crisis due to COVID-19, the perceived efficacy plays a crucial role. This is because of the eagerness of constituents to take part in the resolving of the crisis. (Coombs, 2020, 994.) If individuals' do not feel they have a chance to affect the spreading of COVID-19, for example by executing preventive actions, such as wearing a face mask, keeping a safe distance from others, or being self-isolated, they might not execute these actions. Some however have argued that despite the evidence that preventative measures, for example wearing a face mask can reduce transmission of COVID-19, the acceptance of and compliance with wearing a face mask varies greatly among individuals (Malecki, Keating & Safdar, 2021).

The two main cognitive processes in the EPPM have been presented to consist of danger control and fear control (e.g., Perloff, 2010, 201). Danger control refers to a situation in which there is something to be done. Thus, people appraise the external danger and try to form strategies to handle the situation. Fear control on the other hand refers to a situation of prominent threat, but instead of focusing on the problematic situation, began to focus inwardly on their fear and how to manage with it, instead of finding a way out of it. (Perloff, 2010, 201; Witte, Meyer & Martell, 2001, 25; Witte, 1998, 434). Thus, fear appeal in terms of persuasiveness of a source can be seen to increase the persuasive power only if a person follows danger control instead of fear control (Perloff, 2010, 201). In addition, persuasive effectiveness has been suggested to depend on the credibility of threats and promises by the communicator (Dillard & Pfau, 2002, 4).

### **3.3.3 Guilt**

Another emotion related to persuasiveness is guilt (Graton, Ric & Gonzalez, 2016; Perloff, 2010, 207-210; Basil, Ridgway & Basil, 2008). It can be seen as an emotional reaction (Perloff, 2010, 207; Basil, Ridgway & Basil, 2008, 3), which can follow after a failure or transgression (Tangney, Stuewig, Mashek & Hastings, 2011, 711).

However, guilt can be anticipatory rather than something that follows something that has already happened (Basil, Ridgway & Basil, 2008, 4). It can be seen as a failure to do something that she or he should do. For example, violating an unwritten rule such as social custom or a written rule such as law. (e.g., Basil, Ridgway & Basil, 2008, 3.)

When people are shamed, they can feel physically, psychologically as well as socially diminished. Thus, there is a shift in an individual's perception of herself or himself (Tangney, Stuewig, Mashek & Hastings, 2011, 711). Aforementioned is in line with the notion made earlier of the stigmatizing individuals who do not take

part in preventive and protective actions in the context of public health crisis due to COVID-19 (Stolow, Moses, Lederer & Carter, 2020).

It has been suggested that the feeling of guilt would lead to correcting actions (Perloff, 2010, 207; Basil, Ridgway & Basil, 2008, 3). Thus, it would influence the persuasiveness of a communication content. However, this might only be the case when also the needed means to reduce guilt are offered (Graton, Ric, & Gonzalez, 2016, 47), which in turn comes back to the crucial role of self-efficient ways similar to what was observed in the context of uncertainty and fear.

### 3.4 Summary

Table 2 Factors influencing individuals' attitude and/or behavior change on page 37 has the same function as table 1 presented earlier. It summarizes the findings of this chapter. These factors are not to be regarded as automatically accelerating or decelerating in terms of individuals' attitude and/or behavior change. Instead, as was presented earlier in this chapter, each of these factors can function in both ways. For example, the feeling of fear may not automatically lead to a behavior change. Instead, as was mentioned, an individual estimates the possible harm following a risk, and either becomes motivated to act or reject the communication content recommending taking protective action. (Witte, Meyer & Martell, 2001, 24.)

Individual features include individual's prior knowledge on the matter, motivation, and ability to evaluate arguments, positivity, or negativity of the evoked thoughts on the compliance related communication, estimation of possible harm following a risk, as well as feelings of uncertainty, fear, or guilt. Whereas subjective norms guide individual's own perceptions on what is acceptable and what is not. In addition, an individual's liking for the communicator can have an effect on whether to change attitude and/or behavior based on persuasive communication.

Information as well as source factors that can have an effect on the individual's attitude and/or behavior change include presenting explicit visual material and using provocative language. In addition, instructional content that may aid in dealing with the emotions such as uncertainty, fear, or guilt are also central elements in attitude and/or behavior change. Communicator's previous reputation as well as perceived attractiveness can also affect the changes.

Whereas environmental factors that can have an effect on individuals' attitude and/or behavior change include uncertainty, fear, and guilt arousal. These arousals take place on individuals' cognitive level but can be triggered by environmental factors that are manifested through the mentioned information and source

features. For example, fear arousal can follow after observing explicit visual material of casualties. Normative considerations refer to the general perception of what is right and what is wrong. Whereas bandwagon effect may aid in deciding to act on persuasive communication in case there are enough people backing the communication content or source up.

The mentioned factors in table 2 relate to the factors mentioned in table 1. For example, an individual's pre-crisis information seeking routines may have an effect on an individual's previous knowledge. Whereas the relationship between communicators relates to the liking of the communicator, as well as the effectiveness of instructional content through trust in the communicator.

TABLE 2 Factors influencing individuals' attitude and/or behavior change.

Individual features	Information and source features	Environmental factors
Previous knowledge	Presenting explicit visual material	Uncertainty arousal
Motivation to evaluate arguments	Instructional content	Fear arousal
Ability to evaluate arguments	Provocative language	Guilt arousal
Positivity or negativity of the evoked thoughts on the compliance related communication	Attractiveness	Normative considerations
Estimation of possible harm following a risk	Reputation	Stigmatizing individuals
Feeling of uncertainty		Bandwagon effect
Feeling of fear		
Feeling of guilt		
Subjective norms		
Liking for the communicator		

## 4 SOURCE CREDIBILITY

As was noted before in chapter 3 credibility of a source has been argued to be one of the main peripheral cues in information processing (Pornpitakpan, 2004; Sussman, 2003; Chaiken & Maheswaran, 1994). Because of that, as well as the multi-dimensional nature of the concept of credibility, which encloses several other factors, source credibility is observed in its own chapter.

The chapter continues as follows, first what is source credibility and how it relates to information processing is observed, followed by an examination how source credibility can be evaluated and what is its purpose as well as of what it is constructed. All of the mentioned aid in drafting the individuals' information processing, needs and eventually what factors influence individuals' compliance with authorities' recommendations.

Source credibility has been a research topic in several fields, including marketing, advertising, politics, and various other professions, for decades (Veraia, Veraia & Coombs, 2019, 29). As such, there are several close related concepts for source credibility in the research literature. These terms include online source credibility (e.g., Braddock & Morrison, 2020) and web content credibility (e.g., Wierzbicki 2018), as well as information credibility (e.g., Lucassen & Schraagen, 2013). As such, manifesting the broadness of the term, that is referred to in a variety of contexts, varying from online environments, such as source credibility evaluation of social media content, to offline environments, such as evaluation of political speeches. In this study source credibility is comprehended to enclose other branches of credibility.

Indeed, the definition of source credibility varies among different researchers and their focus points. Credible information can be seen as a believable information and credible people as a believable people (Tseng & Fogg, 1999, 39). As such, credibility would be understood as a characteristic of the communicator or as a judgement made by a perceiver concerning the believability of a source.

Some have argued that source credibility refers to a recipient's perception of the credibility of a message source; it is not concerned with the message itself. Whereas, others present that the credibility of sources may rest on evaluations of the information source, the message alone, or on a combination of the source and the message (Metzger & Flanagin, 2013, 211). Aforementioned being the perspective in this study.

Online credibility has some special features in addition to general discussion about source credibility. These features include a few standards for quality con-

trol and evaluation online. There are no universal standards for posting information on the Internet, and digital information may be easily modified, misrepresented, or created anonymously under false pretenses. Thus, the plasticity of digital information aggravates potential problems of information reliability. Especially because the alteration of digital information is difficult or impossible to detect. In addition, the global nature of the web makes it challenging to enact standards for quality control for example in the form of government regulation. (Metzger & Flanagin, 2013, 212.)

Another feature in online credibility concerns confusing with the source. For example, the hyperlinked structure of the internet can make it challenging to find and review different sources related to the topic. (Metzger, & Flanagin, 2013, 212.)

Whereas one of the main differences between credibility evaluations of web-based social media content and ordinary web content, such as web pages, is the easy access to the content author. Social media is built on user contributions, and in general users might not want to, nor are allowed to hide their authorship. Even with the case of pseudonyms, the identities can be a starting point for credibility evaluation. (Wierzbicki, 2018, 131.)

Credibility of a source has been suggested to be the most important for non-experts to evaluate information (Sussman, 2003, 50). In other words, information may be processed based on not the message itself but based on the perceived credibility of a source. Thus, source credibility as a peripheral cue offers individuals a possibility to take a shortcut in deciding whether to change behavior or not, instead of laborious cognitive processing (Chaoguang, Feicheng, Yifei & Yuchao, 2018, 351). As such, the need to establish credibility has been a common theme in risk communication. (Tucker, 2008, 302.)

Indeed, credibility can influence the processing of information in two ways. It can either serve as an argument when scrutinizing the information or, the opposite, as a heuristic that allows low-effort information processing. How it will be used depends on the motivation and the ability of the receiver. As was noted before, an individual's stronger motivation and higher ability will lead to more systematic information processing. (Kitchen, et al., 2014, 2035; Petty & Cacioppo, 1986, 137-152.) Indeed, personal relevance of the issue has been suggested to influence the whole impact source credibility has on the persuasiveness of a message (Witte, Meyer & Martell, 2001, 42). When individuals are highly involved with a message topic, source credibility has little or no impact on attitude change, because instead of relying on peripheral cues, such as source credibility, individuals pay more attention to the arguments (Sussman, 2003, 51).

However, when an individual is unable or unwilling to process information and the arguments presented, peripheral cues will be more present in the influence process (Sussman, 2003, 50). When individuals are not involved with the topic,

source credibility has been presented to have a major implication of attitude change (Petty, Cacioppo, & Goldman, 1981, 852-853). However, as has been noted before, in the context of the public health crisis due to COVID-19, the motivation of individuals to process information that is highly relevant for them might be in place, whereas needed ability might not.

#### **4.1 Evaluation of source credibility**

One of the greatest points of consensus in the source credibility literature is that in the end credibility is a relational concept (Dillard & Shen, 2013, 141). It is evaluated by the trust giver, who is regarding the trust receiver (Wierzbicki, 2018, 131).

Common ways to reduce uncertainty concerning credibility of a source have been traditionally argued to consist of personal knowledge or reputation concerning the trustworthiness of a source or the content of information. In addition, traditionally there has been an idea of information intermediaries, for example experts and opinion leaders, who have guided individuals' judgements on source credibility. (Metzger & Flanagin, 2013, 210.)

Whereas the 3S-model offers an understanding about how people construct their judgements on the credibility of information. In the model, three strategies for evaluating credibility of information are proposed. Different strategies can be used as a mixture, instead of either-or. (Lucassen & Schraagen, 2013, 255.)

The first strategy requires a level of expertise on the topic at hand, because the presented information is compared to individual's prior knowledge about the topic. Thus, the first strategy focuses on the consideration of semantic features of the presented information and addresses the factual accuracy. (Lucassen & Schraagen, 2013, 255.) Research indicates that experts on the topic in question mainly focus on semantic features of information, for example factual accuracy. Whereas individuals unfamiliar with the topic focus more on surface features, such as length of a text. (Lucassen, Muilwijk, Noordzij & Schraagen, 2013, 254.)

A second strategy focuses on surface features of the presented information, thus being a strategy especially for those whose expertise is low or non-existent on the topic. (Lucassen & Schraagen, 2013, 255.) Surface features refer to the way information is presented, for example the aesthetics and design, or the length of the text, number of references and images used (Lucassen & Schraagen, 2011). Skills required from the credibility evaluator require less expertise on the matter, but knowledge about how aforementioned features relate to the concept of credibility (Lucassen & Schraagen, 2013, 255).



A third strategy relies on the previous experiences with a particular source. It does not require observing the information itself, but the source itself. (Lucassen & Schraagen, 2013, 255.)

In all the strategies presented, motivation as well as ability of an individual to process information interplay with each other, highlighting the notions made earlier when elaborating the ELM. In addition, all three strategies manifest the close relationship of source and message in terms of evaluating source credibility. Thus, validating the idea of source credibility as an evaluation of the information source, the message alone, or on a combination of the source and the message (Metzger & Flanagin, 2013, 211).

## 4.2 Effect of source credibility

In this part, a closer look at why source credibility matters and what functions it may have, are observed. One of the main arguments and reasons behind the interest towards source credibility research is the statement that having an impact on peoples' attitudes is easier and more effective when the receiver considers the source of the message credible (e.g., Veraia, Veraia & Coombs, 2019, 29). Thus, the importance of the source credibility perception links to the persuasiveness of the message. A source of higher credibility is more persuasive compared to a source of lower credibility. (Pornpitakpan, 2004, 244; Ohanian, 1990, 42.)

Indeed, source credibility has been presented to be a key question in communication efforts. Especially so in affecting the individual welfare in public health and risk communication. (Mccomas & Trumbo, 2001, 467.) It has been argued that the effectiveness of crisis strategies depends on the evaluation of source and content credibility (van Zoonen & van Der Meer 2015, 372).

In terms of public health crisis, such as crisis due to COVID-19, the perceived source credibility plays a vital role, because it can be a strong predictor of peoples' motivation to seek, attend to, and follow public health directives (Avery, 2010a, 81). As such, source credibility has an impact on the attitude of message recipients in the context of health information (Lin, Hwang & Lai, 2017, 225).

In other words, source credibility affects the believability of safety hazard information, which is partly dependent on the source of information (Lirtzman & Avichai, 1986). Source that is perceived as credible, increases message compliance by increasing the perceived threat and efficacy of a message (De Meulenaer, De Pelsmacker & Dens, 2018). In other words, credibility influences the acceptance of information (Renn, 2008).

Source credibility can also function as one of the ways to filter the abundance of information (Wathen & Burkell, 2002, 134). As such, source credibility can be an important asset of information usefulness (Van Velsen, et al., 2012, 1). For example, when the quantity and diversity of information increased in the COVID-19 public health crisis, so did the need for information that is evidence based as well as reliable (Dadaczynski & Tolks, 2021).

### 4.3 The structure of source credibility

Common feature among different definitions of source credibility is the idea of credibility as an aggregate form of separate cues. These cues, and their number differ between the studies. In addition, some of the separate cues have also been suggested to be peripheral cues on their own, instead of as part of source credibility. Credibility can be defined as a multifaceted concept with two primary dimensions: expertise and trustworthiness (Metzger, 2007, 2078). As well as a multidimensional concept, with expertise/competence, trustworthiness, and caring/goodwill (Lim & Van Der Heide, 2015, 68).

The most prominent cues in source credibility research literature are expertise (e.g., Veraia, Veraia, & Coombs, 2019, 28; Chaoguang, Feicheng, Yifei & Yuchao, 2018, 351; Wierzbicki 2018, 131; Jung, Walsh-Childers & Kim, 2016, 38; Lim & Van Der Heide, 2015, 68; Dillard & Shen, 2013, 141; Avery, 2010a, 82), as well as trustworthiness (e.g., Veraia, Veraia, & Coombs, 2019, 28; Chaoguang, Feicheng, Yifei & Yuchao, 2018, 351; Latré, Perko & Thijssen, 2018, 101; Wierzbicki 2018, 131; Horton, Peterson, Banerjee & Peterson, 2016, 24; Lim & Van Der Heide, 2015, 68; Dillard & Shen, 2013, 141). Other credibility cues include authority (e.g., Lin, Spence & Lachlan, 2016, 264), as well as goodwill (e.g., Latré, Perko & Thijssen, 2018, 101; Horton, Peterson, Banerjee & Peterson, 2016, 24; Westerman, Spence & Van Der Heide, 2014, 173; Mccroskey, & Teven, 1999). In this study, mentioned cues are chosen to explain and evaluate the credibility of the source. The summarizing table of different source credibility cues can be found on Table 3 Cues of source credibility, on page 43.

It is important to note that even though aforementioned cues are observed separately and as equal features, different kinds of categorization exist in the research literature of source credibility. For example, trustworthiness can be seen as a construct of expertise (e.g., Yilmaz & Quintero, Johnson, 2016, 452), or authority status as a sign of expertise (e.g., Go, Jung & Wu, 2014 359).

It is also notable that different cues of source credibility might have differential weights in different studies. For example, a disagreement lies within the effectiveness between expertise and trustworthiness. In other words, is a trustworthy,

but not expert source more credible than a source that is not trustworthy but an expert source. (Pornpitakpan, 2004, 246.) Thus, what is the determining factor.

TABLE 3 Cues of source credibility.

<b>Trustworthiness</b>	Veraia, Veraia, & Coombs, 2019, 28; Chaoguang, Feicheng, Yifei & Yuchao, 2018, 351; Latré, Perko & Thijssen, 2018, 101; Wierzbicki 2018, 131; Horton, Peterson, Banerjee & Peterson, 2016, 24; Lim & Van Der Heide, 2015, 68; Dillard & Shen, 2013, 141
<b>Expertise</b>	Veraia, Veraia, & Coombs, 2019, 28; Wierzbicki 2018, 131; Chaoguang, Feicheng, Yifei & Yuchao, 2018, 351; Jung, Walsh-Childers & Kim, 2016, 38; Lim & Van Der Heide, 2015, 68; Dillard & Shen, 2013, 141; Avery, 2010a, 82
<b>Authority</b>	Lin, Spence & Lachlan, 2016, 264
<b>Goodwill</b>	Latré, Perko & Thijssen, 2018, 101; Horton, Peterson, Banerjee & Peterson, 2016, 24; Westerman, Spence & Van Der Heide, 2014, 173; McCroskey, & Teven, 1999

#### 4.3.1 Trustworthiness

One of the ways people deal with the uncertainty concerning source credibility, is to base judgements on personal knowledge or on vicarious information, for example reputation, concerning the trustworthiness of a source or information (Metzger & Flanagin, 2013, 210).

Trustworthiness is not relational like trust, but instead a property of an individual agent or a group of agents (Wierzbicki 2018, 34). Perceived self-interest by the communicator has been found to be a prominent factor of source trustworthiness (Kareklas, Muehling & Weber, 2015, 90). Thus, trustworthiness can also be described as the receiver's belief that the source's opinions are impartial (Horton, Peterson, Banerjee & Peterson, 2016, 24; Gotlieb & Sarel, 1991, 40). In addition, trustworthiness can be defined as the degree to which a perceiver believes a source will tell the truth as he or she knows it (Horton, Peterson, Banerjee & Peterson, 2016, 24; Westerman et al., 2014, 173).

Previous research has argued that sources that are perceived as trustworthy, positively affect perception of health-related attitudes and behavioral intention (Karaklas, Muehling & Weber, 2015, 100). As such, high-trustworthy sources have more influence compared to low-trustworthy sources (Lee & Sundar, 2013, 512).

If trustworthiness is seen as a relational concept, which contains perceptions about the neutrality and honesty of the source, knowing the source of the message is required to evaluate the trustworthiness of the source.

### 4.3.2 Expertise

Expertise can be determined based on whether the communicator appears to possess the relevant knowledge needed to support claims (Ohanian, 1990). Another way to comprehend expertise is as a belief that communicator has some special skills or know-how on a matter (Perloff, 2010, 167). In addition, expertise has also been seen as a degree to which a perceiver believes the sender to know the truth (Westerman et al., 2014, 173).

Ways to imply expertise include displaying notions of an individual's educational level, job title, previous knowledge on the matter, and for example won nominations or prizes (e.g., Geiger, 3, 2020). Indeed, in the context of health information, credentials such as MD for medical doctors have been said to confirm qualification in a specific domain (Thon & Jucks, 2017, 829).

In terms of expertise content, possible cues include used language and terminology. The used language by experts has been suggested to influence the perceived integrity, referring to honesty, sincerity, and fairness, of an expert. (Thon & Jucks, 2017, 829, 833). Whereas, online health information that contains more words, fewer I-pronouns, anxiety-related words, as well as long words have been presented to relate to an increased perceived expertise (Toma & D'angelo, 2015, 25).

In terms of health information and its credibility, previous research has suggested that information provided by perceived experts is more credible than information by non-experts (Thon & Jucks, 2017, 833; Go, Jung & Wu, 2014, 362). However, in the context of the public health crisis due to COVID-19, some evidence argues that experts would be equally persuasive compared to non-experts in terms of policy support, as well as being equally trustworthy (Geiger, 1, 2020).

Expertise has also been suggested to be a part of trustworthiness (e.g., Dalrymple, et al. 2016, 452). For example, whether an advisor is considered to be a trustworthy source of health information depends on the assumption about the advisor's specialized knowledge and relevance for the respective area (Thon & Jucks, 2017, 828). Thus, highlighting the nature of interaction between source credibility cues.

### 4.3.3 Authority

Authority as a cue of source credibility is not present in the source credibility literature to the same extent as other cues mentioned earlier. However, for this study authority can play a crucial role as a source credibility cue due to the nature of COVID-19 and information regarding recommended actions, which in Finland are produced by health authorities, such as THL, to a large extent.

Authority can be seen to refer to the influence of a message source (e.g., Xu, Sang, Blasiola, & Park, 2014, 201). Authorities in health communication have been suggested to refer to public health experts, for example hospitals and doctors (e.g., Chaoguang, Feicheng, Yifei & Yuchao, 2018, 347), as well as public authorities such as ministries (e.g., Vijaykumar, et al., 2017).

Authority cues assist in the evaluation of source credibility. Especially in risk and health issues, where there is inequality of information flow between content producers and consumers. Authority in terms of credibility, can be seen to refer to the quality of the information, as well as knowledge and skills of the source. (Lin, Spence & Lachlan, 2016, 265.) Thus, making authority and expertise closely related credibility cues. Reasons argued behind the persuasiveness of a message coming from an authority have been suggested to relate to the socialization process to obey authorities (Perloff, 2010, 161).

### 4.3.4 Goodwill

Goodwill is the extent to which the communicator seems to genuinely care (Latré, Perko & Thijssen, 2018, 101), or the degree to which a perceiver believes a sender has his or her best interests at heart (Westerman, Spence & Van Der Heide, 2014, 173).

Thus, goodwill can be seen to describe caring for others' well-being and is demonstrated by empathy developed by direct interaction with others (Horton, Peterson, Banerjee & Peterson, 2016, 23-24). As such, in the context of crises, goodwill is a source credibility cue close to the concept of emotions apparent in crises.

## 4.4 Summary

On page 46, Table 4 Ways to display credibility cues summarizes all four credibility cues, as well as the ways these cues are displayed. Some of the ways of display apply to the evaluations of the source itself as well as content produced by the source. For example, content can be seen to convey empathy and the source itself can be regarded empathic.

Trustworthiness can be displayed through expressions of impartiality, truthfulness, and honesty. Whereas ways to imply expertise include displaying the relevant knowledge needed to support presented claims, special skills, know-how, as well as credentials. Authority on the other hand can be conveyed through displaying source's influence, as well as knowledge, skills, and quality of information. In addition, goodwill can be expressed through care for others' well-being and empathy.

TABLE 4 Ways to display credibility cues.

Source credibility cues	Ways of display
Perceived trustworthiness of the communicator	Impartiality Truthfulness Honesty
Perceived expertise of the communicator	Relevant knowledge needed to support presented claims Special skills Know-how Credentials
Perceived authority of the communicator	Influence Quality of information Knowledge Skills
Perceived goodwill of the communicator	Care for others' well-being Empathy

## 5 DATA & METHODOLOGY

The epidemic has three stages: the base level, the acceleration stage, and the spreading stage (THL, Recommendation on the use of face masks for citizens). It is notable that as was mentioned earlier, at the beginning of the epidemic, face masks were not recommended in Finland, as they were regarded to have no or little effect on the spreading of the virus (Yle. 29.5.2020. Report: Little or no benefit to widespread mask use). Later on, however wearing a face mask became a recommended protective action (Yle. 2.8.2020. THL set to recommend face mask use).

The spreading of the virus in Finland appears to vary nationally depending on the area. Generally, however, it can be argued that the epidemic has had three major periods of time during the time period from March 2020 to December 2020, in which the number of infected has peaked. These periods focus on spring (from March to April), autumn (from September to October), as well as winter (from November to December). (see THL. Varmistetut koronataipaukset Suomessa (COVID-19).)

The data observed in this study was gathered through episodic interviews, which is based on theoretical assumptions familiar from various fields of psychology (Flick, 2000, 76). Episodic interviews can be seen to incorporate narrative interviews as well as theme interviews (Hyvärinen, 2016). It has been said to combine the interest towards stories without forgetting the interest towards a specific subject (Kuhn, 2003, 7). Next a closer look at the method of episodic interviews is taken as well as reasons for choosing it as a methodology for this study.

The core concepts in the heart of episodic interviews can be seen to consist of stories as well as narratives. People give structure to different events in their life through stories. These events can be experienced in the past but can also help to anticipate what is going to happen in the future. (Puusa, Juuti, & Aaltio, 2020.) A story can be defined as a piece of fiction or fact that narrates a structure of related events or happenings, which can involve certain characters (Eriksson & Kovalainen, 2008).

A narrative on the other hand can be described as:

“- - the textual actualization of a story at a specific time and context, and to a specific audience.”

(Eriksson & Kovalainen, 2008). As such, a story can have several different narratives (Ruusuvoori, Tiittula, & Aaltonen, 2005).

Narratives can also be defined relying on the strong presence of causality. In this case narrative could be said to be a representation of a casually related series of events or happenings (Richardson, 2000, 170). Narratives relate different happenings or events to each other and draw their causal relation in one way or another. However, as is with narratives themselves, the presented causality in a narrative can be fictional. (Ruusuvuori, Tiittula, & Aaltonen, 2005.)

Another feature in narrative is the actual narrativeness of the narrative. Some narratives can have minimal narrativeness, which can lead to reporting rather than storying. (Morson & Grave, 2013, 35; Ruusuvuori, Tiittula, & Aaltonen, 2005.)

Narrativity can be seen to have three forms or states in peoples' lives. It can be present as a story which represents events as a verbal or visual presentation. It can also be understood as an inner story, which takes place in peoples' minds and helps to interpret and anticipate life. Third form of narrativity in peoples' lives is in the form of lived story, which consists of life's beginnings, middles, and endings. (Puusa, Juuti, & Aaltio, 2020.) Thus, narratives can be comprehended as a way for individuals to shape their experiences into a meaningful form, episodes of life (Polkinghorne, 1988, 1). When participants narrate episodes of their life, at the same time they reflect the factors which influence their behavior (Bates, 2004, 17).

Building experiences into narratives involves two kinds of process of negotiation: internal or cognitive negotiation between experience and the story scheme as well as external negotiation with possible listeners that are either convinced by the story of the event or rejected and/or doubted. (Flick, 2000, 77). Thus, when telling a story, the storyteller usually acknowledges the possible expectations listeners, in this case an interviewer might have. As such, the story constructed through an interview, is a result of interaction. (Puusa, Juuti, & Aaltio, 2020.)

Stories that produce reality are not always consistent, but are formed of shorter, time framed narratives or episodes (e.g., Hyvärinen, 2016, 48). As such, in episodic interviews participants are not required to produce a long story but short, area specific narratives (Hyvärinen, 2016, 46). This in turn can be seen to offer a way to achieve narrative features in interviewees' responses in a way that leaves room for the interviewer to choose the subject area of discussion.

In addition, as participants are not required to tell one continuous story, also those who may find it uncomfortable to share their experiences without dialogue or involvement by the side of the interviewer, can find pleasure in sharing their thoughts. Thus, an interviewer can motivate the interviewee to tell more, for example through expressed interest.



Through episodic interviews both episodic as well as semantic memory are reached. Episodic knowledge can be seen to refer to knowledge that relates to concrete factors such as time, space, or people, whereas semantic knowledge refers to something more abstract. (Flick, 2000, 77.) It offers individuals material of thought beyond the grasp of immediate perception, and contains for example classification of objects, events, or situations, as well as symbolic descriptions of them (Squire, 1991, 13).

In episodic interviews, there is an invitation to recall concrete events with more general questions aimed at general answers, for example argumentation and definitions of topical relevance. In addition, interviews should be open enough to the interviewee to select the episodes she or he wishes. (Flick, 2000, 77.)

As was mentioned earlier, episodic interviews have some similarities to thematic interviews. Familiar features from theme interviews in this study include experience on the matter. When choosing a theme interview as a research method, there is an assumption that the respondent has some experience on the matter that is being studied (Puusa, Juuti, & Aaltio, 2020). This experience however does not refer to expertise, instead some personal experiences on the matter meets the requirements of theme interviews (Puusa, Juuti, & Aaltio, 2020).

Behind the theme interview also lies an assumption or prerequisite of common understanding between interviewer and interviewee. This common understanding concerns understanding the theme and being familiar with it. In other words, the interviewer and interviewee should be able to discuss a common matter, in a way that is understandable for both (Puusa, Juuti, & Aaltio, 2020). Aforementioned was present in the executed interviews, in which the interviewer had also experienced the COVID-19 and face masks in Finland.

Episodic interview was chosen for the purpose of this study due to several reasons. One of these was the desire not to limit interviewees answers to premade options, but to leave freedom in answers, which in turn could lead to unexpected findings. Interviewees would be able to connect different meanings to actual events, as well as share light on what factors influenced their behavior. Hence as the research gap in this study is formulated of the affecting factors in individuals' compliance towards authorities' recommendations, the chosen methodology needed to enable factors outside a specific listing by the interviewer.

Another reason was that the research questions in this study are focused on participants' behaviors, experiences, and emotions, as well as opinions. These are all observed through individual's own perceptions about the matter. Thus, observations made in an interview are constructed by individuals themselves, making them subjective (Puusa, Juuti, & Aaltio, 2020).

By choosing a more narrative approach, the researcher could also develop an understanding of how participants of the study experience the world. Thus, for example their information needs an information-seeking experience. (e.g., Bates, 2004, 20.)

The third reason for choosing an episodic interview was the flexibility of the method in terms of the role of interviewer. An interviewer can participate in the interview and make it more conversational, or stay out of the discussion, and leave room for an interviewee. These different roles can be adjusted according to the situation.

The size of the research sample was 20 interviewees. Participants were high school students, aged between 20-30 years, average age being 23,15. They were acting as student union communication specialists or in case the student union in question did not have a communication specialist, as chairmen of the student union. The average duration of interviews was around 30 minutes, which resulted in 150 pages of transcribed data. 12 interviews were conducted at the end of the year 2020, in December, whereas 8 interviews at the beginning of 2021, in January. All interviews were held in Finnish.

In Finland, there are 14 student unions in universities (SYL, Members) and 24 student unions in universities of applied sciences (SAMOK). In December 2020, a pilot interview was done to enhance the reliability of the episodic interview (see Flick, 2000, 90). The analysis of the pilot interview led to a notion of encouraging the interviewees to share their ideas and not worry about whether their notions would be right or wrong.

During December 2020 one chairman and two communication specialists participated from universities' student unions. Whereas from student unions in universities of applied sciences, four chairmen and two communication specialists, as well as two vice-chairmen who acted partly as communication specialists, took part in interviews. Thus, resulting in 11 participants in December 2020.

In early January 2021 five communication specialists participated from universities' student unions, and three chairmen as well as one communication specialist from student unions in universities of applied sciences. As such resulting altogether 20 interviews, of which eight from universities' student union representatives and 12 from universities of applied sciences student union representatives.

The confidential positions of the participants, however, were not of interest in this study. Instead, individuals were chosen due to their relatively similar age group, role as possible opinion leaders, as well as geographical location. Hence, different areas and cities have had different stage variations of the corona epidemic. As such, to achieve a more comprehensive picture, the participants were

gathered from different universities and universities of applied sciences located around Finland.

Interviewees were sent an email that had the general information about the research as well as a request to participate. The form for participant consent was sent to individuals who demonstrated their interest towards participation, and it was signed through email.

All interviews were executed remotely as Zoom-meetings due to the COVID-19 situation as well as differences in geographical locations of the interviewees. Zoom-meetings had a password as well as a waiting room function turned on to gain privacy. A permission to record the meeting was noted and requested through email, as well as at the beginning of a meeting, before and after setting the recording function on. Interviewees were encouraged to ask questions throughout the interview as well as after, if needed.

In this study, a special attention was given to the way the interviewer reacts to an interviewees' verbal presentations. Thus, instead of signaling doubting non-verbal communication or challenging the interviewees' answers by beginning every question with a why, more dialogical nature of interviewing was delivered through opening the questions up with a pre-mention about a related theme. As was mentioned earlier, in episodic interviews there should be an invitation to recall concrete events. This was executed from the very beginning of the interview until the end part of the interview. There however, was freedom left to the interviewees in which episodes they would choose to tell.

The proceeding of an interview can be seen on Appendix 1 The proceeding of interviews, which offers a visual presentation of the interviews. All interviews followed a similar script: four main blocks on a semi-structure script. At the beginning, participants were asked to talk about their journey with face masks in the context of COVID-19 epidemic. They were advised to begin their story from where they remembered taking a notice of face masks for the first time in the context of COVID-19.

After beginning, the interviewer asked specifying questions about the mentioned sources of information. The specifying questions were for example "As there has been a vast amount of information throughout the epidemic, why the mentioned source of information?". The story about face masks and COVID-19 proceeded from where the interviewee began her or his story to later of the year. Time frame was roughly divided into spring, summer, autumn and winter. As such, interviewees were encouraged to continue their story by asking about their behavior in a certain season of the year. The questions presented by the interviewer were partly edited to suit the interviewees' stories.

The interviewer did not wish to lead the interviewee to any specific directions concerning the discussion about sources of information. Thus, all the follow-up questions were generally constructed based on the interviewee's given answers. The core story, to which the conversation is tied to and will return to, however being the discussion about face masks and COVID-19.

For example, the interviewer did not mention credibility in asking about the reasons behind choosing a particular source of information. Interviewees were asked about the reasons in the context of vast amounts of information: there has been loads of information available, why do you think you followed aforementioned sources? If an interviewee mentioned credibility, the interviewer asked more about how the respondent constructed credibility. One response by an interviewee containing a mention of source credibility was left out, due to the mistake made by the interviewer to mention credibility before the respondent did. All the follow-up questions were constructed similarly in terms of features that interviewees stated as reasons for their choice of sources. For example, if the interviewee mentioned expertise, the interviewer asked what did the interviewee saw as a cue of expertise.

As was mentioned earlier in the text, narrativeness of a narrative can vary. This notion was also present in the interviews conducted for this study. Some of the interviewees answered by telling a story with narrativity being a major part of it. Whereas some interviewees answered in a reporting manner by listing facts and opinions. However, both styles were also present at a singular interview. Some participants first gave facts and opinions as an answer to a question presented by the interviewer but then continued by giving an example in the form of a story with a higher narrativeness.

Another narrative feature that was strongly present in the interviews was the concept of time. Perceptions, attitudes, and behaviors were all loosely tied to the previously mentioned seasons of a year, as well as the time frame of COVID-19. Hence, the appearance of coronavirus in Finland, in spring 2020 (Haveri, et al., 2020). Also change in perceptions, attitudes and behavior were observed over the time frame.

A special consideration was also given to the nature of discussions concerning face masks, which can become inculpatory. The interviewer avoided manifesting non-approving nonverbal signals, and instead focused on implying interest, for example through nodding (see Knapp & Hall, 2010; Manusov & Patterson, 2006).

All interviews were transcribed as soon as possible after the interview in question. Each transcript was then broken down into smaller sections concentrating on different aspects of the research and the questions this research aims to answer.

Since the general structure of the interviews was similar to every interview in terms of what themes were discussed, breaking it down into sections was possible. After breaking down the interviews into sections, every section discussing a specific topic was brought together. In other words, every interviewees' thoughts on the matter. This was followed by listing the mentioned and interpreted factors, after which lists were categorized under a common theme.

For example, when discussing sources an interviewee had followed in spring, news media formed one theme that contained different codes in the form of content producers such as Yle or Helsingin Sanomat. Or when an interviewee mentioned about discussing with her friend, colleague, or a member of family, this was labelled as a theme of people close to me and aforementioned people as codes. In other words, the analysis moved from specific, individual answers to broader themes shared among interviews.

However, as all the interviewees were encouraged to add any thoughts on any of the discussed matters at any time of the interview, each interview was read through after the aforementioned sectioning, coding and classifying. This was done to not lose possible notions outside the common structure of interviews. In addition, the short time specific narratives or episodes of life were analyzed to find different meanings the interviewees gave to information regarding the COVID-19 epidemic.

## 6 RESULTS

This study aimed to answer four research questions. Next the results are observed one research question at a time. Further discussion and implications of the study results are placed on a separate chapter, discussion.

### 6.1 Changing information seeking behavior

The first research question was as stated as follows: how has the information seeking behavior concerning COVID-19 and face masks changed over time? Almost every one of the respondents felt that the way they had followed information sources had changed during the epidemic. They seemed to have similar thoughts about following news and information about COVID-19 throughout the year of 2020.

Table 5 Changing information seeking behavior during the COVID-19 epidemic on page 56 summarizes the perceived passing of the year 2020. Spring, as the accelerated stage of the epidemic took place in various areas of Finland, was considered to be a time of constant need for information due to the uncertainty of the epidemic. Some of the interviewees said that this led them to broaden their media consumption to sources they might not usually go to. In other words, when information and knowledge about COVID-19 as well as face masks was scarce, they changed their routines. As an interviewee described:

*“Quite quickly I noticed that I had nothing else to do except wait and be in a sort of limbo of uncertainty, that led easily to become obsessed with numbers and so-called criticality towards media, to which at least my generation has grown into, began to blur because of being so desperate to find some information when I did not know what is happening - -”.*

Whereas summer was considered to be a calm and relaxing time with a decreasing number of people infected by COVID-19 and with little or no restrictions set by the government. Indeed, relief was implied to take place during the summer.

Situation changed in autumn when the number of COVID-19 cases increased, and restrictions were set. In addition, the need and motivation to look for additional information increased in the early months of autumn. Thus, following the news media, such as Yle, was more regular than during summer.

However, as autumn continued with increasing numbers of people infected by COVID-19 most of the respondents made an observation that they simply did not

have the energy or willingness to get familiar with the information concerning COVID-19. One interviewee described mentioned in a following manner:

“ - - clearly, I was too tired and could not keep up that well, because in spring it felt like I followed it (*information concerning COVID-19*) so intensely that during autumn it was enough to know just about what restrictions are present, how many cases are there and whether the situation is going towards positive or worse”.

Indeed, 13 interviewees mentioned feeling fatigue due to the large amount of information, or the continuity of the epidemic. Whereas eight interviewees pointed out the information overload. Some of the interviewees also stated that as they were more familiar with the epidemic, they did not feel like that much new information would be provided. Thus, implying decreased feeling of uncertainty.

Many of the interviewees did not necessarily go to look for information. Instead, information found them through mediums such as phones or television, which were mentioned most often in terms of technologies. Phone being mentioned by 13 interviewees and television by four interviewees. Besides mediums, friends, colleagues, and family members acted as information intermediaries or moderators.

Many of the interviewees grew tired of following the newsfeed and expressed that if there would be important information regarding COVID-19 or face masks, it would find its way to them. As an interviewee phrased:

*“I kind of assumed and knew that all the necessary information will find its way to me any way through the people close to me - -.”*

Some respondents consciously alienated themselves from information concerning COVID-19 because they felt it was negative and increased their feelings of stress. For example, news concerning the increasing number of COVID-19 cases were ignored as the epidemic continued. Thus, instead of getting familiar with the vast information about COVID-19, some respondents said that they started to rely on getting the important information without conscious effort to look for it.

When approaching the end of the year 2020, during winter, half of the respondents started to follow local news and information in an increasing manner. These local sources included town's online newspapers and websites as well as the local health care district's website. The focus shifted from interest towards national information to more local information. Again, fatigue was highlighted as a prominent emotion.

Importance of the information was not mentioned or evaluated in the interviews. Whereas interviewees' motivation to evaluate presented arguments was mentioned by two of the interviewees, who indeed looked for previous scientific research on the matter. Out of these two however, only one interviewee had the needed education to evaluate presented arguments, due to previous education. Figures presented in this part can be also found from Table 8 Summary of the features influencing individuals' information environment and attitude and/or behavior on page 70.

TABLE 5 Changing information seeking behavior during the COVID-19 epidemic.

Season	Informational needs	Motivation to look for information	Emotions
Spring (January-April)	High need	High motivation	Uncertainty Fear
Summer (May-July)	Low need	Low motivation	Relief
Autumn (August-October)	Medium need	Medium/Low motivation	Decreased uncertainty Fatigue
Winter (November-December)	Low need	Low motivation	Fatigue

## 6.2 Shaping features of individuals' information source selection

The second research question was phrased as follows: what shapes individuals' information source selection? The main sources in the context of information about COVID-19 as well as face masks can be seen on Table 6 Mentioned sources of information during the COVID-19 epidemic on page 59. The most often mentioned sources being Yle, THL, and people from individuals' social surroundings. Next mentioned sources of information are observed.

17 interviewees followed content produced by Yle. As a source of information, Yle was described as credible, expert, free of charge, familiar, neutral, easily reachable, factual, clever as well as easy. Whereas Yle's content was said to contain clever and professional headlines, visible sources, information by authorities, small amount of clickbait headlines, as well as not being sensational seeking or containing excess terror. In addition, content was regarded to be easily readable, up-to-date, local, factual, and available in a fast way.

Many of the interviewees described Yle by comparing it to Iltasanomat, henceforth IS, and Iltalehti, henceforth IL. News content published by IS was consumed by 10 interviewees. As a source IS, as well as IL, were described to be



gossip magazines, that contain a large amount of clickbait headlines. In addition, content produced by IS was seen to be polarizing, compressed, as well as aiming to provoke fear.

IL, which was mentioned by nine of the interviewees, was seen to be similar to IS in terms of estimations of the source itself, as well as the produced content, which was seen to contain a lot of clickbait headlines and aiming to provoke fear. In addition, IL's content was regarded to be provocative, as well as easily readable and fast to read.

Almost every interviewee made a clear separation between Yle and IS or IL, especially when telling their reasons behind choosing a particular news media. For example, when identifying why interviewees had chosen Yle, they often began by saying it does not have as many clickbait headlines as IL or IS. When some interviewees mentioned consuming content produced by IS or IL, they laughed a bit and said that they do realize that the content is what it is, full of clickbait headlines and emotions, such as fear. Another feeling that was manifested when talking about IS or IL was anger. Some of the interviewees were angry about the way news media made money from rising and feeding the feeling of fear among readers.

Helsingin Sanomat, henceforth HS, was mentioned by nine interviewees, and as a source was seen to be credible, clear, easy, neutral, current, comprehensive, and factual. Content published by HS on the other hand was described to be relevant, factual, as well as contain information by authorities.

Sources that were mentioned by one to two interviewees included Al Jazeera, BBC, as well as Kauppalehti. Al Jazeera as a source was comprehended as a neutral source that delivers information by WHO. Whereas BBC was similarly seen as a neutral and international source. Kauppalehti was not described.

MTV was mentioned by five respondents. All the evaluation of MTV focused on the source itself, which was seen as credible. Whereas similarly five interviewees mentioned their local news media, such as city or county specific magazines. HS could be seen as one as well but is separated because of its more nationwide distribution compared to smaller city or county magazines. When estimating and describing these media, interviewees focused on highlighting the relevant information for them.

THL was mentioned by 12 interviewees, who regarded it to be a credible, expert, as well as official source in the midst of the COVID-19 crisis. Whereas, regional state administrative agency, henceforth AVI, was mentioned by four interviewees who similarly to THL regarded AVI to be an official as well as credible source. In addition, AVI's content was seen as defining, as such paying attention to more detailed features.

People from interviewees' social surroundings included friends, who were mentioned by seven, family that was mentioned by 8, as well as colleagues that were mentioned by seven interviewees. Friends were seen to share current information and discussing with them was seen as fun. Whereas family members were seen as dear and by some of the respondents as an expert source. These respondents had a parent who worked in the field of medicine. The most often mentioned family members were mother and father. Colleagues on the other hand were seen to offer content that was current. Altogether 15 interviewees out of 20 mentioned either their family, friends, or colleagues in the context of getting or sharing information about COVID-19.

Three interviewees mentioned SMIs out of which two were doctors, and an epidemiologist. They were seen to be expert as well as interesting sources.

City, health care district, as well as school were also mentioned as sources of information regarding COVID-19, as well as face masks. Three interviewees mentioned their city as a source that produced relevant information to them. Whereas health care districts were mentioned by five respondents and was regarded as an expert source. School as an information source was mentioned by five interviewees who regarded it to offer current as well as relevant information.

Content wise interviewees did not mention visual material of casualties of COVID-19. Instead, six interviewees did criticize provocative language used by the yellow press to raise fear, conflict, as well as to polarize opinions and discussions. Mentioned was also related to the large number of clickbait headlines in the yellow press.

TABLE 6 Mentioned sources of information during the COVID-19 epidemic.

Source	The number of interviewees mentioning	Source described as	Content described as
<b>Yle</b>	17	Credible Expert Free of charge Familiar Neutral Easy Easily reachable Factual Clever	Clever and professional headlines Visible sources Not sensational seeking No excess terror Relevant Easily readable Up-to date Small amount of clickbait headlines Local Delivers content by authorities Content available fast Factual
<b>THL</b>	12	Expert Official Credible	-
<b>Iltasanomat</b>	10	Gossip magazine	Large amount of clickbait headlines Polarizing Compressed Aiming to provoke fear
<b>Iltalehti</b>	9	Gossip magazine	Large amount of clickbait headlines Provocative Easily readable Fast to read Aiming to provoke fear
<b>Helsingin Sanomat</b>	9	Credible Clear Easy Neutral Current Comprehensive Factual	Relevant Factual Delivers information by authorities
<b>Family</b>	8	Dear Experts	-
<b>Colleagues</b>	7	-	Current
<b>Friends</b>	7	Fun	Current

<b>Health care district</b>	5	Expert	-
<b>Local news media</b>	5	-	Relevant information
<b>MTV</b>	5	Credible	-
<b>School</b>	5	-	Current Relevant
<b>AVI</b>	4	Official Credible	Defining content
<b>SMIs</b>	3	Expert Interesting	-
<b>City</b>	3	-	Relevant
<b>BBC</b>	2	Neutral International	-
<b>Al Jazeera</b>	1	Neutral	Delivers information by WHO
<b>Kauppalehti</b>	1	-	-

Yle, IS, IL, HS, Al Jazeera, BBS, as well as MTV were seen more as channels that deliver and shape information, not create it. Whereas THL, AVI, friends, and colleagues were presented to create new information for example through presenting future scenarios.

Regardless of the low amount of SMI's mentioned, 16 interviewees mentioned social media. The most often mentioned platforms being Instagram, mentioned by 11 interviewees, and Facebook, mentioned by 7 interviewees. Besides news media, information by authorities', such as THL, AVI, as well as Finnish government, were followed through their social media accounts, as well as their websites. However, the news media was often expected to cover current news. As an interviewee described:

*"I feel like I could look for information by authorities themselves, but I trusted that if there will be some updates on behalf of authorities, Yle or HS will cover it in their news content."*

In addition, information by THL, city, health care district, as well as school was received through people close to the interviewees. Friends, family, as well as colleagues acted as information intermediaries.

In addition, family, friends, and colleagues seemed to affect how different sources were judged. Some interviewees described choosing a specific source of

information because their family or friends followed it or judged it to be worth following.

As was mentioned, on social media three interviewees were able to name specific accounts besides authorities' and news media accounts. Instead, when talking about social media sources respondents described paying attention to the content that their friend, family, or colleague had either commented on or shared.

The arguments behind choosing a specific source of information included credibility, neutrality, a small number of clickbait headlines as well as routine and reputation. 11 interviewees mentioned credibility as a reason for their choice, whereas five of the interviewees mentioned credibility in the context of trusting the authorities and four interviewees did not mention credibility in the interview at all.

Those who did not mention credibility as a reason behind the chosen sources highlighted neutrality, which in this context refers to the way articles were written. Instead of packing articles with emotions through written language a chosen source was said to have the facts without emotions. As one interviewee described:

*“One can get the relevant information from Yle in a way that she or he does not have to expose oneself to terror”.*

Another highlighted factor among the interviewees who did not mention credibility as a reason behind their choice of sources was the small amount of clickbait headlining. Aforementioned was seen to cause frustration due to the time lost in reading an article that did not contain the information one might have expected from the headline of the article. Altogether nine interviewees mentioned clickbait headlines.

Routine was another factor behind choosing a source. Interviewees who were for example used to watching television news, continued to do so also during the epidemic.

In addition, otherwise interesting content was mentioned as a reason for specific media consuming. Information about COVID-19 and face masks was gained for example while browsing other news and articles.

### 6.3 Evaluation of source credibility

The third research question was constructed as follows: how is the credibility of a source estimated? As was mentioned previously, 11 respondents mentioned credibility as an important factor behind their choice of source of information. When addressing source credibility, half of the estimations made focused on the source itself and another half on the produced content by a source.

The mentioned sources in the context of source credibility were YLE, mentioned by six interviewees, MTV, mentioned by two interviewees, SMI and HS, both mentioned by an interviewee, as well as Finnish authorities mentioned by four interviewees.

Those who specified credibility of sources as one of the reasons behind choosing a specific source formed credibility mainly of expertise and neutrality. As such, credibility cues familiar from the theory part, were present mainly in the form of expertise, authority, as well as trustworthiness. Table 7 Cues of source credibility manifested in the interviews on page 65 presents a summary of the study results. As can be noted, some of the sources are left without content concerning the source or its content. This is done because there were no mentions of credibility in the context of a source in question.

Concrete ways to imply expertise in terms of the source itself included gained professional status. Whereas with content expertise consisted of language, for example small amount of clickbait headlines, as well as visible sources, display of numbers, figures, and factual information. Expert sources were seen to include health professionals, as well as authorities. As an interviewee described trust in authorities' expertise:

*" - I have a high trust in authorities and others, that they are the experts who do this for living, instead of some columnists in the yellow press, whose word is not to be trusted."*

Another way of describing the perceived expertise was:

*" - after all, she is a doctor by profession, as such she has had medical training and she is also specializing in neuro, and somehow this just convinced me. And perhaps that in her posts she used sources that I know to be good and credible due to my education."*

Neutrality in terms of source itself was seen to be manifested through being politically unbiased. Whereas in terms of content, neutrality referred to less clickbait headlines which caused emotional arousal.

As an interviewee described neutrality in terms of Finnish authorities:

*“And maybe a certain neutrality, that they are not on any specific political group’s agenda, but instead on the agenda of the whole public”.*

Authority as a credibility cue had an underlying role in the whole estimation of credibility of sources during the public health crisis due to the spreading of COVID-19. As was mentioned earlier, in chapter 2, health authorities such as THL, have had a major role in the information production of the epidemic. As such, authority and the credibility estimations of sources were manifested through the estimations of the unbiased nature of politics, experts, as well as government.

The most often used strategy to estimate the credibility of a source or content appeared to be to rely on previous experiences with a specific source. Instead of focusing on estimating or correcting the factual accuracy of information provided, interviewees focused on describing their routines, as well as what kind of reputation sources have and what sources are followed by the people close to them.

As was mentioned in the theory section, trustworthiness can be seen to manifest itself through unbiased, truthful, as well as honest actions. Nine of the interviewees mentioned unbiased actions in the context of politicians, as well as experts, and news media. Whereas truthfulness, as well as honesty were not mentioned. In the context of news media, unbiased actions referred to using clickbait headlines, which were seen to exist because of the aim to generate more clicks and traffic to the news media website through headlines that were misleading and deceptive.

Trust as a relational concept was mentioned by 11 interviewees. They trusted in experts, politicians, the prime minister, the president, as well as THL and YLE as organizations.

Seven interviewees saw authority as a major reason behind their trust in the credibility of a source. As can be noted on Table 8 Summary of the features influencing individuals’ information environment and attitude and/or behavior, mentions of authority focused on actors of society who have legislated power to influence other people to a certain level.

As was mentioned earlier, in chapter 4, goodwill of a communicator could be manifested through care for others well-being, as well as empathy. There were two interviewees who manifested cues of goodwill being the reason behind their evaluation of source credibility. One of them mentioned believing in the Police’s

desire to help people forward towards common good, whereas the other interviewee saw that the yellow press was missing its goodwill and was mainly after utilizing individuals' feeling of uncertainty.

The only interviewee mentioning the likeability of a communicator manifested liking the prime minister, Sanna Marin. Whereas communicator's attractiveness was not mentioned once during the interviews. Table 8 Summary of the features influencing individuals' information environment and attitude and/or behavior on page 70 combines all the mentioned findings.



TABLE 7 Cues of source credibility manifested in the interviews.

<b>Source</b>	<b>Source described as</b>	<b>Content described as</b>
<b>Yle</b>	Reputation Serves all Finns	Professional headlines Visible sources Expertise statements Neutral Less clickbait headlines Numbers and figures Information based on facts
<b>Finnish authorities (THL, AVI)</b>	Expertise Honest Neutral (no political interests)	Factual information Most up-to date information Numbers and figures
<b>Finnish authorities (politicians)</b>	Were chosen by the people	Most up-to date information
<b>Itasanomat</b>	-	-
<b>Italehti</b>	-	-
<b>Helsingin Sanomat</b>		Less clickbait headlines Numbers, figures Comments by experts Information based on facts
<b>Family</b>	-	-
<b>Colleagues</b>	-	-
<b>Friends</b>	-	-
<b>Health care district</b>	-	-
<b>Local news media</b>	-	-
<b>MTV</b>	Reputation	Less clickbait headlines Numbers and figures
<b>School</b>	-	-
<b>AVI</b>	-	-
<b>BBC</b>	-	-
<b>City</b>	-	-
<b>SMIs</b>	Professions, doctor	Visible sources

<b>Al Jazeera</b>	-	-
<b>Kauppalehti</b>	-	-

## 6.4 Persuasiveness of sources

Fourth, and last research question was stated as follows: from which source of information has persuasion been the most effective? Effectiveness referring to the change in individuals' behavior in terms of face mask use.

19 interviewees identified their social surroundings as an important factor in terms of their face mask behavior: whether they used a mask or not. As an interviewee phrased it:

*"Another thing that affected my behavior was the general social environment and people close to me. If I would live in a social environment in which nobody would wear a mask or would be against masks, my behavior might have been very different---".*

Social surroundings appeared to affect interviewees' face mask behavior through two ways, information sharing and evaluating, as well as group pressure. Information sharing involved discussions about COVID-19 related themes as well as sharing content on social media and on private communication platforms such as WhatsApp. Through these discussions and interactions concerning information's as well as source's value were evaluated, and meanings were given to face masks as well as the epidemic itself.

Whereas group pressure manifested itself through the number of people wearing face masks in the same environment. Some interviewees described feeling anxious without wearing a face mask in an environment where the majority did. They were afraid of what other people would think of them and what they were communicating nonverbally when not wearing a face mask. As an interviewee described:

*"- - the other day I forgot to take a face mask with me, and I had to catch a bus, I felt kind of like lifting my jacket collar up and hiding. During winter it seems like it is more like an exception if somebody is not wearing a face mask, resulting in a feeling of group pressure."*

Indeed, stigmatizing individuals was mentioned by five interviewees. Among these were notions about others blaming students as well as youngsters to be the culprits of the spreading of COVID-19, as well as notions that how interviewee

would become stigmatized as a certain type of an individual if he or she would not wear a face mask.

The number of face masks were also seen to reflect the state of the current crisis. In other words, when seeing people wearing a face mask increased, the current crisis presented itself as more severe.

Most of the respondents placed the moment in which they began using a face mask to be in autumn. Almost every interviewee did follow the official recommendations by the authorities. Those who did not, began using a face mask before the official recommendations. In aforementioned cases, the interviewees had a family member who belonged to a risk group or was a medical professional.

Originally the recommendations to use face masks can be seen to stem from communication and recommendations set by authorities such as Finland's government or THL. However, most of the interviewees mentioned sources that passed the information by authorities forward in the time when they began using a face mask.

When thinking back about the moment when interviewees began using a face mask, two separate information sources could be identified. Around half of the interviewees mentioned workplace whereas half of the interviewees mentioned their family or friends as an affecting factor in terms of wearing a face mask.

Interviewees described starting to use a face mask when their workplace recommended it and quite often offered free face masks for their employees. Those interviewees who mentioned their family or friends in the context of starting to use a face mask, had a family member or a friend who either belonged to a risk group, or was a medical professional. As such, even though interviewees had heard about COVID-19 and face masks, it appeared that the changing moments in their behavior was the moment when they began to see face masks in their social surroundings, offline as well as online.

Thus, using a face mask did not solely seem to be a question of health. Instead, main reasons behind using a face mask were the health of others as well as the respondent's and social pressure that was described earlier.

Wearing a face mask was regarded as a self-efficient way to affect the spreading of COVID-19 and as such the state of the epidemic by fourteen participants. They stated that wearing a face mask was a small thing to do to stop the spreading. Some also regarded wearing a face mask as their "civil duty", and an action that manifested the communal aspect of the epidemic and became a normative rule. As an interviewee phrased:

*“ – I am creating the atmosphere as a part of the vast streams of people that we are trying. Even though I would not be worried about my own health or would not be in a situation in which I would need to be worried about other people falling ill, I think that I would still wear a face mask to sustain the atmosphere that wearing a face mask is something that we are supposed to do, as well as all we can do and that it is harmless, and something that everybody can do.”*

In addition, some mentioned that because wearing a face mask did not require that much effort on their behalf and as they had already been used to wearing a face mask, changing this behavior might feel challenging and uncomfortable.

In terms of persuasiveness of sources later on, at the end of the interview, the interviewees were asked about from whom the information concerning face masks and not wearing them would have to come from, for the interviewee to feel comfortable enough not to wear a mask. The results were split roughly into two categories, THL and the Finnish government. Some of the interviewees mentioned that they see THL as an actor who does not have political party attachments. Thus, making it a neutral expertise organization.

Whereas the Finnish government was seen as an authority as well as an entity in which individuals were chosen to their position of power for a reason. Some of the interviewees also said that the Finnish government has such a vast group of experts informing them and keeping them up to date concerning the epidemic, that they would have the newest information. In addition, these two were seen to begin the conversation about protective measures such as wearing a face mask, thus making it consistent that these two would also end the conversation.

In addition, two of the respondents mentioned police as an actor that they would like to get the message from. This was because the police were seen to have the power to set sanctions and because they were seen as trustworthy.

Bandwagon effect was displayed in two contexts. In terms of wearing a face mask, one interviewee stated that as other people wear a face mask, it is most likely effective. Thus, referring to social pressure or group pressure is not regarded to belong to a bandwagon effect, but to normative consideration. Another way through which bandwagon effect was manifested was in terms of estimating the credibility of a source. 10 interviewees mentioned requiring more than one source to judge information to be credible, and/or to act on it. For example, in terms of getting a message of not wearing a face mask, the majority of the interviewees required more than one source.

Emotions experienced during the epidemic contained fear, uncertainty, as well as guilt. The last mentioned was experienced when an interviewee had forgotten his/her face mask and had to be without it publicly among a group of people.

Shame and guilt made some individuals feel embarrassed which they stated led to physical experiences, for example blushing, as well as actions, such as hiding. Fear was mentioned in the context of feeling afraid when not wearing a face mask, as well as fear for the future.

Estimation of possible harm following a risk was a closely related factor to fear. Interviewees estimated what could happen if they did not wear a face mask. On the other hand, some did not want to cause fear by not wearing a face mask. Fear was also mentioned in the context of yellow press which appeared to aim to raise fear among its readers based on interviewees estimations. However, emotions such as guilt, fear, and uncertainty were rarely addressed explicitly by the interviewees, as can be observed on the low number of interviewees mentioning these emotions.

13 interviewees stated that they used a face mask due to what harm could follow if they did not. As such, manifesting the estimation of the possible harm following a risk. The possible harm was most often the possibility to infect others. Rest of the possible harms were about receiving negative attention or disapproval on behalf of other people.

## 6.5 Summary

Table 8 Summary of the features influencing individuals' information environment and attitude and/or behavior combines the features contributing to individuals' informational needs, processing, as well as estimation of the credibility of specific sources during the coronavirus epidemic in Finland.

Some of the features focus on communicator: who is the communicator, and what is communicator's previous reputation, whereas some pay attention to the content of the message or communication: is the message instructional, is explicit visual material of the casualties presented or is the used language provocative.

In addition, one group of factors pays attention to the processor of persuasive communication: what is the perceived importance of the information, what is the motivation of an individual to evaluate the presented arguments, how high or low is the experienced self-efficiency and feeling of guilt, fear, and/or uncertainty, how is the communicator's trustworthiness, expertise, authority, as well as goodwill estimated, and what is the trust in the communicator, and how likeable and/or attractive is the communicator regarded to be. Also mentions regarding fatigueless, misinformation, and information overload are listed.

TABLE 8 Summary of the features influencing individuals' information environment and attitude and/or behavior.

<b>Influencing factor</b>	<b>The number of interviewees mentioning</b>	<b>Examples</b>
<b>Public sector communicators</b>	20	THL Government Politicians The prime minister The president
<b>Traditional media</b>	20	Newspapers Television Radio
<b>Normative considerations</b>	19	What do other people think? Do it for other people. Social pressure to perform behavior, no matter of the individual's attitudes or beliefs regarding the behavior. Group pressure
<b>Social media</b>	16	Instagram Facebook TikTok
<b>Self-efficiency</b>	15	Wearing a face mask led to a feeling that an individual could do something to affect the epidemic
<b>Interpersonal influencers</b>	15	Family, Friends, Colleagues
<b>Estimation of possible harm following a risk.</b>	13	What could happen if I do not wear a face mask: possible infecting others or negative attention from others
<b>Fatigue</b>	13	Unwillingness to look for information as well as adapt behavioral changes due to fatigue, feeling too tired to keep up with the information overload
<b>Bandwagon effect</b>	11	The need of multiple sources behind an argument
<b>Perceived trust in the communicator</b>	11	Experts, politicians, the prime minister, the president, THL, Yle
<b>Perceived expertise of the communicator</b>	10	Health experts (for example medical doctors), politicians, THL
<b>Perceived trustworthiness of the communicator</b>	9	Politicians, Experts, News media Unbiased

<b>Information overload</b>	8	Information about COVID-19 all the time, the only subject of discussion
<b>Perceived authority of the communicator</b>	7	Government, politicians, police
<b>Provocative language</b>	6	Clickbait headlines on yellow press
<b>Stigmatizing individuals</b>	6	The people who do not wear a face mask are the culprits, students are the culprits
<b>Communicator's reputation</b>	6	What is communicated about a source in question in general?
<b>Feeling of guilt</b>	4	Feelings of shame, guilt, embarrassment on oneself due to forgetting to take a face mask with her/him
<b>Perceived goodwill of the communicator</b>	3	Police, Yellow press
<b>Social media influencers</b>	3	Doctors Epidemiologist
<b>Feeling of fear</b>	3	Feelings of fear for others, the society, as well as the future
<b>Motivation to evaluate arguments</b>	2	Look for previous scientific research on the matter
<b>Feeling of uncertainty</b>	2	Uncertainty of what is happening next.
<b>Ability to evaluate arguments</b>	1	Education, previous knowledge
<b>Liking for the communicator</b>	1	The prime minister
<b>Presenting explicit visual material of the casualties</b>	0	-
<b>Importance of the information</b>	0	-
<b>Communicator's attractiveness</b>	0	-
<b>Misinformation</b>	0	-

## 7 DISCUSSION

This study aimed to answer questions about what shapes individuals' information source selection, how is source credibility understood, how have the informational needs changed over the epidemic and which source was the most persuasive in terms of wearing a face mask. Whereas the research gap existed in terms of what factors affect individuals' compliance with authorities' recommendations during the public health crisis due to COVID-19. Next each of these areas is discussed including implications on crisis communication.

The comparison between the stages of the epidemic presented in chapter five and the research results concerning the changing information seeking behavior in chapter six, reveals an important notion. As was noted, the epidemic has generally had three major periods of time during the time period from March 2020 to December 2020, in which the number of infected has peaked. These periods focus on spring (from March to April), autumn (from September to October), as well as winter (from November to December). (see THL. Varmistetus koronatapaukset Suomessa (COVID-19).) Results of this study would suggest that the informational seeking motivation and need for information follows the stages of the epidemic, excluding the winter season. When the number of infected increased during winter, as such highlighting the need for individuals to seek for updated information, the interviewees did not have the motivation nor the energy to look for it as they had done previously.

As informational needs and behavior change during a public health crisis, crisis communication should acknowledge and address them accordingly. At the beginning of a crisis there is an opportunity for different sources to become a part of an individual's media mix. When information is scarce, individuals' may look for information beyond their usual sources. However, when crisis proceeds and the amount of information available increases, the interest towards looking for new sources may decrease, or as was present in the study results, partly shift towards sources that produce content concerning regional news and are regarded as more relevant. As such, this study provides further support for the suggestion that individuals broaden their media usage during a crisis due to their increased hunger for information (e.g., Westlund & Ghersetti, 2015, 147). This however might not apply to the whole crisis lifecycle. Instead, fatigue partly due to information overload may lead to information avoidance.

In addition, as information about the crisis finds its way through technologies and social surroundings, taking a pause or break from it becomes challenging. As the information environment is fast and continuously changing, individuals



may become unreceptive to new information, as well as updated recommendations concerning behavior changes. For crisis communicators this creates a challenge to motivate individuals in information adaptation.

As such, the study results are partly contradictory to the communication recommendations built in the study by THL, which included the need to repeat and explain information that had already been provided to the public (Lohiniva, et al., 2020). Repetition might lead to numbness towards new information if the stream of information is not categorized as new or additional information. This might not be an issue in a crisis which does not last for long. However, COVID-19 as a public health crisis in Finland has lasted about a year. In that time a vast amount of information has been available and informational needs from the great need at the beginning of the crisis have shifted to the minimum, focusing mainly on new information. This is due to the information overload in which information might not be automatically valued differently, leaving more effort in the hands of an individual to determine the value of contents. Mentioned however requires a greater amount of cognitive processing.

Crisis communicators, especially the authorities in terms of public health crisis, could therefore offer aid in determining what information is important and why, as well as support in finding the way to deal with the emotions of uncertainty and fear. Thus, understanding of the importance of counterbalance to crisis in relatively long-lasting public health crises can lead to more effective results in terms of lessening the feeling of fatigue of the public to adapt different short term behavior changes, as well as new information. This in turn might be crucial to affect the disease containment and the extent of an epidemic.

One could argue that as uncertainty reduces, so does information seeking. In addition, as was mentioned earlier, the information seeking motivation of individuals might be dependent on the expectation that information will lessen the feeling of uncertainty. In the study results, individuals felt that much of the information did quite the opposite, increased uncertainty. The idea of offering individuals the information needed to make decisions concerning their health, in terms of public health crisis, requires the notion of the crisis type. In the case of COVID-19 experts such as medical professionals play a crucial role, since risks related to health are commonly discussed with doctors instead of solely relying on sometimes contradictory information. If health authorities do not address this issue, other crisis communicators such as people close to an individual will fill in the gap.

The most often mentioned sources displayed the multivocality of a crisis, as well as the multichannel structure of crisis communication. Content that was originally produced by authorities was shared, reshaped, compressed, evaluated, as well as acted upon as a result of several communicators interaction. News media

seemed to frame the information coming from the authorities and experts, followed by the people close to an individual, as information judges and sharers, and resulting in informing other people. As such, the information in crisis communication might go through several filters before ending up to the acknowledgement and discussion among the public. Thus, the initial communication content might go through several interpretations that reshape it. This calls for active monitoring during crisis communication, to be able to correct possible misunderstandings, as well as a close relationship with news media during a public health crisis. However, instead of repeating factual information, dialogue is needed to grasp the current state of knowledge among the public.

Similar to previous research, individuals had multiple important sources of information (e.g., Vyncke, Perko & Gorp, 2017, 581). These sources included news media such as Yle, HS, IS, IL, BBC, and MTV, as well as health authorities such as THL, and people from social surroundings, such as friends, family, and colleagues.

Regardless of various media and information sources in the media landscape, relatively traditional media, such as newspapers or television were not nonexistent in the media consumption by individuals. However, the fact that individuals did not recall specific social media accounts does not constitute that social media did not play an important role in crisis communication. As was mentioned, 16 interviewees did refer to social media as a platform of communication. Individuals for example followed news media on social media and interacted with the people close to them through social media platforms and applications. However, this would indicate that once communication content becomes a part of an individual's news feed on social media, the attention to source might diminish.

In addition, the lines between online and offline, as well as what is traditional or new media, have been deconstructed. For example, many of the interviewees consumed content produced by so-called traditional media, such as a newspaper, in the form of the physical paper itself, or the newspaper's digital version on the web. Also, content published by the news media was shared and consumed on social media.

The results concerning COVID-19, emotions as well as specific needs of risk and crisis communication were in line with the previous research presented in the theory section (e.g., (Coombs, 2020; Lohiniva, et al., 2020). Whereas fear seemed to be partly controlled by wearing a face mask, the feeling of shame amplified the behavior. After face masks had become the new normal and their appearance was increased in peoples' everyday life, deviating behavior caused shame for indicating to others that she or he was not part of the common effort seen to stop the spreading of the virus. Corrective actions were taken for example in the form of going back home to get a face mask and remembering it the next time.

Guilt was another emotion present in the context of interviewees' communication about wearing a face mask. Guilt led to a shift in an individual's perception of herself or himself, which was in line with previous research. In other words, all interviewees wanted to be seen as following the recommendations and taking part in protective actions, but when they were unable to wear a face mask, this wish was challenged. In the context of public health, these notions regarding joint responsibility as well as sense of community might be alternative ways to motivate individuals to behavior change.

Only two of the interviewees stated to be motivated to evaluate the presented recommendations by authorities. Whereas a clear majority of the interviewees relied on other cues when deciding whether to believe the presented information or not. These cues varied from expertise and trustworthiness to the authority of information. Behind the evaluation however generally lied the previous routines and experiences, as well as the source's reputation.

As was mentioned, traditionally there has been an idea of information intermediaries, for example experts and opinion leaders, who have guided individuals' judgements on source credibility (Metzger & Flanagin, 2013, 210), however in this study friends, family, as well as colleagues also played the role of information intermediates. As such, goodwill as a credibility cue might have had a stronger role in the judgement of believing information or not, as to what was suggested by the study results.

As source credibility itself may not be the main factor in determining whether to believe information or not, crisis communication is a communication area in which the previous history of communicators is manifested. Trust in crisis communicators, crisis communicators' reputation as well as individuals' routines are all areas in which the past meets the present. Although, it is possible that those interviewees who did not mention credibility, might have seen it more as a hygienic factor. Thus, it was taken as a self-evident factor, without the need to mention.

As individuals seemed irritated with the emotions packed information provided by the press, and linked it to the concept of credibility, the use of fear arousal seemed questionable. Fear arising from the real-life stories reported, also led in the case of some individuals, to information avoidance. This is in line with a previous study on COVID-19 and fear appeals, in which it is stated that COVID-19 has caused a lot of fear and stress globally, thus questioning the need to increase these emotions through health communication that apply fear appeals (Coombs, 2020; Stollow, Moses, Lederer & Carter, 2020).

In the context of self-efficacy and preventive actions, face masks appeared to form a crucial role as a self-efficient action to restore a piece of control and safety

to individuals' everyday life during COVID-19. Fear about getting an infection or spreading the virus was controlled by using a face mask. Thus, as has been highlighted in the previous crisis and risk communication literature, providing a self-efficient action to return a feeling of self-control is crucial.

However, the above mentioned was contradictory to the earlier study initiated by THL, which suggested that there was a lack of belief that people could individually control the spread of the epidemic, and belief that authorities would be the ones that could control the spreading (Lohiniva, et al., 2020). This might be partly explained by the difference in time period of when these studies were conducted. The study initiated by THL was conducted in February 2020 (Lohiniva, et al., 2020), whereas the interviews for this study were conducted in December 2020 and early January 2021. Thus, the information provided for the public as well as adopted by the public concerning possible self-efficient protective actions might have been greater not only in amount but also in accuracy.

However, the actual impact of preventive actions was not the only reason or prerequisite for using a face mask. Instead, as was shown in the results section, some of the individuals felt that social pressure and the concern of what they were implying about themselves were their reasons for wearing a face mask. This is in line with the argument that the actual health risks are only one aspect of risk perception.

Indeed, normative consideration appeared to be high in the study results. Family, friends, and colleagues formed an important role in the crisis communication during COVID-19. They acted as information intermediates or moderates, as judges of what sources of information were worth listening to and what were not. Individuals also discussed and outlined their own perceptions and requirements for information with the people close to them. Thus, co-creating different meanings. Some of the interviewees also implied that they trusted the people close to them to deliver current information that was good to know.

In addition, individuals evaluated their own behavior through comparing it to their social surroundings beyond the people close to them. This would for example include walking on a street and seeing face masks worn. The notion of the major role of other, unknown people affecting interviewees compliance to wear a face mask indeed manifested the idea of observational learning (e.g., Stiff & Mongeau, 2016). Aforementioned can be seen to align with the idea familiar from social psychology claiming that one of the key functions of compliance would be to maintain group harmony as well as maintaining a positive self-concept (e.g., Cialdini & Goldstein, 2004).

For crisis communication to be effective, the offered information should be easily understood as well as easily discussed about. This could be achieved for example

through shareable content. The challenge however might be that these conversations may not take place on an arena that is accessible to other crisis communicators, such as public health authorities or experts. Instead, the conversation happens on a private communication platform, such as WhatsApp. Thus, making the measuring current attitude environment of the crisis challenging. This however is crucial to answer to the public's needs during a public health crisis. These needs include communication that does not solely rest on informing the public about current information about a crisis by reporting vast amounts of information, but to answer their emotional needs mentioned earlier as well.

## 8 CONCLUSIONS

In this thesis the focus was on clarifying the features contributing to individuals' informational needs, processing, evaluation, and the estimation of source credibility of specific sources. In addition, the possible connection between these to the compliance with authorities' recommendations during the coronavirus epidemic in Finland, was observed.

It was found that information seeking behavior did change during the epidemic in three main ways. At the beginning of a crisis individuals searched for information beyond their routines, whereas later, as the crisis proceeded, fatigue partly due to the information overload led to passivity in information seeking, as well as avoidance. In addition, the focus shifted to more local information. When individuals were not active in information seeking, they relied on the people close to them to bring the most important up-to-date information.

These findings would indicate the need for crisis communication to aid in determining what information is important and why, as well as support in finding the way to deal with the emotions of uncertainty and fear. As such, the idea of offering individuals the information needed to make decisions concerning their health, in terms of public health crisis, would not be limited to offering information, but to extended to what to do with it.

In addition, general sources of information were identified including news media, as well as authorities and people close to an individual, for example friends, family, as well as colleagues. What was found to be especially persuasive in terms of affecting individuals' face mask behavior, were the aforementioned people close to an individual, as well as other people. Indeed, normative considerations had a major role in wearing a face mask. Face masks on the other hand were seen as a self-efficient way to affect the extent of the epidemic, and as a way to display being a part of a community and fulfilling one's civic responsibility.

As such, individuals' can be comprehended to persuade themselves into behavior change, such as beginning to use a face mask, through normative considerations, as well as through communicating self-image. For example, do I wish to appear as a part of the community taking action to prevent the spreading of the virus and do I wish to communicate caring for others. On the other hand, communication of authorities can offer material into the individual self-persuasion through offering self-efficient ways to communicate different meanings and for example values.

These findings would suggest the need for crisis communication to acknowledge the multivocality of crisis communicators and platforms, as well as the importance of self-efficient ways to gain a sense of self-determination and joint responsibility. In a prolonged crisis, different stages need different crisis communication strategies.

## **8.1 Evaluation of the study**

Reliability of the study was enhanced through a pilot interview mentioned earlier in chapter five, as well as through a careful transcribing of the interviews. Observations concerning the validity of the study include notions of internal, external, as well as content validity. This study aimed to form a relatively wide understanding concerning individuals' informational needs, processing, evaluation, and the estimation of source credibility of specific sources, as well as the possible connection between these to the compliance with authorities' recommendations during the coronavirus epidemic. As such, the research method needed to leave a lot of freedom for the interviewees to present their thoughts on the matter. This was reached in a way that the general structure of the interviews remained similar to each other. As such, the data gained through episodic interviews was suitable for this study in its richness as well as compatibility.

In addition, the operationalization of central concepts was done based on previous research, especially in terms of interpretations. For example, what constitutes expertise. Aforementioned, as well as other central concepts were opened up and examined in this study for others to be able to follow the interpretations.

During the interviews, the interviewer also repeated parts of the narratives to give the interviewees a chance to confirm, reject or correct their answers or statements. Thus, increasing the validity.

## **8.2 Limitations**

As every study, also this one has its limitations. Possible limitations relate to the research sample, methodology, as well as the nature of the question about wearing a face mask.

The results of this study can be generalizable only to a certain length. The interviewees that participated in this study were all students at universities or universities of applied sciences. This arguably has an impact on the way how for example expertise and education are valued. In addition, this study was conducted in

Finland, which has its characteristics in terms of trust in the political system, experts, as well as authorities.

Asking the interviewees to recall events that have happened in the past also has its challenges. However, the interest in this study was on personal experiences. After all, the things interviewees' do remember can reflect what is noteworthy, valued, and appropriate (Holstein & Gubrium, 2003, 424).

It is also noteworthy that the aim for this research was not to formulate one definitive and exhaustive truth. Instead, the aim was to offer one version of it. Hence, it is not meaningful to use evaluation criteria from positivist and postpositivist research to a research, which contains narrative elements (Eriksson & Kovalainen, 2008). The epistemology of the qualitative interviews in general tends to be more constructionist than positivist (Gubrium & Holstein, 2002).

Building experiences into narratives involves two kinds of processes of negotiation: internal or cognitive negotiation between experience and the story scheme as well as external negotiation with possible listeners that are either convinced by the story of the event or rejected and/or doubted. (Flick, 2000, 77). Thus, when telling a story, the storyteller usually acknowledges the possible expectations listeners, in this case an interviewer might have. As such, the story constructed through an interview, is a result of interaction. (Puusa, Juuti, & Aaltio, 2020.)

Asking about individuals' face mask behavior proposes a challenge in the form of stigmatizing individuals who do not wear a face mask. Some of the interviewees might have tried to please the interviewer or wished to appear as compliant with the authorities' recommendations as mentioned may be a more generally accepted approach on the matter.

### **8.3 Future research**

As this study infused several areas of persuasion literature, the results offer many paths to follow in future research. Paths focusing on communication and crisis raise questions concerning the special needs set for communication in public health crises that are long-lasting, for example in terms of emotions or information technologies.

Whereas in the context of credibility cues, conflicting cues and the determining nature of cues remains unknown. For example, even if expertise as a part of source credibility would be an important cue, the question remains how individuals prefer expertise sources in a situation of conflicting expertise statements. In



that case, does the amount of agreeing experts matter, referring to the bandwagon effect, or do for example friends, family or colleagues function as a crucial element.

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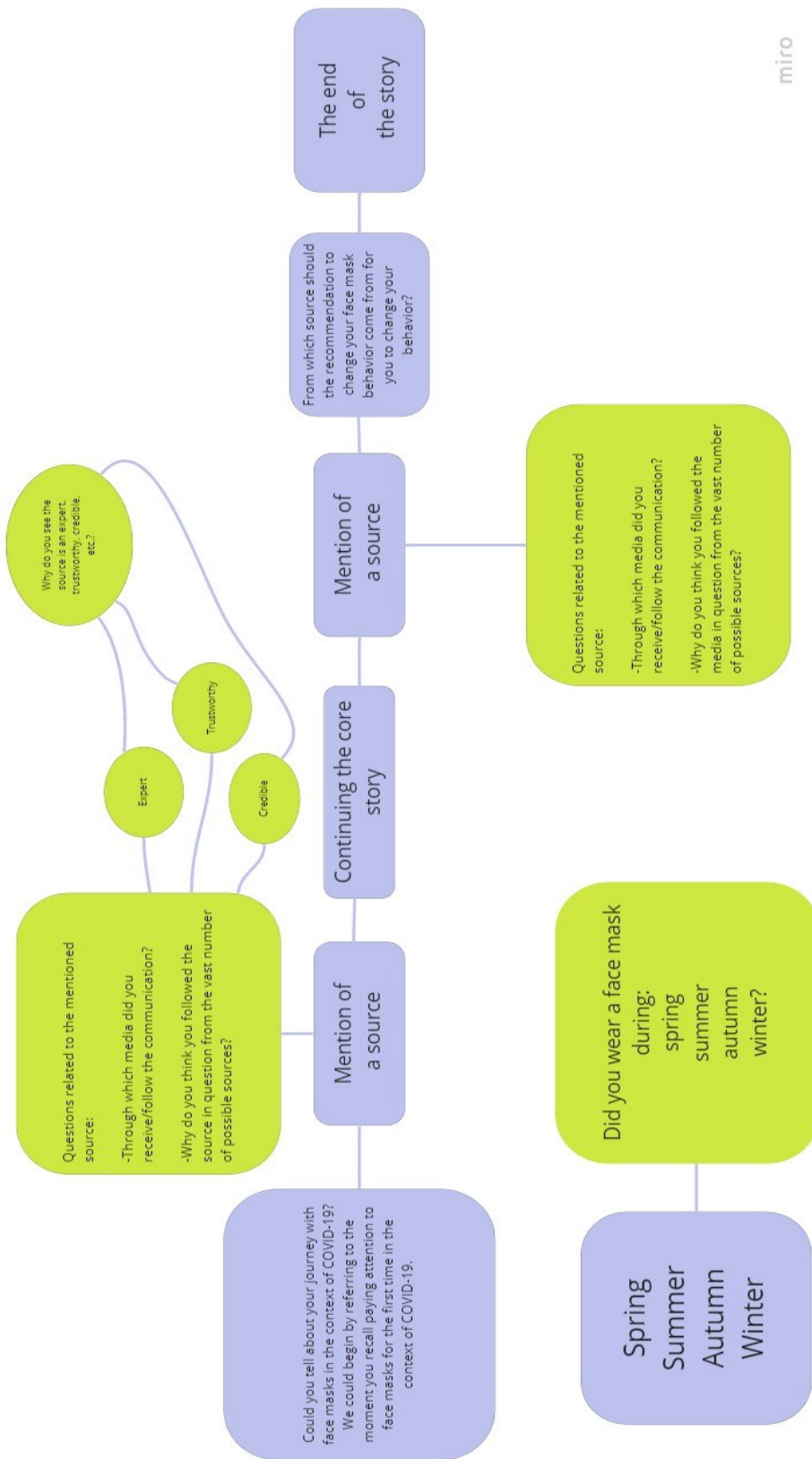


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# APPENDIX 1 The proceeding of interviews



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