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# Exploring perceptions of the COVID-19 infodemic

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## Abstract

*The flow of information about COVID-19 has caused an infodemic worldwide. This paper presents results from a survey study conducted in Finland in the spring of 2020. The aim is to explore the most important sources or channels for corona-related information in that early stage of the pandemic, as well as how the amount of information was perceived and which emotions were related to this information among 208 respondents aged 30 years and over. News media, social media and official information were most important. The amount of information was perceived as suitable by many, but others experienced an overload, and the obtained information largely raised negative emotions including concern, fatigue and irritation. The results hence largely follow earlier studies.*

**Key words:** anxiety; COVID-19; fatigue; news; pandemics.

## Introduction

The coronavirus pandemic that has swept over the globe since early 2020 has caused a situation unparalleled to anything most people have ever experienced, and led to changes in societies, including that of Finland. In addition, there is an abundance of information available from many kinds of sources and channels, causing an infodemic. Human information behaviour during the COVID-19 crisis has been studied from different angles: how traditional and social media were used during this time, infoveillance of activity on search engines and social media, studies related to misinformation, disinformation or infodemics, and studies that have looked at uncertainty and emotions. Studies have also focused on contexts such as educational environments and everyday life (1). Our paper adds to some of these themes and presents results from a survey study conducted in spring 2020 within the subject Information Studies at Åbo Akademi University, Finland, as a result of the question that was raised on how corona-related information was used and perceived. This paper explores the sources and channels for corona information, as well as perceptions of the amount of information and related emotions among people aged 30 years and over. An earlier paper (2) has reported results on young people (18-29 years) taking the same survey.

## Literature review

### *Information seeking in crisis*

Studies have looked at human information behaviour in different crises, especially caused by natural disasters (3-5). Lopatovska and Smiley (3) found that the nature of information needs, the activity of information seeking and the used sources were related to the stage of the impact of a hurricane. In a recent study on the COVID-19 pandemic, Lloyd and Hicks (6) identified three phases of information environments named unfolding, intensifying and maintaining. Also other studies show that people tend to seek more information from various information sources during times of crises (7), with the COVID-19 situation being no exception. People consumed more news and looked for more information from a variety of sources in the early stages of the crisis (8). Health information seeking increased notably among students, compared to before the corona crisis. Interpersonal contacts and traditional mass media became more important as sources than before, but online sources and especially social media were the most important (9).

### *Emotions and information seeking*

Emotions have been present in information behaviour theories and research since the 1960s (10). Emotions

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such as frustration, happiness, fright and sadness were present in information behaviour during a hurricane and emotional states are considered important because of their influence on information behaviour (3). Information overload is a situation where an individual is unable to use information efficiently and effectively due to the amount of available information. Information overload may cause anxiety and fatigue because of abundance, but also scarcity of information, diversity, complexity and novelty of information may cause uncertainty (11). Increased stress or fear, or increased frustration or confusion might be reasons for information avoidance (12). Relationships between social media exposure, information overload and information anxiety, as well as information overload as a predictor of information anxiety have been found in the context of COVID-19 (13). In a Dutch study, almost 60% had felt overloaded by the amount of information in the beginning of the crisis and an initial increase in information seeking later changed to a tendency to avoid information merely because of negative emotions and feelings (8). Negative affective risk responses and information overload as well as feeling distressed by information are also related to information avoidance (14, 15). In China, sadness, anxiety and cognitive dissonance, as a result of perceived threat and perceived information overload affected information avoidance, which in its turn predicted reluctance to take part in preventive behaviours related to COVID-19, as well (16). Similar results were found in Germany (15). Avoidance of information can, on the other hand, also have a positive effect on perceived mental well-being (8).

### Research questions

This paper aims at answering the following research questions:

RQ1: Which information sources or channels on COVID-19 are most used and why?

RQ2: How is the amount of corona-related information experienced and what kinds of emotions does the amount generate?

### Material and method

The data for the study were collected by an online survey from March 23rd to May 15th, 2020. The survey was available in Finnish, Swedish and English, and was disseminated via researchers' own networks, the Information Studies subject's social media accounts, the university website and social media accounts, and the

national Finnish public library website.

In addition to background questions, the survey consisted of five open-ended questions with sub-questions (see Appendix 1). The results presented here are collected from questions 1 and 3 concerning information sources, amount of information and related emotions. The survey participants were instructed to answer freely, which also causes limitations in the interpretation of, for example, in which format a source was accessed (online, print, TV). The data was analysed by using the NVivo qualitative data analysis programme, and partly manually. The statements concerning emotions were analysed inductively through comparing and finding differences and similarities.

The survey was taken by a total of 261 respondents born between 1941 and 2000. However, in this paper, only 208 respondents born in 1990 or earlier are included. Of these, 165 were female (79%), 38 male (19%), and 5 (2%) did not want to define their gender. Most of the 208 respondents were employed (n=161), followed by those who were retired (n=28), unemployed (n=7), students (n=6), homemakers (n=3) and self-employed (n=3).

### Findings

#### *The most used information sources and channels and the motivations to use them*

Generally, the respondents tended to use very much the same sources/channels on COVID-19 information, although the number of reported sources varied from one up to ten and even more. The top five sources/channels mentioned in the responses are reported in Figure 1. The Finnish Public Service Media Company (Yle)

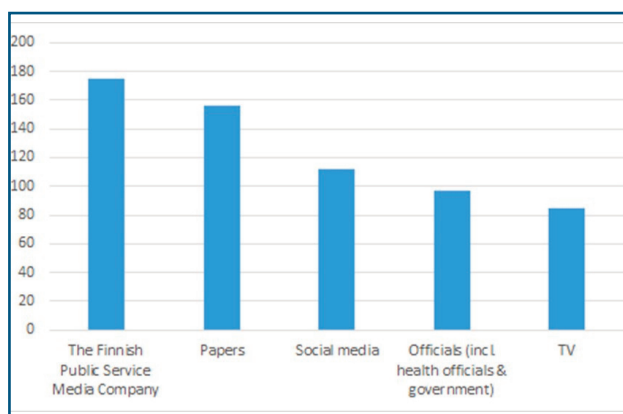


Fig. 1. The most used sources and channels for corona-related information.

was mentioned in most of the answers (n=175) and different papers including newspapers, evening papers and journals were commonly used, as well (n=156). The sources/channels following these were social media (incl. e.g. Facebook, Instagram, Twitter) (n=112), officials including health officials and government (n=97), and TV (n= 85).

Additionally, the respondents also, to a lesser extent, mentioned radio, people (e.g., friends, family, relatives, co-workers), foreign broadcast companies and workplace information as sources or channels.

Those respondents who motivated their choices mostly considered the source or channel reliable, objective and up-to-date. Some reported familiarity with the source/channel, while others brought out the fast communication through the chosen channel as reasons to use the source/channel. Social media were often mentioned in connection with informal information exchange, such as discussing thoughts and experiences with friends and family, but occasionally also as a rapid channel for more official information.

### **Experiences of the amount of corona-related information and the emerging emotions**

Of all the respondents, 60% (n=124/208) commented specifically on the amount of information and their responses are reported in the following.

The respondents experienced the amount of information in three different ways: there is an abundance of information (n=83/124), there is a suitable amount of information (n=37/124), and there is too little information (n=4/124). Accordingly, the three categories of emotions emerging in connection to the experienced amount of the corona-related information were identified as Concern (i.e. anxiety, fear, panic, stress, worry), Fatigue (i.e. exhaustion, boredom, dullness, tiredness), and Irritation (i.e. anger, irritation).

Majority of the respondents (n=83/124) indicated that there is a lot of information on COVID-19, however they reacted to the abundance of information differently. Some considered it as neutral, just noting the state of affairs, while others experienced the abundance of information as negative, and few respondents as positive. Those respondents (n=30/83) who expressed that there is an abundance of corona-related information but considered it as neutral mostly did not express any emotions, as demonstrated by the following example:

*there is a lot of information. It fills nearly all news sources and nothing else is discussed. This does not resonate any*

*particular emotions (Female, 1979, employed).*

It was very common (n= 40/83) that the respondents reacted to the abundance of corona-related information negatively. This was expected, since there was an overwhelming amount of corona-related information available during the researched period in Finland, which also led to information avoidance among some respondents, for example:

*knowledge adds pain. I limit the overflow, I read only the most important news (Female, 1976, employed).*

Regarding the emotions, the category of Concern dominated, exemplified by the following quotation:

*the overload causes a lot of anxiety and confusion sometimes (Male, 1983, unemployed).*

The second most common emotion category was Fatigue, for example:

*sometimes one becomes just completely exhausted – one is just not capable of keeping up with all the theories, projections and programmes (Male, 1982, employed).*

The emotion category Irritation was the third most common category:

*there is occasionally too much information. Same information is repeated everywhere, sometimes it irritates, while information is not removing Corona (Female, 1961, employed).*

A few respondents (n=13/83) considered the abundance of information as positive. A positive attitude towards the information abundance was, for example, connected to a feeling of security as in the following quote:

*the more there is information, the stronger the feeling grows that everything is under control (Female, 1964, employed).*

The expressions of emotions connected to a positive view were few in number and were thus not categorized. A number of respondents (n=37/124) expressed that they were reasonably content with the amount of information. However, this did not mean that they did not utter any emotions or feelings related to information generally, for example the following respondent is happy with the amount of information, but emphasizes that it is the subject matter which generates different emotions:

*I think that the amount of information is good and sufficient. If somebody wants more information s/he can find it. The amount of information does not arouse any special emotions, it is rather the information contents that may raise emotions (Female, 1989, employed).*

Mostly, the emotions related to a suitable amount of information fall into the emotion category of Concern.

Only a few respondents (4/124) conveyed that there was too little information. The scarcity of information could cause anxiety and worry, that is, emotions belonging to the category Concern.

## Discussion and conclusions

Crises generally influence the information needs, seeking and selection of sources, which can differ during different stages of the crisis. The COVID-19 crisis has been no exception (3-4, 6-8). In this study, news media channels, especially the Finnish national broadcaster *Yle* and newspapers, evening papers and journals, were used by a vast majority of respondents. In addition, social media channels and official information were widely used. These sources were mainly considered reliable, objective and current. The responses did, however, not reveal whether, for example, *Yle* was used as a channel for information from health authorities or the government, who at the time gave frequent press conferences, or whether papers were read in print or online. Our respondents differ from German students, who mainly preferred social media, although mass media sources became more important, as well (9). The focus was, however, on slightly older people, who mainly considered social media as channels for informal information. Another German study, on the other hand, found that websites and social media were more often avoided than interpersonal conversations and other media (14). In the UK, social media information overload caused social media fatigue and negatively affected mental well-being in young people, and led to increased avoidance of such media (17). Regularly receiving news about COVID-19 led to negative emotions, especially anxiety, also among Iranians (18). Our respondents were either content with the amount of information or felt that there was too much or too little information. Those who experienced an abundance of information were either neutral to the abundance, or considered it a negative or positive issue. A negative view related to feelings of concern, fatigue and irritation. Also too little information could, however, cause concern. In a study on younger people (2), the negative emotions stress and anxiety, fear, anger and disgust were also more common than positive or neutral emotions. Perceptions of overload of COVID-19 information have largely led to information avoidance (8, 14-17), and also in our study respondents occasionally avoided information. Avoidance can be problematic if it leads to neglect of preventive behaviour in relation to COVID-19 (15, 16). Our study did, however, not examine possible consequences.

In conclusion, information about COVID-19 was obtained from a variety of especially media sources/channels, and respondents often used many different sources. The abundance of information influenced emotions, mainly negatively. Emotions are an important part of information behaviour and to prohibit information avoidance and possible negative consequences of it, emotions should be taken into account when providing information in critical situations.

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### Appendix 1. Survey questions

Background information: Year of birth, Gender, City/municipality of residence, Are you: Student/ Employed/ Self-employed/Unemployed/ Homemaker/Retired? In which language(s) do you seek/get information? Do you belong to a risk group? Have you or someone in your immediate environment been diagnosed with the coronavirus disease?

- 1) From where do you get information/news about the corona epidemic at the moment? How do you update yourself about the corona situation? (For example government health services websites, yle news on television and/or radio, on websites, newspapers, friends, relatives, social media such as Facebook, Instagram, Youtube, Whatsapp, Snapchat, TikTok etc.)?
  - a) Why do you choose these sources? People can have a need to receive different kinds of information, and both formal and informal information can be important.
- 2) Is false/unreliable information about the corona situation a problem for you (for example rumours, misunderstandings, misleading information (disinformation) or contradicting information)?
  - a) Why is it a problem? b) How do you evaluate the reliability of the corona information or news?
- 3) How do you cope with the amount of information/news about the corona situation (too much information, too little information)?
  - a) What kinds of feelings do you have about the amount of information?
- 4) Can you give us 1-2 examples of good and 1-2 examples of bad experiences regarding the information about the corona epidemic?
- 5) Any other experiences you would like to share regarding corona information in general?

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