Online media and news consumption during the global COVID-19 pandemic, does it ever get too much?

A quantitative study on online media and news consumption behaviours, and their impact on the experience of social media fatigue amongst young adults in the Netherlands.

Student Name:Nikki DoijenStudent Number:444690Supervisor:Dr. Eline Huiberts

Master Media Studies – Media & Creative Industries Erasmus school of History, Culture and Communications Erasmus University Rotterdam

Master's Thesis June, 2021

Online media and news consumption during the global COVID-19 pandemic, does it ever get too much?

ABSTRACT

For the past 1,5 years, the world has been experiencing a global pandemic because of the spread of the COVID-19 virus. As a result, many countries including the Netherlands have been on strict lockdowns, limiting our physical social contact, and subsequently, increasing online alternatives. Online media have been recognized as powerful means for the dissemination and consumption of pandemic-related news information. However, spending too much time online can also cause people to feel overwhelmed by the limitless amounts of online content that is available. The spread of the COVID-19 virus caused a lot of changes in our online behaviour, especially that of young adults, which makes it important for us to record, realize and understand. Therefore, this research aims to explore the online media consumption behaviours of young adults living in the Netherlands during a global pandemic and how these differ between those with different demographic characteristics such as age, gender, and education. Doing so, this research focuses on identifying the online behaviour and online news consumption patterns of young adults, and their experience with the phenomenon of social media fatigue. Adopting a quantitative research approach, this research gathered data using an online survey, which was distributed through several social media platforms such as Facebook, LinkedIn, and WhatsApp. This resulted in a non-random sample of 191 young adults living in the Netherlands. Using various statistical tests such as a factor analysis, Chi-square test and regression analysis, this research succeeded to identify the current online behaviours of young adults, and how they experience(d) social media fatigue during the times of the pandemic. The most significant finding is that age and education correlated positively with level of diversity and activity of news consumption, indicating that those who are older and higher educated consume news from a larger variety of sources, as well as interact with news information more actively. Additionally, it was found that young adults in the Netherlands are generally classified as active news consumers who prefer to consume their news using online channels such as Instagram as opposed to traditional media. Furthermore, the results showed that although the average time spent online has increased significantly, this has had no effect on the feeling of social media fatigue amongst young adults and that surprisingly only few claimed to feel overwhelmed by online content. However, those who are considered more active or interactive news consumers are also more likely to experience social media fatigue than those who consume news more passively.

<u>KEYWORDS:</u> COVID-19, pandemic, online behaviour, online news consumption, social media fatigue

Table of Contents

1.	Introduction	5
	1.1 Scientific & Social Relevance	8
2.	Theoretical Framework	
	2.1 The role of online media during the COVID-19 pandemic	
	2.1.1. Digitization, social media and (mis)information	
		12
	2.2 Online Behaviour and Media Use during a Pandemic	
	2.2.2 Online behaviour during COVID-19	
	2.3 Online News Consumption	
	2.3.1 What is news consumption?	
	2.3.2 Online news consumption	
	2.3.3 Social Media as News Distribution and Consumption Channels	
	2.3.5 Different Types of News Consumers	
	2.4 Social Media Fatiaue or Media Overload	
3.	Methodology	27
	3.1 Choice of Method	27
	3.2 Sampling	29
	3.2.1 Target Population	
	3.2.2 Sampling Method	29
	3.2.4 Sampling Response	
	3 3 Concentualization and Operationalization	31
	3.4.1 Demographics	
	3.4.2 Online behaviour	
	3.4.3 Online news consumption	
	3.4.4 Social Media Fatigue	
	3.5 Data Analysis	
4.	Results	
	4.1 Descriptive Statistics	39
	4.2 Factor Analysis: Level of Activity of news consumption	44
	4.3 Frequencies interactive and passive news consumption	46
	4.4 Factor Analysis: Social Media Fatigue	47
	4.5 Frequencies Social Media Fatigue	48
	4.6 Hypothesis Tests	49
5.	Discussion of results	
	5.1 Online behaviour	56
	5.2 Online news consumption	57
	5.2.1 The influence of demographics on online news consumption	58
	5.2.2 Consuming news on social media	
	5.2.3 Active or passive news consumers?	60

5.2.4 Media consumption in the COVID-19 pandemic	61	
5.3 Social Media Fatigue	62	
6. Conclusion	64	
6.1 Conclusion and Implications of the research	64	
6.2 Limitations of the research	66	
6.3 Future Research	66	
References		
Appendix A		

1. Introduction

The objective of this research is to explore the phenomena of online behaviour and the news consumption patterns of young adults living in the Netherlands, using the COVID-19 pandemic as a case study. Taking a quantitative approach, this research aims to describe what the current online behaviour and news consumption patterns are, and whether these differ between those with different demographic characteristics such as age, gender, and/or education. An additional focus of this study will lie on the theory of experiencing social media fatigue because of possible change in these media consumption patterns. This paper contributes to the existing literature on online and social media use and online news consumption both in broad context and in relation to the COVID-19 pandemic. Secondly, it provides new insights to the field of social media, exploring the phenomenon of social media fatigue within the dynamic of a global health pandemic.

For the past 1,5 years the world has been affected by a massive global health crisis, because of the spread of the corona (COVID-19) virus. The first corona virus (SARS-CoV-2) infection cases were reported in Wuhan, China in December 2019 (Weiner et al., 2020). Within only three months after the first cases, the virus had spread globally, causing "4,291 deaths in 114 countries" (Van Bavel et al., 2020: 460). The rapid spread and serious health impacts of the virus lead to a declaration of a global pandemic by the World Health Organization in February 2020 (Van Bavel et al., 2020). Since then, about half of the world's population has been in and out of lockdowns, with more than 90 governments instructing people to stay home (Sandford, 2020). Now, 1,5 years later, millions of cases and hundreds of thousands of deaths have been reported from over 200 countries worldwide. Although a vaccine has been developed, most governments are still holding restrictions until most of their country's population has been vaccinated and the danger of new virus mutations has decreased (van Kempen & Soetenhorst, 2020).

The global lockdowns have forced many people worldwide to drastically change what used to be their normal daily routines and adapt a more "stay-at-home" lifestyle. Physical social contact between people has been and still is limited, which has resulted in a sudden increase in digitalization of what used to be normal activities of our daily routines. For example: for many people, going to work in an office has been replaced by working from home. This severe change resulted in an increased use of technological devices (Kemp, 2020), as people were forced to use digital alternatives to stay connected with others and maintain an active social life. The increased use of technology and digitization process of people's daily routines simultaneously lead to a change in online behaviour, most likely an increase in social media use and the possible switch from offline news consumption to full online news consumption, also increasing the amount of news consumed daily (Sambhav, 2020). New patterns in the field of news consumption have been discovered, as "citizens who usually remain far from the information have reconnected with the news" (Casero-Ripollés, 2020). This shows the significant impact that the COVID-19 pandemic has on several spheres of our society. To clarify, in this research, online behaviour is understood as any online activity where the user spends time consuming content online varying from entertainment media to conversing with others, whereas online news consumption defines only the consumption of online content created or shared by news platforms with the aim to inform one about current news and affairs.

There are three main motivators for social media use, which are: (1) a desire for entertainment, (2) staying up to date with friends' social activities, and (3) wanting to stay informed (Islam et al., 2020). These motivators are all significant factors that could increase social media use, especially in times of a global pandemic where there is great demand for online entertainment and where people in lockdowns can only use online technology for social contact. Additionally, with so many extreme things happening in the world, people have more desire to keep up with the news about phenomena like the COVID-19 virus and its implications. Although staying informed about news and keeping up with your social network through online platforms can help prevent people from feeling lonely or left out, it can also have negative impacts on an individual's psychological state. Social media fatigue is one of those phenomena that can be experienced as a result of consuming too much information or online media content (Bright, Kleiser & Grau, 2015; Islam et al, 2020; Nguyen et al. 2020). Online media have become so overwhelming that platforms like social media are not as enjoyable anymore as they used to be. Yet, some claim to keep opening and browsing or scrolling through the apps, as it has become a habit that is so invested in their daily routine. A habit people seem to find difficult to quit (Holmgren & Coyne, 2017).

Multiple media scholars have already examined the effects of the COVID-19 pandemic on online media use, where it has become clear that this has increased immensely (Sambhav, 2020). However, there is a lack of available COVID-19-related research focusing solely on the age group of young adults and country-specific on the Netherlands. Therefore, this research will contribute to this field of study and provide new insights to what the current online media and news consumption behaviour patterns are amongst young adults living in the Netherlands. In addition to this, this paper will also provide a better understanding of the phenomenon social media fatigue and its existence within the global pandemic. Thereby, this thesis aims to provide an answer to the following question:

RQ: What are the media consumption behaviours, in relation to experiencing social media fatigue, of young adults between the age of 18-29 living in the Netherlands during the global COVID-19 pandemic?

To successfully answer the main question, this research will be divided into different sections, with each featuring a sub-question focusing on one or two key concepts. Finally, the answers from the sub-questions will be combined and subsequently provide an answer to the main question.

Sub-questions

- What are the current online news consumption habits of young adults in the Netherlands?
- What online platforms are preferred during the COVID-19 pandemic?
- Is there a relationship between demographics (age, nationality, level of education) and online behaviour?
- Is there a relationship between the demographic characteristics and online news consumption?
- Is there a relationship between media and online news consumption and the experience of social media fatigue?

1.1 Scientific & Social Relevance

The scientific relevance of this research comes with the lack of available literature regarding the impacts of the COVID-19 pandemic on people's social behaviour, specifically online behaviour, and news consumption. As the COVID-19 pandemic is happening at this moment, the available research is still limited, yet slowly expanding (Weiner et al., 2020). This research will be an addition to the growing fields of research on the impacts of the COVID-19 pandemic in relation to online behaviour and news consumption. This research will also contribute to adding new literature to the phenomenon of social media fatigue, as well as providing new insights to media-related studies with a contextual focus on the Netherlands.

The social relevance of this paper comes with the objective to serve society in becoming aware of the possible impacts that the COVID-19 pandemic has on the online behavioural patterns amongst young adults in the Netherlands. The pandemic has contributed significantly to changes in the media industry and how individuals consume it. For this reason, this exploratory research intends to discover these current consumption patterns. Moreover, this research will allow us to be able to think more critically about the phenomena revolving around online behaviour and news consumption patterns within the context of the pandemic. "Since the beginning of this health crisis, the news has become a valuable resource for citizens" (Casero-Ripollés, 2020, p. 2), which makes exploring the act of consuming news a relevant topic considering the context of this study.

Furthermore, consuming media and news through different outlets or platforms can create certain disparities in society. Limiting the amount of social contact and digitizing news consumption processes might also result in a larger gap between young adults with opposing online news consumption behaviours, patterns, and views on political topics. Therefore, understanding the disparities in a population is an essential part for pandemic response, longterm pandemic recovery and preparation for similar future events.

This study is divided into six main chapters. The first chapter being the introduction, where a general overview of this study is provided. The second chapter, starting hereafter, includes discussions of previous research regarding the main topics this research explores. These topics are (1) the COVID-19 pandemic, (2) online behaviour, (3) online news

consumption and (4) social media fatigue. In addition, several hypotheses are formulated. The third chapter thoroughly describes the chosen research method for this paper, including the different steps of the process of data collection and analysis of the data. Following, the fourth chapter provides the results that were found. Here, the hypotheses are either accepted or rejected. Hereafter, the results are thoroughly discussed in chapter five. The sixth and last chapter of this thesis consists of an overall discussion of the findings and provides an answer to the research question and sub-questions. Lastly, this chapter also includes limitations of the study and suggestions for future research.

2. Theoretical Framework

The second chapter of this research provides the different theoretical frameworks that this study is based on. As stated before, this study aims to define the media consumption behaviours of young adults in the Netherlands during a global pandemic, in relation to the phenomenon of social media fatigue. Considering the different elements of this research, this chapter is made up of four parts, where firstly the context of the COVID-19 pandemic is explained. Secondly, the concept of online behaviour is defined and discussed, followed by the understanding of online news consumption that is made clear in part three. Lastly, part four defines the phenomenon of social media fatigue and justifies its importance in connection with the global pandemic. In addition, several hypotheses will be formed and stated throughout the paper, which will be tested and further explained in the next chapters.

2.1 The role of online media during the COVID-19 pandemic

The objective of this study is to look at online media consumption behaviours of young adults living in the Netherlands during the COVID-19 pandemic. In this first out of four parts of the chapter, I will provide some context to the study by describing the relevance of the COVID-19 pandemic and the population group that is studied in this research.

The COVID-19 pandemic is the first in history where online media have played such a large role in terms of spreading important (health) information and allowing for society to stay connected. During earlier global pandemics, such as the 2009 Mexican Flu pandemic, social media only played a secondary role next to traditional media such as newspapers, television, and magazines (Vasterman, Ruigrok & Scholten, 2011), whereas now it is the main tool for sharing and accessing pandemic (news) information (Sambhav, 2020). Although some social networking sites were present during earlier pandemics and virus outbreaks, they were not yet used for direct news consumption habits. Using online media platforms as news distribution channels only started to become the norm a few years ago (Vázquez-Herrero, Direito-Rebollal & López-García, 2019).

2.1.1. Digitization, social media and (mis)information

As a result of the process of digitization, the COVID-19 pandemic is the first where we can stay in contact with everyone we encounter in daily life whilst being at home. Digitization can be explained as "the networking of people and things and the convergence of the real and virtual world that is enabled by information and communication technology (ICT)" (Kagermann, 2015, p. 24). Sabbagh et al. analyse the process of digitization and how it has changed over time (2012). In their article, they state that digitization has been accelerating rapidly throughout recent years and subsequently, we can see drastic technological developments happening around us constantly (Sabbagh, 2012). However, since the occurrence of the COVID-19 pandemic, this process of digitization has increased significantly at a fast pace. Sabbagh et al. argue that "digitization has a proven impact on (...) boosting citizens' access to public services" (Sabbagh et al., 2012, p. 147).

In current times, we can see similar developments occurring where "social media have the great advantage of rapid dissemination of educational content in the COVID-19 era" (González-Padilla & Tortolero-Blanco, 2020, p. 121). González-Padilla and Tortolero-Blanco discuss and compare the advantages and disadvantages of social media with regards to spreading health information during the COVID-19 pandemic and emphasize the value of quick distribution and access to scientific literature (2020). However, their study also shows that the quality of a large part of the health information is exaggerated or untrue, as a lot of the online content fails to mention the most common symptoms and "the recommended prevention measures" (2020, p. 121). Individuals who consume COVID-19 related information or news that has not been published by an official health or governmental organization can often be misled or misinformed by such content (González-Padilla and Tortolero-Blanco, 2020). Disregarding the negative aspect with regards to misinformation and misleading health content, this paper focuses on the opportunities and possibilities online media offer and create for those who have needed to adapt to a stay-at-home lifestyle. This research takes the perspective that online media play a huge role in the current pandemic, because they serve as important sources of information about the virus, as well as communication platforms between individuals (Bendau et al. 2020).

2.1.2 Young adults during the COVID-19 Pandemic

Responses to the COVID-19 pandemic and ways to cope with the adapted lifestyles vary between those with different demographic factors (Volk et al., 2020). One of the main factors that influence coping responses to the current pandemic is age (Volk et al., 2020). Young adults ranging from 18-29 years old are an interesting population group to examine. "Although most young adults are at low risk of physical health complications from COVID-19, they may be distressed by the pandemic's secondary consequences, including the lockdown and associated social standstill and economic decline" (Shanahan et al. 2020, p. 7). Generally, young adults are competent and frequent in using social media, especially during times like these where people are more likely to use online platforms to connect with others (Shanahan et al., 2020). Therefore, one could argue that young adults will easily find solutions to sustain social contact and improve their pandemic coping. Interestingly, previous COVID-19 pandemic research has shown that young adults are the age group we should worry about most. A recent study on American citizens and how they cope with the COVID-19 measures found that there is a negative correlation between age and stress about the COVID-19 pandemic, suggesting "that young adults may engage in less positive thinking as a coping strategy" compared to older citizens (Volk et al., 2020). Young adults usually find themselves in uncertain positions, having not yet obtained their desired education or are still searching for a stable job, which increases worrying about the pandemic effects on their future (Volk et al., 2020). Park et al. (2020) found that in these kinds of situations where young adults feel like they are losing control over their lives, finding ways to distract themselves is the most common and effective strategy to cope with their trouble. As a result, many turn to distractions online (Park et al., 2020).

Similarly, research by Kraaij-Dirkzwager, Tromp & van der Torn (2020) examines the negative impacts of the COVID-measures on different social groups in the Netherlands and found that especially young adults and students are vulnerable and are more prone to experience isolation and sadness. Their research shows that this is because of less social contact and less control over their lives (Kraaij-Dirkzwager, Tromp & van der Torn, 2020). Stress, anxiety, isolation, and sadness could be seen as motivators for an increase in online media use, and therefore might drive changes in online behaviour, which will be explored further in this thesis. Literature shows that young adults are extremely vulnerable when it

comes to dealing with the effects of the COVID-19 pandemic and thus make an interesting and relevant population group to investigate.

To summarize, studies show that responses and coping-mechanisms to the COVID-19 pandemic can vary significantly within different age groups, and that young adults are found to be most vulnerable to the changes in our daily lives. Therefore, this research focuses on examining the current media consumption behaviours of those who are prone to be most affected by the pandemic. Correspondingly, the next part goes on to define and discuss the concept of online behaviour, and insights that were found in previous studies on how online behaviour has changed within the context of a pandemic.

2.2 Online Behaviour and Media Use during a Pandemic

As this research intends to explore the possible differences in online behaviour between those with different demographics, the second part of this research will focus on defining and explaining the perception of online behaviour, and how scholars have previously investigated media use during a pandemic.

This research sets a framework that uses a media psychologist perspective, analysing human behaviour when trying to understand media technologies (Klimmt & Vorderer, 2003). In other words, by taking this perspective, this research aims to describe and explain certain media-related phenomena such as "behavioral effects of media usage" (Klimmt & Vorderer, 2003, p. 347). This study is designed to build upon existing research by analysing online behaviour to understand current media, applying the context of young adults from 18-29 years old living in the Netherlands. Therefore, the next parts will define the understanding of online behaviour, its importance within the context of the pandemic, and how it will be studied in this research.

2.2.1 What is online behaviour?

As mentioned earlier, this research examines several different concepts including online behaviour and online news consumption. Essentially, online behaviour, which refers to any online activity will be explained first, whereas online news consumption is discussed in part three. Online behaviour refers to organized (e.g., search) and unorganized (e.g., browse) interactions with both human (e.g., chat) and nonhuman (e.g., database) elements in online environments" (Johnson & Kulpa, 2007, p. 773). Online environments refer to virtual spaces or platforms that are connected to the internet and give individuals access from anywhere with an internet connection (Aragon, 2003). Online behaviour, also known as online activity, includes different social, asocial, or even antisocial activities and is often seen as a means for distraction from other, more serious aspects of daily life such as work or school-related tasks (Aragon, 2003). However, the majority of users online report communication and social connection as their main motivators for behaving or being active online. When it cannot be found within their physical environment, users like to seek affiliation and social interaction through online alternatives (Johnson & Kulpa, 2007).

Online activity can be defined by many different characteristics, depending on which platforms are being considered. For example, the number of posts per day on social networking sites like Facebook, Instagram or Twitter can be an indicator of how active a user is on social media (Rosenthal, 2011). In this paper, online behaviour or online activity is made up of two characteristics: (1) the number of online media platforms one is active on (e.g. social networking sites, news websites, etc.) and (2) the number of hours spent online (e.g. to search, browse or communicate). Data from 2017 shows the number of hours spent on social media per day of Dutch citizens, categorized by age group (Statista, 2017). Here, most young adults (43%) tend to spend between one and three hours on social media per day, whereas younger and older age groups tend to spend less time on social media (Statista, 2017). Now, four years and a pandemic later, it would be intriguing to see whether these hours have changed amongst young adults in the Netherlands.

2.2.2 Online behaviour during COVID-19

As stated before, the effects of the COVID-19 outbreak have resulted in a tremendous increase in digital media use (Nguyen et al. 2020). According to a GlobalWebIndex (2020) study on social media and coronavirus, there was a 10.5% rise in social media usage within 87% of the respondents. Nguyen et al., who investigated the online behaviour of Americans during the first lockdown in 2020, stated that especially young adults and women reported "to have increased any type of digital communication" (2020, p. 2) throughout pandemic times. Their study also showed that there was a significant difference between types of online communication platforms in terms of increased usage, where some platforms have become

more popular than others during the lockdown (Nguyen et al. 2020). For instance, a study by Ni et al. shows that Facebook, Instagram, and Twitter were the most used social media platforms during the first lockdown period in spring 2020 (2020). Also, a platform called TikTok has seen a massive growth in users during the pandemic, especially young adults, and teenagers (Ostrovsky & Chen, 2020).

Based on these arguments and statistics, the purpose of this study is to partly find out what the current online behaviour patterns are of young adults living in the Netherlands during the COVID-19 pandemic. The aforementioned theories state that online behaviour has increased as a result of the pandemic, especially amongst young adults and women. The study by Nguyen et al. shows that the changes in online behaviour can differ depending on demographic characteristics such as gender. However, as this study examined an American population sample, it would be interesting to test the same theories on young adults within the Dutch population context. Subsequently, the following hypothesis is constructed.

H1: There is a positive relationship between demographics and online behaviour

2.3 Online News Consumption

To understand the dynamic of news consumption in context of the COVID-19 pandemic, it is essential to discuss and clarify the concept of online news consumption. This research takes a more functional approach to news consumption and will mostly focus on the uses and gratifications of consuming news content, which will be explained more thoroughly below. Taking a functional approach is useful for understanding the significance of news consumption behaviours and comparing behaviours of different people using data (Lifshitz et al., 2018).

2.3.1 What is news consumption?

News consumption is the process of taking in information reporting on something that recently happened, of which the consumer was not aware before, such as new developments in scientific studies regarding the COVID-19 virus. (Harcup & O'neill, 2001). News consumption "is a central aspect of everyday life in modern societies" (Mitchelstein & Boczkowoski, 2010, p. 1086), as most humans consume news to become aware of their

surroundings and to understand certain events or phenomena that occur within their immediate and distant environment. Some consume news to validate their opinion on a specific topic or phenomenon, others to inform it (Cho, Keum & Shah, 2015). Within the context of the COVID-19 pandemic, the government produces news mainly to inform the public about events happening around them, scientific developments and how this may affect a population. Often, news can be consumed for entertainment or commercial purposes, too. Cho, Keum and Shah argue that "news has become increasingly commercialized" (2015, p. 164) and that many "news media increasingly focus on soft news such as arts, travel, fashion, food, products and technology" (2015, p. 164). Although it is argued that the growing appearance of soft news does not directly clash with news concerning civic culture, scholars have pointed out that commercial news can draw away attention from news that is more relevant and highlights contemporary political, social, or scientific phenomena (Cho, Keum & Shah, 2015).

2.3.2 Online news consumption

As a result of a digitized society, switching from traditional- to online media platforms has been the preferred way of searching information by young consumers between the age of 18-29 (Mitchelstein and Boczkowski, 2010). Mitchelstein and Boczkowski explain the concept of online news consumption as accessing news, such as specific up-to-date information regarding an event, phenomenon, or other topic of interest, using the internet (2010). Cho, Keum and Shah add to Mitchelstein and Boczkowski's understanding of online news consumption and suggest that consuming news on a regular basis helps individuals to "feel efficacious and connected to their community" (2015, p. 164). Possessing knowledge of a specific subject has the ability to "enhance participation in community life" (Cho, Keum & Shah, 2015, p. 164) and create a sense of belonging to those sharing similar knowledge or beliefs about that particular matter. What is interesting to note here is the sense of belonging that is created as individuals keep up with news and current affairs. Especially during times where social distancing is common, feeling somewhat connected to a community could be an instigator for enhancing online news consumption.

Alternating social contexts and rapidly changing media environments influence the way people prefer to consume their news (Shehata & Strömbäck, 2011), which allows for the

presumption that news consumption behaviours might have changed according to the COVIDadapted society we live in nowadays. In their study, Shehata & Strömbäck reviewed several studies on news consumption, and concluded that "changes in the media environment have triggered changes in news consumption and made it easier both to find and avoid news and current affairs" (2011, p. 111). This theory supports the assumption that online behaviour and news consumption habits will have changed because of living in the context of the COVID-19 pandemic, where the media environment has adjusted subsequently.

Country-specific research by De Waal & Schoenbach (2010) concluded that there is a significant difference in the consumption of news between new and traditional media in the Netherlands, and that many online newspapers have fully digitized. Traditional media sources that serve as news distribution channels including broadcast television, broadcast radio and print newspapers have experienced a constant decline in use over the past decade and a half (Antunovic, Parsons & Cooke, 2018). As a result of the digitization of newspapers, we have seen a clear rise in the use of "social media as a news distribution channel" (Bright, 2016, p. 345). In the next part, the use of social media channels as a means for news consumption will be explained in further detail.

2.3.3 Social Media as News Distribution and Consumption Channels

With the intention of this research to discover and clarify the current online news consumption habits of young adults, it is essential to discuss past studies and theories on recent developments with regards to online news consumption and the rise of social media as news distribution-, and consumption channels. In the next part, it will be discussed how social media has fundamentally changed the way we presently consume our news.

In recent years, social networking sites have turned into fundamental platforms for the dissemination of information and creating network flows between organizations and users (Vázquez-Herrero, Direito-Rebollal & López-García, 2019). Dominant social media platforms like Facebook, Twitter and Instagram "have become very significant sources of traffic for online news sites (Bright, 2016, p. 345). News consumption norms and habits have adapted to the new online media-dominated environment we live in and Vázquez-Herrero et al. speak of a revolutionary change with regards to consuming and distributing news, where social media "have changed the way journalistic content is produced, distributed, used and consumed" (2019, p. 1). For consumers or users, social media platforms provide quick and easy access to unlimited news sources, allowing for an "increase in mobile news consumption habits" (Vázquez-Herrero, Direito-Rebollal & López-García, 2019, p. 2), especially amongst younger generations.

In addition, taking the opposite perspective, publishers of news content now often turn to sites like Twitter, Facebook, and Instagram for the distribution of information and news stories. Social media platforms can be powerful tools for increasing engagement amongst users with news content and driving spreadability of information (Vázquez-Herrero, Direito-Rebollal & López-García, 2019). Supporting this idea, Bright also found that news media organizations are purposively making the effort "to distribute their content through social media" (2016, p. 344-345), as it is the easiest way to disperse, reach a large audience and receive engagement (Jenkins, Ford & Green, 2013). In their study, Vázquez-Herrero et al. (2019) analysed 60 different news media sources and their distribution strategies using social media platforms, focusing merely on Instagram. They found that 85% of media companies own an Instagram profile that they actively use for posting news content. Although Instagram has existed for over a decade, news media outlets only started using this platform actively since 2018 (Vázquez-Herrero, Direito-Rebollal & López-García, 2019). The first four large media outlets that started this new trend of Instagram news distribution were "The New York Times, The Washington Post, BuzzFeed, and Vice" (2019, p. 4). Instagram currently has 1.2 billion users every month (Statista, 2021), of which 64% are users between the ages of 18 and 29 (West, 2019). This clearly makes Instagram a relevant platform for online news distribution and consumption amongst young adults.

As a matter of fact, Instagram has surpassed Facebook in being the number one social media channel for news distribution and consumption. Before Instagram made its debut and gained popularity as an online news distribution channel, Facebook was considered "the most popular of its kind from a global point of view" (Larsson, 2017, p. 2226). Having 2.7 billion users worldwide, Facebook was and still is the most popular social media networking site worldwide (Statista, 2021). Considering the easy like, comment and sharing functionalities the platform offers, Facebook is an ideal place for distributing and consuming news (Larsson, 2017). However, in recent years it seems that Instagram has become the preferred channel for younger users (Larsson, 2017). It would be particularly interesting to find out which of these social networking sites are preferred for online news consumption amongst young

adults in the Netherlands, and how frequently these platforms are used for online news consumption.

2.3.4 News consumption and Age, Gender and Level of Education

Although consuming news seems like a straightforward and ordinary process, studies show that news consumption behaviours can vary significantly depending on an individual's demographic characteristics (Antunovic, Parsons & Cooke, 2018; Holt et al., 2013; Ksiazek, Malthouse & Webster, 2010; Westlund, 2015). This part of the theoretical framework emphasizes the importance of demographic characteristics on defining online news consumption behaviours, which is what this research also aims to do. To provide more insights on the phenomena of consuming news, several scholars and theories debating the influence of three different factors on news consumption will be discussed next. The first factor that will be explained is *age*, followed by convenience, and lastly *level of education*

Firstly, while studies show that there is a positive relationship between age and traditional news media use, "the opposite is true for Internet use" (Holt et al., 2013, p. 21). Holt et al. found that age is negatively related to Internet use, meaning that "teenagers and young adults are more likely to be active and communicative on the Internet, compared to older generations" (Holt et al., 2013, p. 21). The consumption of news amongst 18- to 29-year-olds through traditional media sources such as radio, broadcast television and print newspapers has rapidly declined over the past decade. Subsequently, online news consumption has grown massively (Antunovic, Parsons & Cooke, 2018). In their study, Antunovic, Parsons and Cooke present a study from 2011 that reported 65% of young adults between the age of 18 and 29 turn to online media "as their primary news source" (2018, p. 634). This finding remains relevant, as this percentage has only increased over the past few years, especially after the coronavirus outbreak (Statista, 2020).

Secondly, Mitchelstein & Boczkowski (2010) explain that convenience is one of the main motivators that influence the consumption of news, and that demographics and age can act as drivers for preferring online convenience. Young adults prefer to absorb all kinds of online content using a minimal number of sources or platforms, taking full advantage of technological convergence and new technological innovations (Antunovic, Parsons & Cooke, 2018). Young adults tend to be more willing to read more than one article about a specific

topic online, as modern technological functionalities allow them to quickly browse through and access related articles. Here, the consumer is being kept active and engaged on the same media platform but consuming diverse content (Antunovic, Parsons & Cooke, 2018).

Thirdly, besides age and convenience, level of education seems to be a significant indicator of online news consumption. A study by Ksiazek, Malthouse and Webster identified two different types of news consumers: those called *News-seekers*, who use multiple sources of news in print and electronic media, and those labelled Avoiders, who "consumed little or no news" (2010, p. 562). They found that "News-seekers tend to be older, have more education, and greater income than Avoiders" (Ksiazek, Malthouse & Webster, 2010, p. 557). Specific levels of education were not mentioned in this study apart from whether the participants had obtained a college degree or not. Therefore, this paper could look precisely at the relationship between education and news consumption on a more detailed level, considering the different levels of education in the Netherlands. Another study by Shehata and Strömbäck, conducted analysis on gaining knowledge about politics and current affairs through consuming news, and found that education correlates positively with news(paper) consumption (2011). Furthermore, as discussed in Westlund (2015), a Swedish study found that educated men between 15 and 49 years old are the most frequent users of mobile news, implying that there could be a positive relationship between level of education and online news consumption. However, this study fails to separate level of education from gender and misses to report on the online news consumption habits of educated women in comparison to those with a lower level of education. This provides an interesting gap in available literature on the direct relationship between level of education and online news consumption amongst young adults that this research aims to fill.

To summarize, previous research shows that online news has been increasingly distributed and accessed through social media sites, and that major platforms like Facebook, Twitter and Instagram are the most common for online news consumers (Statista, 2021). Most available literature on news consumption habits confirms that there is a positive correlation between news consumption and demographic factors like education and age (Shehata & Strömbäck, 2011). However, many of these studies base their findings on comparisons between older and younger generations. Few studies centralize news consumption amongst young adults ranging from 18-29 years old. Therefore, with this paper I aim to expand the existing literature on media consumption and provide new insights about

young adults. Some sub-questions that will be answered throughout this research are: *what* are the current online news consumption habits of young adults in the Netherlands? And what online platforms are preferred during the COVID-19 pandemic? Additionally, three hypotheses regarding online news consumption are created.

H2: There is a positive relationship between age and the amount of online news consumption H3: There is a positive relationship between age/education and the level of diversity in news consumption

H4: Young adults consume most online news through social media

2.3.5 Different Types of News Consumers

To simplify the understanding of news consumption and how these behaviours can vary significantly amongst different types of people, two complementary theories have been developed to classify news consumers into various groups. These two theories will be discussed next.

One of the ways that news consumption behaviours can vary amongst different types of people is by looking at how actively a consumer consumes or interacts with news content (Larsson, 2017). According to Larsson, the most straightforward understanding of media consumers can be defined as "those involved as readers, viewers or listeners in relation to content made available" (2017, p. 2228). Although this definition is certainly not incorrect; it does take a simplistic approach and considers the media consumption process to be one-directional where information is disseminated to its receivers who absorb the information and then nothing else happens. As mentioned before, online media now also serve as both news consumption and dissemination platforms, and "for a growing number of citizens, sharing and discussing news takes place through social media (Hermida et al., 2012, p. 815). Nowadays, online media users play a much more active role in the consumption of (news) media, taking into consideration their active interpretation of content, as well as their participation in further spreading it (Larsson, 2017). A contemporary example of this could be the interactive consumption of COVID-19 related news content and the dissemination of it.

Drifting away from the static understanding of online news consumers, Choi manages to classify the broad concept into two different types: (1) passive users, also known as 'lurkers', who only read and consume online news content, and (2) active users, who actively share news with their networks (Choi, 2016). The former being an *internal* approach, and the latter being an *external* approach to consuming news (Choi, 2016). These two different types of news consumers can also be further analysed and divided into two smaller categories, which will also be considered for this study. For instance, passive consumers who consume news but decide not to share still take an active role in what kind of news content they prefer to see. They intentionally "build an environment where they can receive news from specific sources of their own selection" (Choi, 2016, p. 819). Choi classifies these news consumers as *news personalizers* (2016). Opposingly, there are also individuals who do not actively choose what media outlets they wish to see content from, but rather browse through the content that is recommended or shared by others in their network or that has been provided by the platform's algorithm. These consumers are called *news browsers* (Choi, 2016).

Larsson also analyses the term news user and poses a slightly different framework. Larsson defines those who actively consume news as "active recipients of news" (2017, p. 2229). From his perspective, active recipients of news engage with news information on a more personal level keeping the activity to reading various related articles on one topic to expand knowledge of the subject (Larsson, 2017). On the contrary, those who perform more two-directional activities such as liking, commenting, and sharing news content are classified as *interactive* news users (Larsson, 2017).

Both breakdowns of the concept of online news consumers by scholars Choi (2016) and Larsson (2017) are relevant to consider for this study on online news consumption amongst young adults in the Netherlands. Choi's theory focuses more on the autonomy that the consumer possesses to decide what kind of news they wish to receive and consume, and it would be interesting to see whether this preference is influenced by demographics such as gender or education (2016). While Choi's theory mainly focuses on comparing the passive-with the active consumer, Larsson's differentiation between active and interactive is an interesting perspective and offers a possibility to expand the scale going from passive and active users, to passive, active and interactive users (2017). Thus, having considered both views, this research will be grounded on a framework that combines Choi's and Larsson's perspectives on the different types of news consumers. Here, the news consumer is divided into four categories:

- Traditional news consumers: those who consume news from traditional platforms like print newspapers, television, and radio. Here, social media platforms serve as secondary news distribution channels and the consumer does intentionally not use online media for news consumption (also *news browsers*).
- 2. **Passive news consumers**: those who only browse through and read news that comes up on their feed (also *news browsers*).
- 3. Active news consumers: those who actively read the news and take control over their news sources (also *news personalizers*).
- Interactive news consumers: those who actively read the news, take control over their news source, and take part in sharing online news content with their personal networks (also news personalizers).

The dissemination and consumption of news, more specifically health-related, has become a fundamental aspect of many citizens' lives in our society today (Casero-Ripollés, 2020). As in times of the COVID-19 pandemic, people tend to spend more time consuming online (news) content (Nguyen et al. 2020), it is interesting to explore the types of news consumers that young adults in the Netherlands classify as. Especially within the context of a global pandemic, it could be assumed that considering young adults spend more time online, they are more likely to be active or interactive news consumers. With regards to online news consumption, this paper intends to answer the following sub-question: *What kind of media consumers are young adults in the Netherlands*? And *do demographics influence the level of activity of consuming news*? Corresponding to the previously discussed theories about online news consumption, the following hypotheses are suggested.

H5: Those with higher education are more likely to classify as active news consumers H6: Age is positively correlated with the level of activity of news consumption

2.4 Social Media Fatigue or Media Overload

The COVID-19 measures that were introduced over the past six months have been rather stern compared to other countries. The Netherlands has been in a 'strict lockdown' since December 2020, and a night-curfew was implemented at the end of January 2021 (Ministerie van Algemene Zaken, 2021). Although these measures are there to help slow down the spread of the virus, studies have shown that being held in a lockdown has resulted in negative effects on people's mental health and well-being.

As mentioned before, it is argued that the COVID-19-adapted lifestyle has resulted in an increase of online behaviour and media consumption, especially amongst young adults. "Many people were and still are isolated from in-person social interaction and turn to substitute social platforms" (Brailovskaia et al., 2021, p. 2). Now that social networking sites (SNS) have also transformed into news distribution and consumption channels, the overall consumption of social media content has increased significantly (Nguyen et al. 2020). This rise in media consumption does not immediately equal negative impacts, yet studies report higher stress levels amongst regular social media users than with those who consume online content from time to time (Brailovskaia et al., 2021). To build on this assumption that those who consume more online content tend to experience more stress, Shanahan et al. (2020) conducted a study during the first lockdown in spring 2020 focusing on emotional distress in young adults because of the pandemic lockdown. They compared data from before- and during the lockdown and concluded that the majority of "participants showed levels of perceived stress and anger" (Shanahan et al., 2020, pp. 1), with pre-pandemic social stressors being the main instigators for this. One of their findings that is particularly relevant for this study was that increased emotional distress was common amongst those who often sought news linked to COVID-19" (Shanahan et al., 2020). A possible explanation for this increase in emotional distress could be the experience of a phenomenon called *social media fatigue* or media overload.

Due to the rise of social media and rapid developments in the digitized media industry, a phenomenon called social media fatigue has emerged. "Social media fatigue is defined as a user's tendency to back away from social media participation when s/he becomes overwhelmed with information" (Bright, Kleiser & Grau, 2015, p. 148). It is a state of fatigue or overwhelmingness caused by an overload of social media use (Islam et al, 2020). Examples of social media overload could be consuming or receiving excess information or participating

in too much online communication (Islam et al., 2018). Media consumers are constantly exposed to technology and media where they are overloaded with communication, information, and entertainment content (Dhir, Chen & Pallesen, 2019). As it is argued that the global pandemic has resulted in an increase of social media use and news consumption (Nguyen et al. 2020), it can be assumed that the media consumers are more likely to experience a feeling of social media fatigue. When this happens, consumers "begin to reduce time spent with social media" (Logan, Bright & Grau, 2018, p. 357). They move away from certain social media platforms and switch from being active users to minimal use of those platforms that are necessary for personal or work-related communication (Islam et al., 2020).

One of the main predictors of social media fatigue is frequent, obsessive social media use and can often further lead to more serious mental health issues like emotional distress, anxiety and even depression (Islam et al., 2020). Islam et al. argue discovered that those who purposively explore online content are more likely to experience social media fatigue (2020), whereas those who look at more entertainment content "helps users deal with social media fatigue" (Islam et al., 2020, p. 8). Therefore, in relation to this paper, those who are classified as more active or interactive news consumers could be more prone to experience an overload of information media, and those who use online media merely for entertainment purposes experience social media fatigue less.

Experiencing social media fatigue or media overload seems obvious to occur more often during times of a pandemic, when people spend more time on consuming online media. Studies show that "the abundance of unclear, ambiguous and in-accurate information during COVID-19" (Islam et al., 2020, p. 2) influences the experience of feeling overloaded by (health) information. This is especially relevant now that health-related information has become a big part of what we consume daily. Thus, this research intends to find out whether the chosen sample recognize(d/s) these experiences during the COVID-19 lockdown as a result of a change in media or online news consumption behaviours. Considering the theories on social media fatigue that are previously discussed, the following hypotheses are proposed.

H7: There is a positive relationship between media and online news consumption and experiencing the feeling of social media fatigue or media overload.

H8: Active and interactive news consumers are more likely to experience social media fatigue than passive news consumers.

To summarize, this chapter discussed several theories and frameworks describing and defining the most recent patterns and behaviours with regards to general online behaviour and news consumption. The frequency and intensity of consuming online (news) content has significantly increased since the start of the COVID-19 pandemic (Nguyen et al. 2020). Additionally, many young adults have switched from traditional channels to online alternatives and mainly use social media for the dissemination and consumption of news content (Vázquez-Herrero, Direito-Rebollal & López-García, 2019). Furthermore, Larsson (2017) and Choi (2016) dissect the concept of news consumers and define the different levels of activity with regards to consuming news content. These theories were combined and will be used as a framework to measure the news consumption behaviours of the respondents of this study.

Consequently, the phenomenon of social media fatigue has become a more frequently discussed topic. Increased levels of activity with regards to consuming online content and news information could possibly influence young adults experiencing the feeling of being overwhelmed by social media (Islam et al., 2020). This research aims to explore whether this phenomenon is significant and applicable to young adults in the Netherlands.

In the following chapter, it will be explained how these previously discussed theories and frameworks are converted into measurable units for the collection of data.

3. Methodology

The following method chapter makes connections between relevant theories from the previous chapter and conducting this research. It explains the processes of conceptualization and operationalization, and how applied theories, concepts or phenomena are made measurable to conduct results. Furthermore, this chapter describes and justifies the methodology that was chosen to test the hypotheses and conduct the research. More specifically, to ensure total transparency of the research, this chapter will thoroughly explain the different steps that were taken to collect, process and analyze the results. The different elements of the method will be explained in the following order: the quantitative method selected, the sampling method, sampling population, operationalization of the variables and the data analysis process of the research. Throughout the different parts of the chapter, the validity and reliability of the research will be clarified. Lastly, the survey that was used to collect data will be provided in the Appendix.

3.1 Choice of Method

To answer the research question of this study, a quantitative research approach was taken. More specifically, the chosen method of research for this study is online survey research. "A "survey" is a systematic method for gathering information from (a sample of) entities for the purpose of constructing quantitative descriptors of the attributes of the larger population of which the entities are members" (Groves et al. 2011: 2). Online surveys, also known as 'questionnaires' are "the most common way of gathering data from research participants" (Matthews & Ross, 2010: 201). Online surveys are an appropriate research method when exploring social issues or phenomena. They are mostly used to investigate possible relationships between different variables, which are often characteristics or factors (Matthews & Ross, 2010).

Therefore, using a questionnaire to collect data is considered relevant, as this research looks for various relationships between various dependent (e.g.: number of hours spent consuming online content) and independent (e.g.: age, gender, level of education) variables that were operationalized from the theoretical framework. Using this method, it is possible to capture numerical data that explains the complex concepts of 'online behaviour', 'online news consumption' and 'social media fatigue'. This quantitative method allows for a clear transformation from theoretical concepts into measurable units that are necessary for statistical tests. This happens in the data analysis stage, which is further explained later in this chapter.

Surveys can be used "for exploratory, descriptive or explanatory research" (Neuman, 2014: 315). This thesis aims to explore the online behaviours of young adults without attributing bias or preconceived notions, which makes survey research an appropriate method. Moreover, quantitative survey research allows multiple hypotheses to be tested simultaneously. The findings are then expressed in numbers and the hypotheses are either accepted or rejected (Neuman, 2014). In other words, quantitative research usually starts with hypothetical ideas and ends with empirical data (Neuman, 2014).

Contrastingly, qualitative research is more inductive, and the data collection and analysis process consist of both measuring and creating new concepts or ideas throughout. Qualitative research focuses more on gathering in-depth insights, understanding concepts or thoughts, and explaining the "why" of a phenomenon rather than causal relationships between factors (Neuman, 2014). As this research aims to compare media consumption behaviours, and find relationships between different variables, qualitative methods are not suitable for this study. Qualitative research also takes a more subjective approach and is built on an in-depth interpretation of the data factors (Neuman, 2014). For this research I want to avoid subjectivity and view the data more objectively, which is why a quantitative approach is more suitable (Franzosi, 2008). This study's research question is more focused on large scale research where findings from data can be easily generalized across a population, which is not fitting to the qualitative criteria (Bell, 2013). Additionally, quantitative research is also defined as theory-driven research, where the hypotheses are established using previous academic literature prior to the collection or analysis of the data (De Leeuw, Hox & Dillman, 2008).

Furthermore, using survey research is an appropriate method for answering my research question, as the survey can be divided into different sections, each complementing a different part of the research question and sub-questions (Matthews & Ross, 2010). The survey is thus made up of different types of questions, as different measures require different questions (Matthews & Ross, 2010). Lastly, using survey research is the most convenient method in this case, as it allows for high representativeness of the data and can be performed whilst adhering to the COVID-measures due to online distribution (Sincero, 2012).

The survey was created in Qualtrics, an online software programme where surveys are easily designed. Access to this platform was provided by the Erasmus University of Rotterdam. Qualtrics offers the creation of a survey that is easily accessible through both computers and phones. Making an online survey accessible with low effort allows for an increase in the number of responses, as people will be more likely to answer a questionnaire when they can quickly access it (Schmidt, 1997).

3.2 Sampling

3.2.1 Target Population

The chosen population for this research is young adults ranging from 18-29 years old living in the Netherlands. As discussed in the previous chapter, this target population is selected because young adults are in the age group that uses social media most frequently, especially for their news consumption (Chen, 2020). It was also mentioned that young adults belong to the age group that is the most vulnerable when it comes to being affected negatively by the COVID-19 pandemic measures (Kraaij-Dirkzwager, Tromp & van der Torn, 2020). Besides falling between the age range and living in the Netherlands, the participants also need to use online media. As this research explores online behaviours, it aims to only study those who are active on online and/or social media channels and platforms Therefore, those who do not use online media will be excluded from the final data set. The target population can be of different genders and socio-economic backgrounds. With regards to geographical context, the Netherlands was taken as a geographical case study to expand the field of COVID-19 focused research within the context of the Netherlands, and whether universal theories about online behaviour and news consumption can be applied to Dutch young adults.

3.2.2 Sampling Method

Given the explorative and small-scale nature of this research, the sample was small in order to gain initial insights about the media consumption behaviours of young adults in the Netherlands. However, to obtain valid results, the criteria for this research suggested that the minimum number of respondents should be between 150 and 250 respondents. Furthermore, the sample needed to be large enough to represent the entire population, meaning that there need to be at least 30 respondents for each dependent variable (Salkind, 2017). In other words, there needed to be at least 30 male and 30 female respondents to generate valid results for the hypothesis that uses gender as a dependent variable.

Non-random sampling was selected for the data collection of this research, which involves the subjective "selection of a portion of the finite population being studied" (Battaglia, 2011, p. 3). The sampling consisted of a mix of two non-random sampling methods, namely: purposive and respondent-driven or snowball sampling (Sarstedt, Bengart, Shaltoni & Lehmann, 2017). The objective of these methods is to "produce a sample that can be considered "representative" of the population" (Battaglia, 2011, p. 5). Although non-random sampling methods are considered subjective (Battaglia, 2011), they were necessary to ensure that all essential elements of the target population were included in the research (Sarstedt, Bengart, Shaltoni & Lehmann, 2017). In other words, some participants were purposely selected and included in the sample, as they were considered relevant and fit well to the criteria of the target population (Battaglia, 2011).

Both online and offline methods were used to distribute the survey and generate responses (Christensen et al., 2017). With regards to online recruitment, participants were gathered through self-selected personal messages, public posts on different social media sites, and posts in Facebook groups where the majority of members consists of students and young adults in the Netherlands. Here, a brief description of the aim of the research with a request to participate was provided. The posts and messages also included a part where the recipients were asked to further share the link to the survey with their own network, causing a snowball effect of the distribution of the survey (Battaglia, 2011). The offline recruitment of participants mostly consisted of in-person conversations with those who conveniently crossed paths with the researcher and were asked to fill in the survey.

To avoid errors from the data collection process, a specific time-period was set to collect the responses. Within the period of two weeks the survey was distributed, shared and the responses were collected. However, reflecting on the validity and reliability of this research, it is important to mention that despite the structural measures taken, there is always a chance that participants interpret survey questions differently than how it was intended, and that the results do not perfectly represent the population of this study. Furthermore, a

disadvantage of using online survey research is that as the data was self-reported, and the participants needed to use their memory or recollection to answer some of the questions, there is no guarantee that all participants provided complete accurate information (Wright, 2005).

3.2.3 Pre-test

The final questionnaire was made up of 16 questions, taking an average of 8 minutes to complete. Before distributing the survey, a pre-test was done by three selected participants. They were asked to fill-out the survey and comment on various factors of the survey whether this needed improvement or not (Neuman, 2014). For example, the testparticipants were asked whether the questions were easily understandable and if the answer options for each question were adequate. The feedback of the participants showed that the length of the survey was appropriate, all the questions were clear and that it was ready to be distributed online.

3.2.4 Sampling Response

After cleaning the data by eliminating those who were not eligible to take part in this study, the final sample included 191 respondents. This is a 61% response rate and was considered a desired number of participants. Many of the participants that were removed from the sample were either not living in the Netherlands (48 respondents) or were not between the desired age group (36 respondents). From the 191 responses, 60.2% decided to answer the survey in Dutch and 39.8% in English. 25.7% of the respondents were male and 74.3% female.

3.3 Conceptualization and Operationalization

To properly answer the research question, sub-questions and test the previously stated hypotheses in the theoretical framework, the different variables were operationalized through conceptualization and by using scales. Operationalization is "the process of moving from a construct's conceptual definition to specific activities or measures that allow a researcher to observe it empirically" (Neuman, 2014, p. 207). To simplify, the operationalization process ensures that the conceptualized variables are deduced in a way that they become measurable and can be transformed into survey questions. The survey and

data collection process were structured according to the concepts that were explained in the theoretical framework, as measurable variables always need to be somewhat connected to an institutional framework to provide valid and reliable results (Silverman, 2016). Consequently, subjectivity did not play a role.

Below is an overview of how the different dependent variables (DV) and independent variables (IV) contributed to answering the sub-questions of this research:

*IV = Independent Variable, DV = Dependent Variable

Sub-question 1: Is there a relationship between demographic characteristics and online behaviour?

- IV1 = age
- IV2 = gender
- IV3 = level of education
- DV = online behaviour (# hours, variety of platforms)

Sub-question 2: Is there a relationship between the demographic characteristics and online news consumption?

- IV1 = age
- IV2 = gender
- IV3 = level of education
- DV = online news consumption (frequency, # of news outlets/platforms)

Sub-question 3: Is there a relationship between media and online news consumption and the experience of social media fatigue?

- IV1 = online behaviour (# hours)
- IV2 = online news consumption (# of news outlets/platforms)
- DV = level of feeling social media fatigue/media overload

The survey itself was divided into four different sections, each complementing a different part of the research question and sub-questions. The next four parts will explain how the different concepts in the sub-questions are converted into measurable units and how they were structured in the survey.

3.4.1 Demographics

The first part of the survey contained demographic questions that asked the participants' *age*, *gender*, *nationality*, and *level of education*. These demographic characteristic questions serve as the independent variables for most part of this research. They allow us to see whether specific groups of the sample respond to the main body of

questions in a similar or different manner. Additionally, the question that asked the participants' age served as a filter to determine who was eligible to be part of the survey, and who was not. If the age of the participant was either below 18- or above 29 years old, the participant was automatically directed to the end of the survey, where they were thanked for their participation.

The goal of the first part of this survey was to gain insight about young adults' online behaviour and (online) news consumption patterns, and how these could differ between those with different demographic characteristics. Based on the theories found in the literature, the demographic characteristics age, gender and level of education are most relevant for this study and were deduced into variables. These demographic characteristics were used as an independent variable for hypotheses 1, 2, 3, 5 and 6.

These three independent variables were presented in the first part of the questionnaire in the following way:

Age (nominal). This continuous variable was measured with a multiple-choice question where only one answer out of the 14 could be selected. The reason for this question to be a multiple choice instead of an open answer is because only those between the ages of 18 and 29 years old are considered as valid participants for this study. Therefore, if the participant were to choose the options (1) 17 or younger or (14) 30 or older, they were automatically directed towards the end of the survey.

Gender (nominal). Participants were asked which gender they identify most with (1 = male, 2 = female, 3 = other).

Level of education (ordinal). This ordinal variable was measured using a multiple-choice question where the participant was able to choose one of the answers. The various answer options were ranked from lowest to highest possible obtained level of education available in the Netherlands (1 = high school, 10 = PhD).

3.4.2 Online behaviour

The second part of the survey determined the participants' online behaviour by asking questions regarding the number of hours spent consuming online media (Aragon, 2003), the different media platform the participant uses for their media consumption and which platform is preferred (Rosenthal, 2011). Here, the participants' online behaviour was measured. Online behaviour is defined by two different variables: (1) the total number of hours spent online (e.g. to search, browse or communicate) and (2) the number of online media platforms the participant is active on (e.g. social networking sites, news websites, etc.).

The first variable: *number of hours*, is expressed in a categorical measurement of time. Time spent online, specifically on social networking sites has been measured by a handful of different scales in the past (Olufadi, 2016). Olufadi discusses four different ways of measuring time spent online, but one seems appropriate for this study. The chosen SONTUS (social networking time use scale) uses a categorical measurement of time (Olufadi, 2016). The variable is measured using a multiple-choice question where the options are (1) 1 hour or less, (2) 1-3 hours, (3) 3-5 hours, (4) 5-7 hours and (5) more than 7 hours per day (Olufadi, 2016). This variable is expressed in categorical choices because it already gives the participant an indication of what their answer should be, compared to an open-ended question where it would be more difficult for the participant to recall and count how many hours would be an appropriate answer. Although, we need to consider that using a categorical measurement like this one, the participant might be biased to choose one of the middle options, as that could be perceived as a 'normal' answer (Olufadi, 2016).

The second variable: *number of online media platforms the participant is active on*, is measured using several questions regarding types of platforms including a multiple-choice question asking which social media platforms the participant is active on (where multiple answers are possible) and an open-ended question with three answer options asking which maximum three platforms are the most frequently used.

Finally, the last question regarding online behaviour focuses on gaining insight into the participants' motivation for being active online and using social media. Here, the participant is asked a multiple-choice question where one answer can be chosen for their main motivator for using online media.

3.4.3 Online news consumption

The objective of the third part of the survey was to measure the news consumption patterns of the participant, by asking a range of questions regarding their way of consuming and sharing news (Larsson, 2017), (Choi, 2016). Firstly, a few generic questions were asked to get a general idea of the participants' news consumption behaviour. The participants were asked regarding the frequency of their online news consumption, which news outlets or platforms they use for their news consumption (apps, websites, social media, etc.) and which they prefer (Bright, 2016). For example: using a 7-point Likert scale to indicate how many times a person consumes news with 1 = never and 7 = a few times a day. The questionnaire included some questions that do not necessarily measure certain variables in a comparative manner, but rather assist to better answer the research question, sub-questions, and hypotheses. For example, hypothesis 4 focuses more on identifying the news consumption patterns of young adults and has a more exploratory nature rather than comparing variables in a statistical test. This allows for a broader interpretation of the results and expanding the discussion of the findings. An example of an exploratory question for this could be a multiplechoice question in the survey that asked how many news outlets the participant follows on a regular basis.

Four theoretical constructs were developed from the literature focusing on the different types of news consumers, focusing on the level of (interactivity) in terms of consuming and sharing news (Larsson, 2017 and Choi, 2016). This concept can be transferred into a nominal variable where the four types of news consumers are the different categories. These four types being (1) traditional, (2) passive, (3) active and (4) interactive news consumers. In order to measure how active the participants are as news consumers, the respondents were presented with several statements that indicate their level of (inter)activity to online news consumption. Respondents answered these statements on a 5-point Likert-scale ranging from 1 = strongly disagree to 5 = strongly agree.

Furthermore, to establish high validity of the results, scales and concepts that were previously created and used by scholars were implemented to the questionnaire, as measurable variables always need to be somewhat connected to an institutional framework (Silverman, 2016). This research continuously used several scales and general questions that other scholars such as Bright, Kleiser and Grau (2014) previously developed and used to

measure the variables that make up this study, which increases its validity. In some cases, the questions, statements, answer categories and scales had to be adapted to fit the research properly. These adaptations included adding extra questions or statements based on the theories posed in the theoretical framework, or by changing the options of the answer categories. However, the research maintained the original matter of the measurements.

To assess the reliability of this scale measuring news consumption patterns, a reliability analysis was performed. After making a few adaptations to the final scale that was used for the statistical tests, the reliability analysis reported Cronbach's α values of .72 and .70, showing that the scales are reliable enough for the data tests (Field, 2005).

3.4.4 Social Media Fatigue

The fourth and last part of the survey revolved around the concept of social media fatigue or media overload and aimed to gather information about the participants' experiences with this phenomenon (Islam et al., 2020). The concept of 'social media fatigue' was developed into a scale so the factor or phenomenon can be empirically measured. Bright, Kleiser and Grau conducted a study on social media fatigue and used an existing "five-item scale" (2014: 152) that was taken from a study by Gartner in 2010 (Technopedia, 2011, as cited in Bright, Kleiser & Grau, 2014). The scale included five statements to which the participant could answer to what extent they agreed with the statements. This scale used a 7-point answer option. For this research, the same statements were being used in the form of a 5-point Likert scale where the answers ranged from 1 to 5 (1 = strongly disagree, 5 =strongly agree). The reason for using a 5-point Likert scale instead of a 7-point scale like in Bright, Kleiser and Grau's research is due to a desired level of consistency in the questionnaire. All scale questions in the other parts of the survey used a 5-point Likert scale, and to prevent the participant from experiencing confusion, the same Likert scale was used for the entire questionnaire. This part of the survey included seven statements, including the existing scale developed by Gartner (Technopedia, 2011, as cited in Bright, Kleiser & Grau, 2014), adding two more statements to fully capture the level of social media fatigue that the participants might have been experiencing.
Again, to test whether this scale is reliable and appropriate to use for this research, a reliability analysis was done. The reliability analysis showed that the items within the scale created by Gartner in 2010 (Technopedia, 2011, as cited in Bright, Kleiser & Grau, 2014) have good reliability. The scales scored a Cronbach's α value of .76 and .79, which is considered adequate and confirms its reliability (Field, 2005).

To establish high validity of the results, this research continuously used several scales and general questions that scholars such as Bright, Kleiser and Grau (2014) previously developed and used in order to measure the variables that make up this study. In some cases, the questions, statements, answer categories and scales had to be adapted to fit the research properly. These adaptations included adding extra questions or statements based on the theories posed in the theoretical framework, or by changing the options of the answer categories. However, the research maintained the original matter of the measurements.

3.5 Data Analysis

A total of 191 responses were used in the dataset, which resulted in a large amount of quantitative data. After cleaning it and filtering out 122 respondents who responded to the survey but are not relevant to the sampling population, the gathered data was processed and analysed in a data analysis tool: SPSS. Here, several statistical tests were performed using input taken from the collected data. These tests process the data into clear statistical measurements, which are then analysed and compared. Using existing statistical tests in SPSS to data analysis process allowed the results to be analysed and perceived in an objective manner.

In the previous chapter, *eight* different hypotheses were formed and stated based on the different theoretical frameworks discussed. The final data analysis process was structured based on the order of these formed hypotheses, and different tests were used per hypothesis. These tests produced certain statistical measurements, from which conclusions were taken whether the different hypotheses were accepted or rejected.

To test hypothesis 1 and 2, several Chi square tests between the different dependent variables (*age, gender, level of education*) and independent variables (*number of hours consuming online content, number of media outlets one follows*) were run to explore whether

there are significant relationships between the different demographic characteristics and online behaviour.

To test hypothesis 3, a simple linear regression analysis between *education* and *the level of diversity in news consumption* was run to find whether level of education influences the level of diversity in platforms for online news consumption.

Hypothesis 4 tested if young adults consume most online news through social media using both a frequency analysis and a Chi-square test between *age* and the *preference of consuming news through social media*.

Hypothesis 5 and 6 both tested whether two different demographics: *age* and *level of education*, have an effect on an individual's level of activity with regards to consuming news. Hypothesis 5 used both a correlation analysis and a simple linear regression analysis to test the relationship between *level of education* and three dependent variables: *number of news platforms, frequency of news consumption* and *passive news consumption*. On the other hand, hypothesis 6 was tested using a Chi-square test that explored the relationship between *age* and *interactivity of news consumption*.

Hypothesis 7 aimed to explore the relationship between *media and online news consumption and experiencing the feeling of social media fatigue*. Here, eight individual correlation analyses between various dependent *(feeling overwhelmed by online content, distancing self from social media)* and independent variables *(online behaviour, news consumption)* were conducted.

Lastly, hypothesis 8 used a simple linear regression analysis to test the relationship between *the level of activity in news consumption* and *experiencing the feeling of social media fatigue*.

The statistical output and results of the previously mentioned hypotheses are stated and further explained in the next chapter.

4. Results

This section presents the results of all the main variables and the overall findings of this research. First, several descriptive statistics from the data are provided to give a clear and transparent overview of the characteristics of the respondents. Secondly, a factor analysis is presented, of which the results are then expressed in frequency tables. Following, the findings of the different statistical tests are categorized and stated per hypothesis. The output of the tests used to answer the hypotheses is also included in the interpretation of the results. Eventually, the results are discussed in relation to the theoretical framework of this research.

4.1 Descriptive Statistics

In this part, general descriptive statistics are expressed to show and explain who the studied respondents of this study are, from which behavioral patterns can be found and discussed at the end of this chapter.

From the 191 responses, 60.2% decided to answer the survey in Dutch and 39.8% in English. 25.7% of the respondents were male and 74.3% female. The ages of the selected responses varied between 18 and 28 years old, and most of the respondents were the ages of 21 (12%), 22 (22%), 23 (19.9%) and 24 (16.2%). With regards to level of education, many of the respondents answered to have a higher level of education. 46.6% of the respondents have a university (WO) level of education and 34% a university of applied sciences (HBO) education level, together making up 80.6% of the responses. Seeing as these percentages are not equally distributed, this will be further discussed later in this chapter.

Number of hours spent online. The descriptive statistics show the frequency of the average number of hours that the respondents spend consuming online content. Most of the sample (45%) spends between 3-5 hours consuming online content per day. As previously discussed, the average time spent on social media for most young adults in the Netherlands was between 1-3 hours per day in 2017 (Statista, 2018). From these results, we can see that this number has increased, and that most young adults living in the Netherlands now consume online content for 3-5 hours per day.

Table 1. Frequencies of number of hours consuming online content on average per day (N = 189, missing 2)

Number of hours spent consuming online	Number of respondents (percentage %)
content per day	
1 hour or less	3 (1.6)
1-3 hours	68 (35.6)
3-5 hours	86 (45)
5-7 hours	22 (11.5)
More than 7 hours	10 (5.2)



Graph 1. Frequencies of number of platforms one is active on (X = number of platforms, Y = number of participants that are active on this many platforms)

Platform	Percentage of respondents that is active on this
	platform (%)
WhatsApp	95.8
Facebook	74.3
Instagram	90.6
Snapchat	65.4
TikTok	33
Twitter	18.8
LinkedIn	34.6
Pinterest	25.7
YouTube	70.2
Dating apps like Tinder, Happn, etc.	13.6
Other	95.3

Table 2. Frequencies of active participants on social media per platform

Main purpose of online media use. The table below shows the frequencies of the respondents' main purpose of their personal online media use. It shows that the main purpose for the respondents to use online media is for entertainment purposes (50.3%),

followed by personal communication (40.8%) and keeping up with news or current affairs (4.7%).

Online media use purposes	Percentage of respondents (%)
Personal communication	40.8
Entertainment	50.3
News/current affairs	4.7
Favourite brands and personalities	1
Communication with customer services	1
Official communication with	0.5
(local/national) government, banks, energy	
companies etc.	

Table 3. Frequencies of main purpose of personal online media use

Frequency of news consumption. The table below (table 3) shows the frequencies of how often the respondents of the survey consume news. It shows that most people consume their news a few times a week (27.7%), once a day (27.2%) or a few times a day (25.7%). The difference between these is very small. Only a very small percentage of the respondents consume news occasionally or never.

Frequency	Number of respondents (percentage %)	
Never	5 (2.6)	
Once a month	7 (3.7)	
A few times a month	13 (6.8)	
Once a week	11 (5.8)	
A few times a week	53 (27.7)	
Once a day	52 (27.2)	
A few times a day	49 (25.7)	

Table 4. Frequencies of how often people consume news (N = 190, missing 1)





Platforms used for news consumption. The table below (table 2) shows the frequencies of how many of the respondents use specific media platforms for their news consumption. The table clearly shows that although traditional media are still common ways to consume news, most of the respondents use online alternatives such as online newspapers and social media for their news consumption.

Platform	Percentage of respondents that use this platform for their news consumption (%)
Print newspapers	5.2
Television	31.9
Radio	18.8
Online newspapers	56
Social media	67
None	1.6

Table 5. Frequencies of different media platforms for consuming news

Online platforms used for online news consumption. The table below (table 3) shows the frequencies of how many of the respondents use specific online and/or social media platforms for their online news consumption. This table shows that news apps (56.5%) are the most common way of consuming online news, followed by online newspapers (44%). Looking at social media platforms we can see that Instagram (38.7%) and Facebook (30.4%) are the most popular platforms for news consumption.



Number of respondents that use these different platforms for their news



Consuming information and news about COVID-19. The graph below (graph 4) shows the frequencies of how many of the respondents use specific online news platforms to inform themselves about news and events regarding the COVID-19 pandemic. The table shows that the preferred online platform for covid-related news and information consumption are government websites (68.1%) followed by news websites (63.9%) and news accounts on social media (47.1).



Graph 4. Frequencies of different online news platforms for consuming COVID-19 related news and information

4.2 Factor Analysis: Level of Activity of news consumption

A factor analysis was performed to establish the validity of the 5-point Likert scale that was used to measure several ways of the respondents' activity with regards to news consumption, and whether and how these seven variables group together and load on two new constructs.

The determinant value = .42 (must be greater than .00001), indicating that the items are well related. The Kaiser-Meyer-Olkin measure of sampling adequacy was .64, which is above the recommended/preferred value of .6, and Bartlett's test of sphericity was significant (χ^2 (N = 191) = 157.86, *p* < .001). Looking at the table showing the Total Variance explained, SPSS extracted two factors/components of which the cumulative percentage was 51.1%. In other words, these two factors explain 51% of the variance.

As a result of the factor analysis, two new constructs with regards to news consumption were found. The first is called 'news interactivity' and defines the level of (inter)activity of a news consumer. The Likert scale statements that fit to the construct 'news interactivity' are:

- I actively seek out news and information about a topic of interest
- When I see a news article that interests me, I make the effort to read it
- I choose what kind of news content I come across by intentionally following specific online news channels
- I like to share news content with others in my social network

As previously discussed by Larsson (2017) and Choi (2016), there are different types of news consumers. From the literature, it was constructed that actively seeking out news, making the effort to read news articles, intentionally following specific online news channels, and sharing news content with others determines an individual's level of (inter)activity with regards to news consumption. A respondent who answered higher on the 5-point Likert scale statements that measure news interactivity would be considered an active or interactive news consumer. On the other hand, a respondent who answered lower on the 5-point Likert scale statements that measure news interactivity would be considered a passive news consumer.

Table 6. Newly found construct 1 and factor loads for interactive news consumption

Items (7-point Likert scale going from totally disagree to totally agree)	Newly made construct 1: News interactivity
I actively seek out news and information about a topic of interest	.746
When I see a news article that interests me, I make the effort to read it	.621
I choose what kind of news content I come across by intentionally following specific online news channels	.630
I like to share news content with others in my social network	.628
Cronbach's α	.56

Cronbach's alpha, which is a measure of scale reliability, shows how closely related a set of items are as a group. A Cronbach's alpha above .70 or above is considered good. In this case, the scale to measure how (inter)active one's news consumption habits are, is considered poor (α = .56). Because of this, I decided to take out the variable: *I like to share news content with others in my social network*, to see whether the α value would increase. After taking out this variable, another reliability analysis was performed. The results showed the new scale to measure passive news consumption can be considered good (α = .72).

The second construct that was established from factor analysis is 'passive news consuming'. Here, the same theory applies that a respondent who answered higher on the 5-point Likert scale statements that measure passive news consumption and lower on the news interactivity statements would be considered a passive news consumer.

The Likert scale statements that fit to the construct 'passive news consuming' are:

- I prefer to watch/listen/read the news through social media
- I only read headlines of news articles
- I mostly bump into news and information on online media platforms that other people have shared

Items (7-point Likert scale going from totally disagree to totally agree)	Newly made construct 2: Passive news consuming
I prefer to watch/listen/read the news through social media	.757
I only read headlines of news articles	.515
I mostly bump into news and information on online media platforms that other people have shared	.750
Cronbach's α	.52

Table 7. Newly found construct 2 and factor loads for passive news consumption

Cronbach's alpha, which is a measure of scale reliability, shows how closely related a set of items are as a group. A Cronbach's alpha above .70 or above is considered good. In this case, the scale to measure passive news consumption is considered poor ($\alpha = .52$).

As a result of the inadequate Cronbach's alpha value for the construct above, I decided to take out the variable *I only read headlines of news articles*, to see whether the α value would increase. After taking out the second variable, another reliability analysis was performed. The results showed the new scale to measure passive news consumption can be considered good (α = .70).

4.3 Frequencies interactive and passive news consumption

The table below shows the mean score for the newly computed variables presented above, that measure the level of (inter)activity of online news consumption. It shows that the mean for feeling interactive news consumption is 3.5, whereas the mean for passive news consumption is 2.8. This indicates that more respondents are interactive news consumers than passive news consumers.

	Interactive news consumption	Passive news consumption		
	(mean_interactivity)	(mean_passive)		
Mean	3.5	2.8		
Std. Deviation	.68	.74		

Table 8. Mean of the newly found construct 'interactivity of news consumption'

To break down these variables and look more closely at the individual statements, separate frequency analyses were conducted and showed some interesting results. With regards to consuming news on a personal level such as gathering and reading news, most of the respondents showed to interact with news on a more active level. For example, 68% of the respondents stated to actively seek out news and information about topics of interest. However, when it comes to sharing news content with others in their social network, most respondents (62.3%) stated to not do this.

	,			
	I actively seek out news	I make the effort to	I choose what	I like to share
	and information about a	read articles that	kind of news	news content
	topic of interest	interest me	content I come	with others
			across	
Mean	3.73	4.32	3.07	2.77
Std. Deviation	.97	.74	1.13	1.23

Table 9. Mean of the newly found construct 'interactive news consumption'

4.4 Factor Analysis: Social Media Fatigue

Another factor analysis was performed for the dependent variable of *level of experiencing social media fatigue*. Here, two constructs were found. This factor analysis aimed to discover interrelationships between the different scales and determine the validity of the variables. There were no negative values that resulted from this factor analysis, indicating a positive correlation between all statements. Furthermore, the determinant value = .75 shows that the items are well related. The Kaiser-Meyer-Olkin measure of sampling adequacy was .83, which is much above the recommended value of .6, and Bartlett's test of sphericity was significant (χ^2 (N = 191) = 464.93, *p* < .001).

The Total Variance Explained table showed two factors/components of which the cumulative percentage was 65%. In other words, these two factors explain 65% of the variance. In this case, Cronbach's alpha shows that the two scales that measure *social media fatigue* are considered good and reliable ($\alpha = .76$ and $\alpha = .79$).

Social media fatigue	Newly	made constructs	2	Distancia a all france
Items (7-point Likert scale going from totally disagree to totally agree)	1.	Feeling overwhelmed by social media	2.	social media
I am frequently overwhelmed by the amount of information available on social media sites	.828			
The amount of information available on social media sites makes me feel tense and overwhelmed	.825			
Connecting/staying in touch with my friends and family through social media platforms overwhelms me	.715			
When searching for information on social media websites I frequently just give up because there is too much information to deal with	.465			
In the last year, I have unfollowed certain social media accounts or profiles because their content or information was too overwhelming			.708	
In the last year, I have deleted one or more personal account(s) from a social networking site because the content or information on there was too overwhelming			.854	
In the last year, I have deleted one or more social media apps from my phone or other technological device because the content or information on there was too overwhelming			.843	
Cronbach's α	.76		.79	

Table 10. Constructs and factor loads for social media fatigue

4.5 Frequencies Social Media Fatigue

The table below shows the mean score for the newly computed variables presented above, that measure social media fatigue. It shows that the mean for feeling overwhelmed by online content is 2.89. From this we can see that many of the respondents do not feel overwhelmed by online content.

rable 11 mean of the newly round construct distancing sen non-social mean				
	Feeling overwhelmed by online content	Distancing self from social		
	(mean_overwhelmed)	media (mean_distance)		
Mean	2.89	3.10		
Std. Deviation	.88	1.11		

Table 11. Mean of the newly found construct 'distancing self from social media'

To break down these variables and look more closely at the individual questions, separate frequency analyses were conducted and showed some interesting results. With regards to distancing from social media, most of the respondents (56%) stated that in the last year, they have unfollowed certain social media accounts because the content of those accounts was too overwhelming. However, when it comes to deleting personal accounts or applications, most of the respondents disagreed with these statements.

Table 12. Mean of the newly found construct 'distancing self from social media 2.0'

	In the last year, I have	In the last year, I have	In the last year, I
	unfollowed certain social	deleted one or more	have deleted one or
	media accounts or profiles	personal accounts	more social media
			apps
Mean	3.42	2.86	2.94
Std. Deviation	1.25	1.36	1.30

Having expressed and explained the results from the two factor analyses, the next part will show the results of the different statistical tests that were performed to accept or reject the eight previously constructed hypotheses. Here, the newly found constructs that were explained earlier will be used as new variables for some of the hypothesis tests and to gain answers to the research questions.

4.6 Hypothesis Tests

H1: There is a positive relationship between demographics (age/gender/education) and online behaviour

Based on scholars such as Nguyen et al. (2020) and Kraaij-Dirkzwager, Tromp & van der Torn (2020), who argue that demographics can influence online behaviour, I started by testing hypothesis 1, stating that there is a positive relationship between demographics (age, gender, and level of education) and online behaviour, which is measured by (1) number of hours spent on social media and (2) number and variety of platforms that the respondent is active on.

Age. A Chi-square test and a Phi association coefficient were conducted and revealed that *age* is related to *online behaviour* (χ^2 (N = 191) = 62.84, *p* < .05). Based on the Phi coefficient there is a strong positive relationship between *age* and *online behaviour* (ϕ = .58, *p* < .05).

Gender. A Chi-square test and a Phi association coefficient were conducted and revealed that gender is related to online behaviour (χ^2 (N = 191) = 10.18, p < .05). Based on the Phi coefficient there is a moderate positive relationship between gender and online behaviour (ϕ = .30, p < .05). This indicates that on average, females spend more hours consuming online content than males.

Education. A Chi-square test and a Phi association coefficient were conducted and revealed that *education* is not related to *online behaviour* (χ^2 (N = 189, 2) = 39.48, p > .05). Although the Phi coefficient shows that there is a moderate positive relationship between *education* and *online behaviour* (φ = .46), the relationship is not significant, as p > .05. This shows that there is no significant relationship between *education* and *online behaviour*.

A simple linear regression was calculated to predict the number of hours spent online based on level of education ranging from low (1) to high (7). A non-significant regression equation was found (F(2,186) = .075, p > .001, R² = .001). From this, we can conclude that there is a very weak to almost no correlation between level of education and numbers of hours spent online.

As a result of the previous tests and results, seeing little to no correlations between the demographic variables *gender* and *level of education* and *online behaviour*, H1 can be partially rejected. Only for the demographic variable *age*, there was a slight connection with online behaviour.

H2: There is a positive relationship between age and the amount of online news consumption

Age. A Chi-square test and a Phi association coefficient were conducted and revealed that although there is a strong, positive relationship between *age* and the *average frequency* of consuming news, this relationship is not significant (χ^2 (N = 190, 1) = 84.65, p > .05, $\phi = .67$).

Another Chi-square test and a Phi association coefficient were conducted and revealed a moderate, positive relationship between *age* and the *number of media outlets someone follows*. This relationship is significant (χ^2 (N = 190, 1) = 73.5, *p* < .05). The Phi coefficient also shows a strong, significant relationship between *age* and the *number of media outlets someone follows* (φ = .62, *p* < .05).

These two tests indicate that there is an insignificant relationship between age and the frequency of consuming news, and a moderate, significant relationship between age and the number of media outlets or platforms one follows. As the results of the two variables that measure online news consumption contrast each other, even though they are supposed to measure the same thing, they were computed into a new variable. The variable that measured the respondents' frequency of consuming news was merged with the variable that measures the number of news outlets or platforms that the respondents follow into a new variable called *mean_newsconsumption*.

	Mean_news consumption
Mean	3.5
Std. Deviation	1.03
Minimum	1
Maximum	5

Table 13. Frequencies of mean_newsconsumption

A Chi-square test and a Phi association coefficient were conducted and revealed that although there is a strong but insignificant relationship between *age* and *news consumption* $(\chi^2 (N = 190, 1) = 121.66, \varphi = .8, p > .05).$

Based on the previous tests, it can be constructed that the age of the respondents does not correlate with how often one consumes news. Thus, the older someone gets does not impact the frequency of their news consumption. However, there is a connection between age and the number of news platforms one follows.

H3: There is a positive relationship between education and the level of diversity in news consumption

A simple linear regression was calculated to predict number of followed media platforms for news consumption based on level of education. A significant regression equation was found (F(1,188) = 8.18, p < .001, with an R² of .042 (r=.204). From this, we can conclude that there is a weak but significant correlation between level of education and diversity in news consumption. Thus, respondents with a higher level of obtained education are more likely to consume more diverse news and H3 can be accepted.

H4: Young adults consume most online news through social media

As demonstrated above, frequency table 5 shows that most of the respondents (67%) follow news on social media. Furthermore, the data shows that most of the respondents (50.3%) agree with the statement "I prefer to watch/listen/read the news through social media". Only 27.7% disagrees, and 19.9% neither agrees nor disagrees with the statement.

A Chi-square test and a Phi association coefficient were conducted and revealed a moderate relationship between *age* and the *preference of consuming news through social media*. This relationship is significant (χ^2 (N = 197, 4) = 60.9, *p* < .05). The Phi coefficient also shows a significant relationship between the two variables (ϕ = .57, *p* < .05).

These results show that it is possible to see a clear connection between age and consuming news through social media, and that most respondents who are all young adults, prefer to consume their news through social media. As a result, H4 can be accepted.

H5: Those with higher education are more likely to classify as active news consumers

A correlation analysis between *level of education* and the *number of news platforms* the participant follows shows that there is a weak correlation between the two variables (r=.20, p<0.1), indicating that level of education has a slight effect on the number of news outlets or platforms one follows.

A second correlation analysis between *level of education* and the *frequency of news consumption* (how many times do you watch/listen/read the news?) of the participant shows that there is also a weak correlation between the two variables (r=.08, p<0.1), indicating that level of education has a slight effect on how often one consumes news.

A simple linear regression was calculated to predict the level of (inter)activity of news consumers based on level of education. A significant regression equation was found (F(1,185) = .6.92, p < .001, with an R² of .036 (r=.19). From this, we can conclude that there is a slight correlation between level of education and level of (inter)activity of news consumption.

A correlation analysis between *level of education* and *passive news consumption* shows that there is a weak and negative correlation between the two variables (r=-.11, p<0.1), indicating that level of education has a negative but weak effect on consuming news passively.

These tests show that education slightly predicts the level of (inter)activity with news consumption and that those with a higher education are more likely to be considered active news consumers and consume their news from a more diverse range of channels or platforms. Therefore, H5 can be accepted.

H6: Age is positively correlated with the level of activity of news consumption

A Chi-square test and a Phi association coefficient were conducted and revealed an insignificant relationship between *age* and the newly found construct *interactivity of news consumption* (χ^2 (N = 187, 4) = 158,7, *p* > .05). The Phi coefficient also showed a strong, but insignificant relationship between the two variables (ϕ = .92, *p*>.05). There is no significant connection between age and the level of activity and news consumption. Thus, it shows that those that are older are not considered more active news consumers, and H6 can be rejected.

H7: There is a positive relationship between media and online news consumption and experiencing the feeling of social media fatigue or media overload.

As previously stated, two new constructs were created to measure social media fatigue after conducting a factor analysis. Social media fatigue was measured using two newly found constructs: *overwhelmed by online content* and *distancing self from social media*. Eight correlation analyses were conducted to explore whether there is a relationship between various independent variables and the two newly constructed dependent variables:

Table 14. Correlation analyses online news consumption and social media fatigue

Ν	lumber	Independent variable	Dependent variable	Result of correlation

1	online behaviour	feeling overwhelmed by	Negative and insignificant (r=001,
		online content	p>0.1)
2	frequency of news	feeling overwhelmed by	Negative and insignificant (r=04,
	consumption	online content	p>0.1)
3	number of media	feeling overwhelmed by	Very weak and insignificant (r= .034,
	outlets one follows for	online content	p>0.1)
	news		
4	following news on	feeling overwhelmed by	Very weak and insignificant (r= .048,
	social media	online content	p>0.1)
5	online behaviour	distancing self from social	negative and insignificant (r=037,
		media	p>0.1)
6	frequency of news	distancing self from social	Very weak and insignificant (r= .06,
	consumption	media	p>0.1)
7	number of media	distancing self from social	Very weak and insignificant (r= .03,
	outlets one follows for	media	p>0.1)
	news		
8	following news on	distancing self from social	Weak, positive, and significant (r= .19,
	social media	media	p<0.1)

Out of the eight conducted tests between media and online news consumption and the feeling of social media fatigue, seven were proven insignificant. As a result, it can be concluded that there is no significant relationship between media and online news consumption and social media fatigue, and that consuming online (news) content more frequently does not imply that one is more likely to experience social media fatigue. Thus, H7 can be rejected. However, the results show that there is a slight relationship between using social media for news consumption and having distanced yourself from social media in the last year.

H8: Active and interactive news consumers are more likely to experience social media fatigue than passive news consumers.

A simple linear regression was calculated to predict feeling overwhelmed by online content by the (inter)active news consumption. A significant regression equation was found (F(1,184) = 3.61, p < .001, with an R² of .019 (R=.139). Another regression analysis testing the prediction of the newly found construct *passive news consumption* on the newly found

construct *feeling overwhelmed by online content* showed a negative significant correlation (β = -.051, p < .001). Thus, being an active or interactive news consumer has a slight effect on feeling overwhelmed by online content. Being a passive news consumer has a slight effect on feeling less overwhelmed by online content.

The same analysis was conducted to measure the newly found construct *distancing self from social media*. Being an active or interactive news consumer has a slight positive effect on distancing yourself from social media ($\beta = .158$, p < .05), whereas being a passive news consumer has a slight negative effect on distancing yourself from social media ($\beta = .149$, p < .05).

Although the effects are small, there are significant effects of level of activity with regards to news consumption and the feeling of social media fatigue. Active and interactive news consumers are more likely to experience social media fatigue than passive news consumers. Thus, H8 can be accepted.

5. Discussion of results

This chapter offers an in-depth interpretation and discussion of the previously stated results from the various statistical tests. Here, the findings from chapter four are discussed in relation to the expectations that were posed from the theoretical frameworks in chapter two.

5.1 Online behaviour

One of the aims of this research was to define and explain the current media and (online) news consumption patterns of young adults living in the Netherlands during the COVID-19 pandemic. The data showed some interesting results with regards to online behaviour, and that most of the respondents spend a significant amount of time consuming online content every day. A previously discussed study showed that in 2017, the average time for young adults to consume online content was between 1-3 hours per day (Statista, 2017). Interestingly, the data from this research shows that the average time spent online has increased. As seen in frequency table 1, most respondents (45%) spend between 3-5 hours consuming online content per day, showing that with regards to numbers spent online, online behaviour has changed significantly within the context of the pandemic. Considering the change in the average number of hours spent online, these results support theories by Nguyen et al. (2020), who argued that the COVID-19 pandemic resulted in an enormous increase in digital media use.

However, as this research did not compare online behaviour before and after (or during) the COVID-19 pandemic, it cannot be assumed that it was only due to the pandemic that this average number of hours went up significantly, and so we also need to consider other factors. Although, with the aim of illustrating the current online behaviour patterns, we can conclude that the average number of hours spent consuming online content per day has increased to 3-5 hours per day for young adults in the Netherlands.

Furthermore, these results contribute to a more general discussion and clarification of why people choose to consume online content. The data showed that the two main purposes for consuming online content are (1) entertainment, and (2) personal communication, which corresponds to the findings of Cho, Keum & Shah (2015). Table 3 shows that young adults mainly use their time online for entertainment and to communicate

56

with friends and family. Additionally, respondents are active on either 4, 5 or 6 social media platforms. The most used social media platforms are WhatsApp (used by 95.8%), Instagram (used by 90.6%) and Facebook (used by 74.3%). Although scholars mention the tremendous growth of the platform TikTok amongst young adults (Ostrovsky & Chen, 2020), only 33% of the respondents of this study claimed to be active on the platform. This could indicate that this theory is more applicable to other countries compared to the Netherlands (Ostrovsky & Chen, 2020).

Opposing Nguyen et al. (2020) who stated that there has been a significant increase in the use of online media amongst women as opposed to men, the results of this study show no correlation between gender and online behaviour. Also, there was no relationship found between level of education and online behaviour, implying that the increase in online behaviour can be considered applicable to all young adults in the Netherlands, regardless of their gender or educational background.

However, the results did show that there is a slight connection between age and online behaviour, indicating that older young adults spend slightly more time online than those who are younger. As discussed in chapter two, Volk et al. claim that many young adults experience COVID-related stress, as they often worry about the implications of the pandemic on their future (2020). Therefore, higher stress levels amongst young adults could indicate why they would spend more time online, as consuming online content serves as a distraction mechanism (Aragon, 2003).

In short, as expected, it was found that the average number of hours spent online has increased significantly within times of a global pandemic. However, surprisingly, this change in behaviour did not vary amongst men and women, or those with different levels of education.

5.2 Online news consumption

The results of the several tests in SPSS showed unexpected, but interesting results regarding the online news consumption patterns of young adults in the Netherlands.

5.2.1 The influence of demographics on online news consumption

The first hypothesis on online news consumption posed that age was positively correlated with online news consumption (Holt et al., 2013). In other words, those who are older consume online news more often and from a larger variety of sources. The data showed that there was no relationship between age and the frequency of consuming news. Thus, being older does not indicate that one consumes more news than those who are younger. As discussed in chapter two, most comparative studies on news consumption behaviours have found positive relationships between age and news consumption, as they focused on comparing younger- to older generations (Holt et al., 2013). In these studies, the age gaps varied much more than the different ages in the sample for this study. This could explain why there was no correlation found in this data sample, as the differences in age were much smaller than when different age groups are compared.

Conversely, a relationship was found between age and the level of diversity in news consumption, suggesting that those who are older consume news from a larger variety of news sources than those who are younger. This could be explained by the fact that young adults prefer to consume online content such as news information using the least amount of effort (Antunovic, Parsons & Cooke, 2018), indicating that younger adults also use minimal news sources compared to those who are a bit older.

Another hypothesis stated that those with a higher obtained educational degree, would consume news more frequently, as well as consume news from a larger variety of platforms. The results showed that there is no relationship between level of education and the frequency of consuming news. Therefore, it can be concluded that a higher education does not result in a larger interest to consume news on a regular or frequent basis.

Contrastingly, the results did show that there is a relationship between level of education and the diversity of news that the respondents are consuming. This approves the theory by Ksiazek, Malthouse and Webster that highly educated individuals are more likely to follow the news using different kinds of sources and platforms (2010). Those who are higher educated seem to be more interested in gaining knowledge on politics and current affairs (Shehata & Strömbäck, 2010), which could explain why news is consumed more diversely.

To summarize, the results showed that surprisingly, age and level of education do not influence how frequently someone consumes news. However, as expected those who are older and have a higher level of education do consume news from a larger variety of news sources, indicating that older and higher educated young adults have more interest in gaining news information from more than one perspective, or prefer to receive news information about different kinds of topics.

5.2.2 Consuming news on social media

As previously discussed, over the past few years we have seen an increase in the use of social media as the main tool for news distribution and consumption (Bright, 2016). People, and especially young adults have been leaving traditional news media for online alternatives due to their convenient use (Mitchelstein & Boczkowski, 2010). The data confirms this as 63.9% of the respondents use social media for their news consumption and prefer it this way over traditional media. Although 63.9% counts as much more than half of the respondents, this number is slightly less than the reported 65% of young adults in the US who prefer to consume news through online media (Antunovic, Parsons & Cooke, 2018). This may be due to a difference in technological advances or cultural differences and could be an interesting topic to explore further.

The results from this data sample also correspond to the theories applied to the general western population, where Instagram, Facebook and Twitter are the preferred social media platforms used as sources of traffic for news channels (Bright, 2016). As predicted, the data of this research shows that currently, Instagram is the number one social media platform used as an online news distribution and consumption channel (Larsson, 2017). Larsson also discussed the difference between Facebook and Instagram with regards to using both social media platforms for online news consumption (2017). Larsson found that in recent years, Instagram has surpassed Facebook in being the preferred social media channel for people's online news consumption behaviours. As presented in graph 3, the results confirm that within the context of the Netherlands, Instagram has exceeded Facebook for the use of consuming online news. 38.7% of the respondents uses, whereas 30.4% of the respondents uses Facebook for their online news consumption.

To sum up, as predicted, using social media has become the preferred way of consuming online news amongst young adults, where Instagram has gained dominance being the most used platform for online news consumption.

59

5.2.3 Active or passive news consumers?

From the literature discussed earlier, four different types of news consumers were established, namely: traditional-, passive-, active-, and interactive news consumers. These four types indicate someone's level of activity with regards to online news consumption (Larsson, 2017, Choi, 2016). The data results showed that there was a relatively high level of activity with regards to consuming online news amongst young adults in the Netherlands. Most of the respondents showed to participate actively in news consuming actions such as actively seeking out or searching for news articles and deliberately choosing the kind of news they wish to receive (Larsson, 2017). As explained earlier, passive news consuming includes low-effort activities such as only reading headlines of articles and stumbling upon news rather than actively seeking out news information (Larsson, 2017). 82.7% of the respondents claimed that they do not only read headlines of news articles and that they actively seek out news and information about topics that they are interested in. To add to this, more than two-thirds of the respondents (70.7%) disagreed with mostly bumping into news that has been shared by others, which suggests their active interpretation of news (Larsson, 2017). Thus, there are more active than passive news consumers amongst young adults in the Netherlands.

Interactive news consumers are known as those who, on top of engaging with news content on a personal level, also frequently share news content with their social network (Choi, 2016). From the data, it was clear that most of the respondents classify as active news consumers, as nearly all actively read the news, and take control over their news sources (Choi, 2016). Yet less than half of the respondents (37.7%) claimed to take part in sharing online content with their personal networks (Larsson, 2017). Out of the 191 respondents, 119 disagreed to enjoy the further sharing of news information with others, suggesting that most young adults living in the Netherlands like to consume news on an active level without further sharing of the news information. In other words, young adults in the Netherlands are more likely to classify as active rather than interactive news consumers.

Besides consuming news using online channels and platforms, we also need to consider those who still classify as traditional news consumers. Although more than half of the respondents (57.1%) claims to not use any of the three traditional news media (print, television, and radio), there were still some respondents who showed to use at least one (31.4%) or two (11.5%) traditional media sources for their news consumption. Out of these

60

three traditional news sources, television was the most used one (31.9%), followed by radio (18.8%) and lastly print newspapers (5.2%). However, all respondents who stated to still use traditional news sources also consume news using online alternatives. Therefore, the results showed 0 participants who only consume news using traditional news media and no traditional news consumers were found in this data sample. Thus, although traditional media sources are still being used by some in combination with online channels, young adults between the age of 18-29 living in the Netherlands cannot be classified as traditional news consumers (Larsson, 2017, Choi, 2016).

With regards to the different types of news consumers and their demographic characteristics, it was found that those with a higher level of education are more likely to be active or even interactive with their news consumption as opposed to consuming news passively (Westlund, 2015). Although it was assumed that age would also have a positive effect on the level of activity of news consumption (Antunovic, Parsons & Cooke, 2018), this was proven otherwise by the results and showed that age has no effect on whether someone is an active or passive news consumer. The only predictor of level of activity within this research was said to be level of education. This supports the theory by Ksiazek, Malthouse and Webster, which poses that higher educated adults are more likely to be active seekers of news rather than trying to avoid the news (2010).

To summarize, most young adults in the Netherlands can be considered active news consumers, however notably few exceed the active level and enjoy interacting with news content online. As anticipated, those who are higher educated consume their news more actively than those with a lower education.

5.2.4 Media consumption in the COVID-19 pandemic

As this research takes the context of young adults living in the current global pandemic, it is also essential to examine the news consumption behaviours in relation to news about COVID-19. Online news platforms have gained significant importance with respect to the dissemination of health- and pandemic related news (Casero-Ripollés, 2020). Besides entertainment and social engagement purposes, online (news) platforms have also been greatly used by individuals to keep themselves informed about health-related developments and government lockdown-restrictions. (González-Padilla & Tortolero-Blanco, 2020). Graph 4

presents an overview of the different kinds of online channels that are used for the dissemination of COVID- and pandemic related news and shows that websites provided by the government (68.1%), news websites (63.9%) and news accounts on social media (47.1%) are the preferred platforms for gathering important information about the crisis. What could explain the preference of these specific news platforms is the convenience it offers to quickly and effortlessly retrieve the information that young adults wish to know (Mitchelstein & Boczkowski, 2010).

5.3 Social Media Fatigue

Interestingly, the data revealed that only less than half of the respondents feel frequently overwhelmed by content on social media. Considering that this study examined only young adults, who are prone to consume more online content than other age groups, it was expected that most of the respondents would agree to have experienced social media fatigue. Although, as predicted, more than half of the respondents claimed to have distanced themselves from social media in the past year. Spending more time consuming online content was expected to also result in an increase of feeling overwhelmed by online content and wanting to distance oneself from social media (Islam et al., 2020). Contrastingly, tests showed that there was no relationship between increased online behaviour or online news consumption patterns and the feeling of social media fatigue. As Islam et al. argue, the experience of social media fatigue is more likely to occur when there is an overload of unclear and in-accurate information about the virus (2020). Therefore, a possible explanation for the absence of a correlation between media consumption and social media fatigue could be the fact that news information about COVID-19 has become clearer and more concise, taking away the idea of receiving excess amounts of it.

To offer an explanation as to why the rates of respondents feeling overwhelmed by online content are lower than expected, it is possible that the different purposes young adults have for consuming online content can influence the experiencing social media fatigue. Looking at the data, more than half of the respondents (50.3%) mainly consume online content for entertainment purposes. Islam et al. explain that those who consume online content for more entertainment purposes are less likely to experience the feeling of social media fatigue (2020), as looking at more entertainment content "helps users deal with social media fatigue" (Islam et al., 2020, p. 8) rather than creating it. Thus, if the main motivators

for consuming online content would have been less entertainment-focused, the respondents might have been more likely to experience social media fatigue.

Nevertheless, the results did show that there is a slight connection between following the news on social media and wanting to distance oneself from social media. This could perhaps have something to do with the overload in news regarding the COVID-19 pandemic on social media and wanting to unfollow those accounts that share an overload in such content (Nguyen et al. 2020). As this research was conducted one year after the beginning of the global pandemic, it could also be possible that young adults have reached a point of receiving COVID-related news content where it is perceived as bothersome rather than interesting. In the beginning of the pandemic, young adults could have been more likely to seek news regarding COVID-19 (Shanahan et al., 2020), whereas now heading toward the end of the pandemic, news about the pandemic might have decreased in terms of importance or usefulness.

Another finding revealed a relationship between the level of activity of news consumption and the feeling of social media fatigue. This indicates that those who are considered interactive or active news consumers are more likely to experience the feeling of social media fatigue than those who consume news on a more passive level. A reasonable assumption would be that active or interactive news consumers consume more media content than those who consume news more passively (Larsson, 2017). This could explain why the data showed that active and interactive news consumers experience social media fatigue more than passive news consumers.

6. Conclusion

This chapter offers a conclusion of the findings of the study, answering the different sub-questions and the overall research question. Furthermore, this chapter demonstrates and explains the limitations of this research and poses several recommendations for future research in this field of study.

6.1 Conclusion and Implications of the research

This thesis has studied and researched the online media and news consumption behaviours of young adults living in the Netherlands, within the context of the global COVID-19 pandemic. With the assumptions that online behaviour and online news consumption patterns have changed significantly (Nguyen et al., 2020), this study was conducted to explore the current online behaviours of young adults in relation to various phenomena such as online news consumption and social media fatigue. A series of Chi-square tests, Phi association coefficients, frequency tables, correlation- and regression analyses were conducted to measure the different phenomena of online behaviour, online news consumption and social media fatigue.

With the aim of discovering and defining the current media consumption behaviours of young adults in the Netherlands during the global COVID-19 pandemic, this research proposes an answer to the research question: *What are the media consumption behaviours, in relation to experiencing social media fatigue, of young adults between the age of 18-29 living in the Netherlands during the global COVID-19 pandemic?*

The findings show how, within the context of the COVID-19 pandemic, online behaviour amongst young adults has increased significantly. The average time spent online, consuming content has increased from 1-3 hours per day to 3-5 hours per day. Young adults mainly consume online content for entertainment and social purposes, using mostly WhatsApp, Instagram, and Facebook. Older young adults tend to spend more time online than those who are on the younger end of the age group, which could be explained by needing to seek distraction from stress about the COVID-19 pandemic more often.

In relation to online news consumption habits, young adults in the Netherlands seem to prefer consuming news online to using traditional media. It was found that age has no effect on how frequently one consumes news, but that older young adults consume news from a more diverse number of news sources rather than just using one. Consuming online news more diversely also depends on people's level of education, indicating that highly educated young adults consume more diverse news than those with lower education.

The data also demonstrate that although traditional news media channels such as television, radio and print newspapers are still being used by some, most young adults in the Netherlands prefer to use online alternatives to seek news information. The most favoured online news platforms are news apps, followed by online newspapers (websites) and the social media platform Instagram, making Instagram the most used social media platform for online news consumption. For the seeking of COVID- and pandemic related news, young adults prefer to use government websites, news websites and news accounts on social media.

Using the theoretical frameworks on the different types of news consumers by Choi (2016) and Larsson (2017), the data allows us to confirm that most young adults in the Netherlands can be classified as active news consumers, who actively seek out news and information of interest and deliberately choose the kind of news they consume, consuming news using a large variety of platforms and media. Though, most young adults prefer to consume news on a more personal level and avoid sharing their news information with others. The findings also provide evidence that level of education influences the level of activity of news consumption, indicating that those who are highly educated are more likely to classify as active or interactive news consumers.

Furthermore, the findings constitute that although there has been an increase in online behaviour, this has no effect on experiencing the feeling of social media fatigue. Less than half of the young adults studied said to have experienced social media fatigue in the past year. However, those who classify as active or interactive news consumers are more likely to feel overloaded by online content and wanting to distance themselves from social media than those who consume news more passively.

65

6.2 Limitations of the research

Considering the limitations that this research faces, the most relevant one is the fact the sample population was not equally distributed with regards to demographics. The sample for this study had a higher number of participants who are considered highly educated and fewer people who had a lower level of education. Furthermore, there was another imbalance in the data regarding gender, having more women than men as respondents, implicating that there is a chance that the findings of this research could be less applicable to males. Therefore, future research should ensure a sample that is equally distributed regarding demographics.

Another limitation of this study is the disadvantage of a survey that it is not possible to dive deeply into the nuances or motivations of young adults and explain why they behave a certain way, rather than just defining their media consumption behaviours. Future qualitative research could complement this study through focus groups or in-depth interviews and obtain more in-depth opinions.

Lastly, the nature of online questionnaires forces the participants to self-report on their own behaviour, which could have an impact on the skewness of the data. It always needs to be taken into consideration that people alter or exaggerate their behaviour due to social desirability bias, meaning they are more likely to choose the answers they think are socially acceptable rather than what is true. For example, spending too many hours online is considered 'bad', for which the respondents could report their hours as less. Future field research where the participant is observed could be conducted to confirm whether the stated behaviour is true.

6.3 Future Research

Firstly, considering this study is a small-scale research using only the sample of young adults, I propose to future researchers interested in the media phenomena of online behaviour, online news consumption and social media fatigue to study media behaviours on a larger scale and with a broader sample of respondents comparing different age groups.

Secondly, as stated in the previous chapter, the findings of this study in respect to the phenomenon of social media fatigue disapprove the theories from the discussed

literature, which makes it an intriguing topic to further explore. This research could be further expanded with qualitative methods to further complement and justify the findings, such as why those with a higher education consume news more actively than others.

Additionally, conducting a comparative study on the same concepts of online behaviour, online news consumption and social media fatigue between the Netherlands and other European countries that were heavily affected by the COVID-19 pandemic would allow us to see whether there are cultural differences between media behaviours amongst young adults in Europe.

Lastly, as the COVID-19 seemed to have a large impact on the uses of online media (Nguyen et al., 2020), it could be interesting to repeat this research in times where there are no pandemic and government lockdown-restrictions. This way, the effect of the pandemic on online behaviour could be clarified more intensely, as then the findings of the different studies are comparable.

References

- Ahlers, D. (2006). News consumption and the new electronic media. *Harvard International Journal of Press/Politics*, 11(1), 29-52.
- Andrews, D., Nonnecke, B., & Preece, J. (2007). Conducting research on the internet: Online survey design, development and implementation guidelines. *International Journal of Human-Computer Interaction, 16*(2), 185-210.
- Antunovic, D., Parsons, P., & Cooke, T. R. (2018). 'Checking'and googling: Stages of news consumption among young adults. *Journalism*, *19*(5), 632-648.
- Aragon, S. R. (2003). Creating social presence in online environments. *New directions for adult and continuing education, 100,* 57-68.
- Battaglia, M. (2011). Convenience Sampling. In P. Lavrakas, *Encyclopedia of Survey Research Methods* (p. 149). Thousand Oaks: Sage Publications, Inc.
- Bell, S. (2013). Learning with information systems: Learning cycles in information systems development. New York: Routledge.
- Benesch, C. (2012). An empirical analysis of the gender gap in news consumption. *Journal of Media Economics*, 25(3), 147-167.
- Brailovskaia, J., Cosci, F., Mansueto, G., & Margraf, J. (2021). The relationship between social media use, stress symptoms and burden caused by Coronavirus (Covid-19) in Germany and Italy: a cross-sectional and longitudinal investigation. *Journal of Affective Disorders Reports*, 100067.
- Bright, J. (2016). The social news gap: How news reading and news sharing diverge. *Journal of communication*, *66*(3), 343-365.
- Bright, L. F., Kleiser, S. B., & Grau, S. L. (2015). Too much Facebook? An exploratory examination of social media fatigue. *Computers in Human Behavior, 44*, 148-155.
- Casero-Ripollés, A. (2020). "Impact of Covid-19 on the media system. Communicative and democratic consequences of news consumption during the outbreak". *El profesional de la información, 29*(2), e290223. https://doi.org/10.3145/epi.2020.mar.23
- Chen, J. (2020, August 4). Social media demographics to inform your brand's strategy in 2020. SproutSocial. https://sproutsocial.com/insights/new-social-media-demographics/
- Cho, J., Keum, H., & Shah, D. V. (2015). News consumers, opinion leaders, and citizen consumers: Moderators of the consumption–participation link. *Journalism & Mass Communication Quarterly*, 92(1), 161-178.

- Choi, J. (2016). News internalizing and externalizing: The dimensions of news sharing on online social networking sites. *Journalism & mass communication quarterly, 93*(4), 816-835.
- Christensen, T., Riis, A. H., Hatch, E. E., Wise, L. A., Nielsen, M. G., Rothman, K. J., ... & Mikkelsen, E. M. (2017). Costs and efficiency of online and offline recruitment methods: a web-based cohort study. *Journal of medical Internet research*, 19(3), e58.
- De Waal, E. and Schoenbach, K. (2010). News sites' position in the mediascape: uses, evaluations and media displacement effects over time. *New Media & Society*, *12*(3), pp.477-496.
- Dhir, A., Kaur, P., Chen, S., & Pallesen, S. (2019). Antecedents and consequences of social media fatigue. *International Journal of Information Management, 48,* 193-202.
- Franzosi, R. (2008). Content analysis: Objective, systematic, and quantitative description of content. *Content analysis*, 1(1), 21-49.
- González-Padilla, D. A., & Tortolero-Blanco, L. (2020). Social media influence in the COVID-19 pandemic. *International braz j urol, 46*, 120-124.

GlobalWebIndex. (2020). Coronavirus research April 2020: Multi- market research wave 3. https://www.globalwebindex.com/ hubfs/1.%20Coronavirus%20Research%20PDFs/GWI%20 coronavirus%20findings%20April%202020%20-%20Multimarket%20research%20(Release%209).pdf

- Groves, R. M., Fowler Jr, F. J., Couper, M. P., Lepkowski, J. M., Singer, E., & Tourangeau, R. (2011). *Survey methodology*, (561). John Wiley & Sons.
- Harcup, T., & O'neill, D. (2001). What is news? Galtung and Ruge revisited. *Journalism studies*, *2*(2), 261-280.
- Hermida, A., Fletcher, F., Korell, D., & Logan, D. (2012). Share, like, recommend: Decoding the social media news consumer. *Journalism studies, 13*(5-6), 815-824.
- Holmgren, H. G., & Coyne, S. M. (2017). Can't stop scrolling!: pathological use of social networking sites in emerging adulthood. *Addiction Research & Theory, 25*(5), 375-382.
- Holt, K., Shehata, A., Strömbäck, J., & Ljungberg, E. (2013). Age and the effects of news media attention and social media use on political interest and participation: Do social media function as leveller? *European journal of communication*, 28(1), 19-34. DOI: 10.1177/0267323112465369
- Islam, A.K.M.N., Whelan, E., Brooks, S. (2018). Social media overload and fatigue: the moderating role of multitasking computer self-efficacy. In: Proceedings of the Twenty-fourth Americas Conference on Information Systems. New Orleans.

- Islam, A. N., Laato, S., Talukder, S., & Sutinen, E. (2020). Misinformation sharing and social media fatigue during COVID-19: An affordance and cognitive load perspective. *Technological Forecasting and Social Change*, *159*, 120201.
- Jenkins, H., Ford, S. & Green, J. (2013). Designing for spreadability, In: *Spreadable media*. (pp. 195-228). New York University Press.
- Johnson, G. M., & Kulpa, A. (2007). Dimensions of online behavior: Toward a user typology. *CyberPsychology & Behavior*, *10*(6), 773-780.
- Kagermann, H. (2015). Change through digitization—Value creation in the age of Industry 4.0. In Management of permanent change (pp. 23-45). Springer Gabler, Wiesbaden.
- Kemp, S. (2020, April 24). Report: Most important data on digital audiences during coronavirus. Growth Quarters—The Next Web. https://thenextweb.com/growthquarters/2020/04/24/report- most-important-data-on-digital-audiences-duringcoronavirus/
- Klimmt, C., & Vorderer, P. (2003). Media psychology "is not yet there": Introducing theories on media entertainment to the presence debate. *Presence: Teleoperators & Virtual Environments, 12*(4), 346-359.
- Kraaij-Dirkzwager, M. M., Tromp, M. Y., & van der Torn, P. (2020). COVID-19: over welke mensen maken we ons extra zorgen?. *TSG-Tijdschrift voor gezondheidswetenschappen, 1-6*.
- Ksiazek, T. B., Malthouse, E. C., & Webster, J. G. (2010). News-seekers and avoiders: Exploring patterns of total news consumption across media and the relationship to civic participation. *Journal of Broadcasting & Electronic Media*, *54*(4), 551-568.
- Larsson, A. O. (2018). The news user on social media: A comparative study of interacting with media organizations on Facebook and Instagram. *Journalism studies, 19*(15), 2225-2242.
- Lifshitz, R., Nimrod, G., & Bachner, Y. G. (2018). Internet use and well-being in later life: A functional approach. *Aging & mental health*, 22(1), 85-91.
- Logan, K., Bright, L. F., & Grau, S. L. (2018). "UNFRIEND ME, PLEASE!": SOCIAL MEDIA FATIGUE AND THE THEORY OF RATIONAL CHOICE. *Journal of Marketing Theory and Practice, 26*(4), 357-367.
- Matthews, B. & Ross, L. (2010). C3: Questionnaires. In B. Matthews & L. Ross, Research methods: A practical guide for the social sciences (pp. 200-217), Harlow: Pearson.
- Ministerie van Algemene Zaken. (2021, January 22). Night-time curfew as of Saturday 23January.NewsItemGovernment.nl.

https://www.government.nl/latest/news/2021/01/22/night-time-curfew-as-of-saturday-23-january

- Mitchelstein, E. and Boczkowski, P. (2010). Online news consumption research: An assessment of past work and an agenda for the future. *New Media & Society, 12*(7), pp.1085-1102.
- Neuman, W. (2014). *Social research methods: Qualitative and quantitative approaches* (7th ed. new international ed.). Harlow: Pearson Education.
- Nguyen, M. H., Gruber, J., Fuchs, J., Marler W., Hunsaker A. & Hargittai, E. (2020). "<? covid19?> Changes in Digital Communication During the COVID-19 Global Pandemic: Implications for Digital Inequality and Future Research." *Social Media+ Society, 6*(3), 2056305120948255.
- Ni, M. Y., Yang, L., Leung, C. M., Li, N., Yao, X. I., Wang, Y., ... & Liao, Q. (2020). Mental health, risk factors, and social media use during the COVID-19 epidemic and cordon sanitaire among the community and health professionals in Wuhan, China: cross-sectional survey. JMIR mental health, 7(5), e19009.
- Olufadi, Y. (2016). Social networking time use scale (SONTUS): A new instrument for measuring the time spent on the social networking sites. *Telematics and Informatics*, 33(2), 452-471.
- Ostrovsky, A. M., & Chen, J. R. (2020). TikTok and its role in COVID-19 information propagation. *Journal of Adolescent Health, 67*(5), 730.
- Pedersen, E. R., & Kurz, J. (2016). Using Facebook for health-related research study recruitment and program delivery. *Current opinion in psychology*, *9*, 38-43.
- Rosenthal, S., & McKeown, K. (2011). Age prediction in blogs: A study of style, content, and online behavior in pre-and post-social media generations. In Proceedings of the 49th Annual Meeting of the Association for Computational Linguistics: Human Language Technologies (pp. 763-772).
- Sabbagh, K., Friedrich, R., El-Darwiche, B., Singh, M., Ganediwalla, S. A. N. D. E. E. P., & Katz,
 R. A. U. L. (2012). Maximizing the impact of digitization. *The global information technology report*, 2012, 121-133.
- Salkind, N. (2017). *Statistics for people who (think they) hate statistics* (6th ed., international student ed.). Thousand Oaks: SAGE.
- Sambhav, S. (2020). Role of Mass Media and Communication during Pandemic Key Role at Crucial Stage: Categories and Challenges. *International Journal of Creative Research Thoughts, 8*(5), 3786-3790.

- Sandford, A. (2020, April 3). Coronavirus: Half of humanity now on lockdown as 90 countries call for confinement. Euronews. https://www.euronews.com/2020/04/02/coronavirus-in-europe-spain-s-death-tollhits-10-000-after-record-950-new-deaths-in-24-hou
- Schmidt, W. C. (1997). World-Wide Web survey research: Benefits, potential problems, and solutions. *Behavior research methods, instruments, & computers, 29*(2), 274-279.
- Shanahan, L., Steinhoff, A., Bechtiger, L., Murray, A. L., Nivette, A., Hepp, U., ... & Eisner, M. (2020). Emotional distress in young adults during the COVID-19 pandemic: Evidence of risk and resilience from a longitudinal cohort study. *Psychological medicine*, 1-10.
- Shehata, A., & Strömbäck, J. (2011). A matter of context: A comparative study of media environments and news consumption gaps in Europe. *Political Communication, 28*(1), 110-134.
- Sincero, S. M. (2012, March 18). Advantages and Disadvantages of Surveys. Explorable.com. https://explorable.com/advantages-and-disadvantages-of-surveys
- Sarstedt, M., Bengart, P., Shaltoni, A. M., & Lehmann, S. (2018). The use of sampling methods in advertising research: A gap between theory and practice. *International Journal of Advertising*, *37*(4), 650-663.
- Statista. (2017, May). Distribution of social media users in the Netherlands in 2017, by hours spent per day on social media and age group. https://www.statista.com/statistics/861834/hours-per-day-on-social-media-in-thenetherlands-by-age-group/
- Statista. (2020, June 23). Share of adults who use social media as a source of news in selected
countriesworldwideasofFebruary2020.https://www.statista.com/statistics/718019/social-media-news-source/
- Statista. (2021, February 9). Global social networks ranked by number of users 2021. https://www.statista.com/statistics/272014/global-social-networks-ranked-bynumber-of-users/
- Van Bavel, J. J., Baicker, K., Boggio, P. S., Capraro, V., Cichocka, A., Cikara, M., ... & Willer, R. (2020). Using social and behavioural science to support COVID-19 pandemic response. *Nature human behaviour, 4*(5), 460-471.
- van Kempen, J., & Soetenhorst, B. (2020, December 15). Nederland in harde lockdown. Maar hoe moet het hierna? Het Parool. https://www.parool.nl/nederland/nederland-inharde-lockdown-maar-hoe-moet-hethierna~b815c469/?referrer=https%3A%2F%2Fwww.google.com%2F
- Vázquez-Herrero, J., Direito-Rebollal, S., & López-García, X. (2019). Ephemeral journalism: News distribution through Instagram stories. *Social Media+ Society*, *5*(4), 2056305119888657.
- Vasterman, P. L. M., Ruigrok, N., & Scholten, O. (2011). Mexicaanse griep in Nederland. Stichting Het Persinstituut.
- Volk, A. A., Brazil, K. J., Franklin-Luther, P., Dane, A. V., & Vaillancourt, T. (2021). The influence of demographics and personality on COVID-19 coping in young adults. *Personality and individual differences*, *168*, 110398.
- Weiner, D. L., Balasubramaniam, V., Shah, S. I., & Javier, J. R. (2020). COVID-19 impact on research, lessons learned from COVID-19 research, implications for pediatric research. *Pediatric research*, *88*(2), 148-150.
- West, C. (22 April, 2019). 17 Instagram stats marketers need to know for 2019. Sprout Social. Retrieved from https://sproutsocial.com/insights/instagram-stats/
- Westlund, O. (2015). News consumption in an age of mobile media: Patterns, people, place, and participation. *Mobile Media & Communication*, *3*(2), 151-159.
- Zaharopoulos, T. (1990). Cultural proximity in international news coverage: 1988 US presidential campaign in the Greek press. *Journalism Quarterly, 67*(1), 190-194.

Appendix A

Questionnaire in English

Dear reader,

Thank you for taking the time to participate in this survey. This study is conducted by a Master's student at the Erasmus University Rotterdam. The purpose of this study is to gain insight on online behaviour and news consumption patterns in the context of the COVID-19 pandemic. Please be as honest as possible while answering the questions.

Filling out the survey will take approximately 8 minutes. Your answers remain confidential and are solely used for research purposes. Please note that your participation is voluntary and that you are free to preliminarily withdraw from the survey research at any time. Should you have any questions regarding the study, please contact the researcher by e-mail: <u>444690nd@student.eur.nl</u>

Part 1 – General Information

Q1 What is your age?

Q2 Do you live in the Netherlands?

- (1) Yes
- (2) No (automatically directed to end of survey)

Q3 What is your gender?

- (1) Male
- (2) Female
- (3) Other
- (4) I'd rather not say

Q4 What is your nationality?

- (1) Dutch
- (2) Other _____
- Q5 What is your highest level of education? Pre-vocational secondary education (VMBO) Senior General secondary education (HAVO) Pre-university education (VWO) Senior Secondary Vocational Education (MBO) University of applied sciences (HBO) University (WO) PhD Other _____

Part 2 – Online Behaviour

Q5 How many hours do you spend consuming online content (that is NOT for academic or workpurposes) **per day**? This includes consuming online content through your smartphone/tablet/iPad/laptop/computer, etc. (think of online activities such as: reading, scrolling, watching, posting, sharing, communicating) If you are not sure, you can use your daily 'screen time' (if available on your device) average as an estimate.

1 hour or less 1-3 hours 3-5 hours 5-7 hours More than 7 hours

Q6 What social media platforms are you active on? (Multiple answers possible)

WhatsApp
Facebook
Instagram
Snapchat
TikTok
Twitter
LinkedIn (for non-work-related activities)
Pinterest
YouTube
Dating apps like Tinder, Happn, etc.
Other

Q7 What three social media platforms that you are active on do you use the most? (1 being the one you use most)

- (1) _____ (2) _____
- (3)

Q8 What is the main purpose for your personal online media use?

Personal communication Entertainment News/current affairs Favourite brands and personalities Communication with customer services Discounts and advertisements Official communication with (local/national) government, banks, energy companies etc. Other _____

Part 3 – News Consumption

Q9 On average, how many times do you watch/listen/read the news?

Never Once a month A few times a month Once a week A few times a week Once a day A few times a day

Q10 What media do you use MOSTLY to follow the news? (Multiple answers possible)

None
Print news papers
Television
Radio
Online news papers
Social media
Other

Q11 What **online** media do you use MOSTLY to follow the news (Multiple answers possible) Online newspaper websites (e.g.: www.nos.nl) News apps (e.g.: NOS app, BBC app, New York Times app, etc.) Facebook Twitter Instagram TikTok Snapchat LinkedIn Other _____

Q12 How many media outlets do you follow online on a regular basis? For example: having downloaded media apps (NOS, AD, BCC) or following news accounts on social media

- None 1 2 3
- 4
- 5+

Q13 Do you follow news accounts on social media platforms such as Facebook, Twitter, Instagram or TikTok?

- (1) Yes
- (2) No
- (3) I don't know

Q14 Do you use secondary news-spreading pages (e.g.: meme pages) for your news consumption?

- (1) Yes
- (2) No
- (3) I don't know

Q15 What online news platforms/channels do you use to inform yourself about the events happening around COVID-19 pandemic? (Multiple answers possible)

Websites provided by the government/health institutions (e.g.: www.rijksoverheid.nl / RIVM) News websites (e.g.: ED or NOS website) Government accounts on social media News accounts on social media (e.g.: BBC news/NOS on Instagram) Secondary news-spreading pages (e.g.: meme pages on Instagram) WhatsApp groups Other _____

Q16 Statements (Likert-scale) - Indicate to what extent you agree with the following statements:

I prefer to watch/listen/read the news through social media

- (1) Strongly disagree
- (2) Disagree
- (3) Neither agree nor disagree
- (4) Agree
- (5) Strongly agree

I actively seek out news and information about a topic of interest

- (1) Strongly disagree
- (2) Disagree
- (3) Neither agree nor disagree
- (4) Agree
- (5) Strongly agree

I only read headlines of news articles

- (1) Strongly disagree
- (2) Disagree
- (3) Neither agree nor disagree
- (4) Agree
- (5) Strongly agree

When I see a news article that interests me, I make the effort to read it

- (1) Strongly disagree
- (2) Disagree
- (3) Neither agree nor disagree
- (4) Agree
- (5) Strongly agree

I mostly bump into news and information on online media platforms that other people have shared

- (1) Strongly disagree
- (2) Disagree
- (3) Neither agree nor disagree
- (4) Agree
- (5) Strongly agree

I choose what kind of news content I come across by intentionally following specific online news channels

- (1) Strongly disagree
- (2) Disagree
- (3) Neither agree nor disagree
- (4) Agree
- (5) Strongly agree

I like to share news content with others in my social network (for example: by sharing news articles in WhatsApp groups, on my Facebook timeline or Instagram story)

- (1) Strongly disagree
- (2) Disagree
- (3) Neither agree nor disagree
- (4) Agree

(5) Strongly agree

Part 4 – Social media overload

Q17 Statements (Likert-scale) - Indicate to what extent you agree with the following statements:

I am frequently overwhelmed by the amount of information available on social media sites

- (1) Strongly disagree
- (2) Disagree
- (3) Neither agree nor disagree
- (4) Agree
- (5) Strongly agree

The amount of information available on social media sites makes me feel tense and overwhelmed

- (1) Strongly disagree
- (2) Disagree
- (3) Neither agree nor disagree
- (4) Agree
- (5) Strongly agree

Connecting/staying in touch with friends and family through social media platforms overwhelms me

- (1) Never
- (2) Rarely
- (3) Sometimes
- (4) Often
- (5) Always

When searching for information on social media websites I frequently just give up because there is too much information to deal with

- (1) Strongly disagree
- (2) Disagree
- (3) Neither agree nor disagree
- (4) Agree
- (5) Strongly agree

In the last year, I have unfollowed certain social media accounts or profiles because their content or information was too overwhelming

- (1) Strongly disagree
- (2) Disagree
- (3) Neither agree nor disagree
- (4) Agree
- (5) Strongly agree

In the last year, I have deleted one or more personal account(s) from a social networking site because the content or information on there was too overwhelming

- (1) Strongly disagree
- (2) Disagree
- (3) Neither agree nor disagree
- (4) Agree
- (5) Strongly agree

In the last year, I have deleted one or more social media apps from my phone or other technological device because the content or information on there was too overwhelming

- (1) Strongly disagree
- (2) Disagree
- (3) Neither agree nor disagree
- (4) Agree
- (5) Strongly agree

You have successfully completed the survey. Thank you very much for your participation!

For any questions regarding this research please send an e-mail to: <u>444690nd@student.eur.nl</u>