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How Platform Affects Comments on News Articles

A qualitative analysis of comments from a newspaper's comment section and Facebook page

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Sammendrag

I denne masteroppgaven har jeg utført et kvalitativt forskningsprosjekt for å finne ut hva forskjellen er på kommentarer på en avis sitt eget kommentarfelt og Facebookside, og hvilke teknologiske, psykologiske og sosiale faktorer kan forklare disse forskjellene? Jeg har opprettet 12 kategorier for å kategorisere kommentarer fra Facebook og kommentarfeltet på 6 artikler fra VG. Jeg har analysert kommentarer på artikler i kommentarfeltet til VG, og sammenlignet dem med kommentarer skrevet på VGs Facebookside under delte artikler. Gjennom å analysere og sammenligne disse kommentarene fant jeg at kommentarer fra VGs kommentarfelt var i større grad argumentative og informative, og det var flere tilfeller av kritiske og nedsettende kommentarer. Kommentarer i kommentarfeltene var også lengre og inneholdt færre emotikoner. Kommentarer på VGs Facebookside var i større grad reaktive, og det var færre samtaler og diskusjoner her. Etter å ha observert at mine resultater var relativt like resultatene til Rowe (2015), som har gjort et lignende studie, bestemte jeg meg for å utføre et nytt forskningsprosjekt for å bekrefte eller avkrefte Rowes bruk av anonymitet som en forklaring på nedsettende kommentarer. Rowes forklaring kunne ikke bekreftes av denne studien. Jeg har foreslått en rekke teknologiske, psykologiske og sosiale faktorer som kan forklare de observerte forskjellene på VGs Facebook side og kommentarfelt. Designet på Facebook gjør det vanskeligere og mindre ønskelig å skrive lengre kommentarer, og Facebook-brukere anses å ha en sosial motivasjon som ikke omhandler å diskutere, men å kommentere. Kommentatorer på VGs kommentarfelt anses i større grad å være motiverte til å sette seg inn i saker og å bruke tid på kommentering og kommunikasjon med andre kommentatorer. Til slutt har jeg gjort et forsøk på å bedømme den demokratiske verdien av debatter i kommentarfelt og på Facebook ved å knytte mine funn opp mot Habermas' teori om den borgerlige offentlighet. Jeg fant at kommentarfelter på nettaviser i større grad oppfyller de idealistiske kravene for en borgerlig offentlighet. I tillegg til denne masteroppgaven førte forskningen min til opprettelsen av nettstedet commentsandplatforms.net.

Acknowledgements

Abstract

Online comment sections are often seen as places of vile and hostile speech. Previous researchers have focused on anti-social behavior online, and a lot of research and theorizing have been done on the role of anonymity. To combat hostile and unwanted comments, many publishers have closed their comment sections, and are instead using their Facebook pages as a forum for interaction with their readers and facilitating comments on news articles. The current research explores how commenting on Facebook differs from commenting on a newspapers website by performing a qualitative analysis of comments on the same articles from both platforms. 12 categories of comments have been created. Comments from VG's Facebook page and comment sections have been categorized, analyzed and compared with each other. It was found that there were more questions, suggestions, argumentative, informative and derogatory comments on VG's comment sections. There were more reactive and supportive comments on VG's Facebook page, in addition to tagging comments that were written to direct specific people's attention to an article. It was also found that there were more emoticons and a lower average word count on Facebook, and that there were more conversations and discussions in the comment sections on vg.no. After discovering that the results of this study showed an equal number of derogatory comments as a study by Rowe (2015), a second study was performed: Rowe's coding scheme was replicated to find if his explanation of anonymity as the cause of incivility online was valid. This could not be confirmed, suggesting that anonymity cannot be used as a single explanatory factor for online incivility. A combination of technological, psychological and social factors have been suggested in this thesis to explain the observed differences. The design of Facebook does not encourage longer comments. The affordances of using Facebook, in combination with Facebook users' socio-emotional motivations for commenting and the effects of the echo chamber and filter bubbles, results in shorter, more reactive comments, and fewer conversations between users. Finally, to evaluate the democratic value of commenting on the two platforms, the results have been put into context of the Habermasion Public Sphere, where it was found that comments on comment sections are closer to the ideal requirements for good public debate. In addition to this thesis, my research led to the creation of the website commentsandplatforms.net.

Table of content

1. Introduction

Since the early days of the internet, the ability to communicate digitally across distances has been seen as a democratic tool and a facilitator for free speech and public debate (Gonçalves 2015, 1). Almost as soon as newspapers began to publish their stories online in the 1990's, with the first newspapers publishing online stories as early as 1992 (Li 2010, 1-2), the implementation of comment sections opened the world of journalism up to the public, allowing anyone to have their opinions and arguments heard by thousands. Existing paper publications weren't the only ones to create online editions, as new online-only news sites were created, also with comment sections.

But then something changed. Today, comment sections are often seen as a horrible and vile place, where trolls hijack the public debate, where racists and anti-feminists spread hate, and normal people are turned into mean and hurtful monsters. While this popular view is certainly exaggerated, comment sections have seen their share of anti-social and hurtful speech. Since the 1990's academics and psychologists have attempted to explain such behaviors, often blaming the anonymity that the internet provides for the tendency of seemingly normal people to show disinhibited and toxic behavior online (Suler 2005; Lapidot-Lefler and Barak 2012; Gonçalves 2015; Stroud, Muddiman and Scacco 2016; Rowe 2015). Web developers have proposed and implemented several technological solutions, such as users being able to moderate each other, pay-walls, rating systems and users being required to login before commenting. News publishers have employees to moderate their comment sections, and some have implemented user login and Facebook integration (Sonderman 2011) – to vocal protest from some commenters who are worried about their privacy and ability to speak freely.

In recent years, an increasing number of news sites have decided to close their comment sections, and some newly established online publications have decided not to have comment sections from the start. Citing the hostility of some commenters as their number one reason, several news sites have opted to direct their attention to Facebook as a platform for them to engage with readers and facilitate public debate (Bilton 2014; Ellis 2015; Finley 2015). It seems to be a win-win situation: readers, at least those on Facebook, have a place to engage in debate, and the newspapers have an easier time moderating.

Comment sections may be seen by some as a place of trolling and bullying. But for others they are a forum for free speech. The truth likely lies somewhere in between. But as the

commenters are moving from one platform to another, some important questions arise: Are comment sections a democratic tool and a facilitator of free speech, as the pioneers of the internet hoped for? And how will the move from comment sections to Facebook affect the democratic value of comments? Thankfully it might be possible to answer these questions. Most news sites today have both a Facebook page and a comment section. The comment sections can take many different forms, but the integrated Facebook comment system is the one that is most like commenting on Facebook. It requires a Facebook account, have many of the same visual elements, and identifies commenters by their Facebook name. So, by comparing the comments from Facebook and from an integrated Facebook comment system, it should be possible to determine how commenting on Facebook, versus commenting on a news site's comment sections, affect the comments. This is because the two platforms will have the same level of anonymity, meaning that any observed differences can be explained by the difference in platform. For this study, the Norwegian national newspaper VG was chosen as the source of the studied comments, in part because it has both an active Facebook page and an integrated Facebook plugin comment system.

To investigate the differences between comments on Facebook and a news site, this research project will try to answer three research questions:

RQ1: How are comments on news articles on Facebook different from comments on a news website? Initial observations have shown that comments on Facebook are shorter and contain fewer replies than in those found in comment sections on a newspaper's website. Using content analysis I will retrieve, analyze and categorize comments from the same news articles by a Norwegian newspaper's website and its Facebook page.

RQ2: What technological, psychological and social factors can explain the differences between comments on a news website and Facebook? By investigating the technology and design of the two platforms and reviewing research that may be used to explain online behavior, I will propose potential explanations for any observed differences from the data analysis.

RQ3: How does the increasing popularity of commenting on Facebook affect the public debate and democratic properties of comments on news articles? For a long time, there have been hopes that the internet, and the ability for anyone to comment on content online, can increase free speech and revitalize democracy. To determine if commenting on

Facebook does this better than commenting on a news site's comment section, the results of this study will be put into the context of Habermas' theory about the public sphere.

In this thesis, I will begin by giving an overview of comments and commenting, problems associated with comments, and relevant academic research. I will then introduce my research methodology, before presenting the results of the research. These results led me to do a smaller study to replicate the methodology of Rowe (2015), to determine if his explanation of anonymity causing incivility online is valid. I will then explain my results by looking at technological, individual and social factors, using academic resources, and linking them to the results of this research. Finally, to evaluate the democratic value of commenting on vg.no and VG's Facebook page, the results have been put into context of the Habermasion Public Sphere.

I believe that my research findings, which indicate that comment sections are a better platform for good public debate than Facebook, are important to share. Therefore, in addition to this thesis, I created the website Comments & Platforms, which can be found at commentsandplatforms.net. On this website I have published a summary of my research, as well as excerpts from my thesis. I have created a creative work called "Moving the Comments" to illustrate the differences I have found between the comments on vg.no and its Facebook page, which can be found on the website. Finally, the Comment Anonymizer script that I have used to retrieve the comments studied for my research, and its source code, can be found on the website, for other researchers to use.

2. Comments

Joseph M. Reagle Jr. is an American academic and writer of the book *Reading the Comments*. He defines comments as a genre of communication that is asynchronous, social, and reactive in that it follows as a response to, and is found below a post, article or video. They are also defined as short, and as being written in context of something, with a writer as a source, and an audience (Reagle 2015, 2 & 17). There are some problems with this definition - for example when defining comments as being short. While this is certainly the norm, there is no reason other than technological limitations that comments can't be longer. And it is also difficult to use in a definition because what constitutes short is subjective and dependent on the context. I would also argue that defining a comment as being in response to something is not accurate enough, as it implies a contextually relevant relationship between a post and a comment, meaning that the content of the comment is related to the original post. This does not have to be true, as there are no technical limitations on what a commenter can write, which is why we sometimes find spam or off-topic discussions in comment sections. Another researcher, Ian Rowe, describes comments as a feature that provides users with a public space at the end of each article in which they are invited to contribute their own opinions, perspectives and expertise to the content produced by professional journalists (2015, 122). This definition is, however too specific, in that it specifies articles produced by professional journalists as a requirement for commenting. While this research looks specifically at comments on articles written by professional journalists, excluding comments on other media such as blog posts or YouTube videos when defining the term, would create a too narrow definition.

A distinction also must be made between different forms of commenting, some of which may not be comments at all. Tweets, for example, can be made in response to each other. Does this make them comments? I would say no, because tweets made in response to each other are forms of communication that are not dependent upon any original content to be commented upon. In other words: they can exist in their own universe, whereas a comment's existence is dependent upon some form of original content, like an article. Another form of commenting that may not be comments are forum posts. Is the reply to a forum post a comment? Again, I would say no. Forums, like Reddit, are designed for users to interact with each other. And the posts, whether they be parent posts or replies, are the means of interaction. If they were to be removed, there would be nothing left. On an article, or plog post however, the removal of the comments would have little effect. This is because news-

and blog sites are not primarily designed for users to interact with each other. Commenting is just a bonus, which the news- or blog site is not dependent upon.

For the purposes of this research, the definition of a comment is a simplified version of Reagle's definition: A comment is a user-generated, asynchronous, reactive text, image or video following an online publication, that is presented in the same setting or document as the content being commented upon. Facebook reactions such as "Like", "Love" or "Hate" were not considered heavily in this study, which compares comments on Facebook to those on a news website. In his definition of comments, Reagle argues that rating and liking is a comment (2015, 17). Yet while one can argue that reactions on Facebook is a form of commenting, or at the very least a form of engagement with the article, they cannot be compared to anything on the news website - as the comment section on vg.no has not implemented any functions like that of the Facebook reactions. Facebook reactions is an important subject to consider when looking at the engagement with, and the spreadability of an article – and the motives of newspapers to close their comment sections in favor of Facebook comments. But as they are not comparable to anything on vg.no, it was decided that, while Facebook reactions would be recorded and counted, they would not be directly compared to the comments on vg.no.

Another important concept for this research is the comment section. Michael Artime, a political science Ph.D. studying the intersections of new media and political behavior, defines comment sections as "forums attached to the conclusion of online news stories or blog posts [that] are designed to increase audience interactivity with the content contained in said stories" (2016, 1). For the purposes of this research, Artime's definition is satisfactory.

2.1. The history of commenting

It's difficult to find a clear beginning for comments and comment sections. But the act of commenting goes back to ancient times, according to Reagle. The ancients, with their complicated writing systems, needed help deciphering their texts, and so they developed conventions for annotating their works known as *scholia* (Reagle 2015, 23). The ability to comment has always been preceded by a technological development that facilitates public engagement. After the invention of the printing press, the availability of books led to more people reading and discussing the content of books. During the enlightenment, the new

reading public, according to Habermas, constituted a public sphere in which topics were discussed in a rational-critical way, leading to the liberal civil society (1991, 106-107). The idea of public discussion, not monitored or controlled by the rulers of the day, was such a threat to traditional power structures that it even led to Charles II of England banning coffee houses, where much of the public debate was taking place, in 1675 (Reagle 2015, 24-25).

With the development of new electronic communication technologies, public discussions would find a new home and develop into the comments we know today. Communities formed in forum-like environments online as early as the ARPAnet, the precursor to the internet from 1969 (Hubler and Bell 2003, 281), and in 1973, the Community Memory public bulletin board system was set up in Berkeley. At the time, some authors saw the possibilities of generating a public discursive and deliberative structure offered by the Internet, which was seen as a way to revitalize democracy and stimulate public debate and social change (Gonçalves 2015, 1).

With the implementation of the World Wide Web in 1991, newspapers began to publish their stories online. Text-based publications of news articles began in 1992, and after Netscape released its graphical web browser, Navigator, in 1994, a few newspapers created online editions. By the end of 1994 there were less than 10 of them, but by the year 2001 there were over 3.400 online newspapers in the U.S. alone (Li 2010, 1-2). In Norway, all the three major national newspapers, Aftenposten, Dagbladet and VG, published online editions as early as 1996 (medienorge 2017).

In the mid 1990's, newspapers started adding comment sections, and in Norway, the newspaper Dagbladet opened up for commenting in 1996 (Ramnefjell 2016). The response from journalists at the time was to cautiously welcome input from their readers. But they were also skeptical about the quality and trustworthiness of user-generated content on newspapers, and wanted to keep their journalistic jurisdiction over news content and publishing (Teopfl and Piwoni 2015, 467). In recent years, however, journalists have reported that comments have positively impacted their work in several ways, including providing enhanced critical reflection and new story leads (Graham and Wrigth 2015). Since its first implementation in the 90's, comment sections on news sites has become almost an industry standard. By 2013, 90% of news sites had a comment section (Stroud, Muddiman and Scacco 2016, 2).

2.2. Demographics- Who are the commenters?

The popular view of commenters is not a positive one. The stereotypical online commenter is a hostile person who is assumed to have some sort of interpersonal or intellectual problems (Artime 2016, 2). Demographic factors such as marital status and employment effects the likelihood for people to engage in online commenting. Table 2-1 shows statistics about commenters from the Pew Research Center (Artime 2016, 4-6). The first interesting thing to note is that, while the relative differences between different demographics are stable, there is a large increase in commenting for all demographics between 2008 and 2012. In 2008, 11% of Americans reported having commented on a website. In 2012, the number had risen to 24%, closely matching the 25% of Americans reported by Teopfl and Piwoni (2015, 467).

The Pew Research Center data provides us with data about which factors increased the likelihood of a person commenting on a news website. Men (n=28%) are more likely to comment than women (n=21%). Unmarried people (n=27%) comment more than married people (n=22%), and unemployed people (n=29%) are more likely to comment than those who are employed (n=23%). In total this provides us with a picture of the most typical commenter: an unemployed, unmarried man (37%).

	2008	2012
Total population	11 %	24 %
Men	14 %	28 %
Women	10 %	21 %
Married	9 %	22 %
Unmarried	16 %	27 %
Employed	10 %	23 %
Unemployed	21 %	29 %
Employed, married men	10 %	24 %
Unemployed men	25 %	33 %
Unemployed, unmarried men	33 %	37 %

Table 2-1: Demographic statistics of Americans who comment on comment sections. Source: Artime 2016, p. 4-6

2.3. How comments affect us

Comments and comment sections provide an opportunity for people to add their voice to public debates (Artime 2016, 3). The Internet allows anyone to voice their opinion through social media, blogs or YouTube videos. But in comment sections on news sites, the average citizen can reach an audience of potentially millions of readers – something that is difficult to do in any other way. And commenters do seem to have a real audience. Several studies have looked at the demographics of commenters, and the people who read them. 84% of news readers in South Korea read comments, and on a local Californian news site, the number is 65%. Comments can have a significant impact on the readers' perception of public opinion, and even change their personal opinions (Teopfl and Piwoni 2015, 467). Comments can even cause journalists to be more accurate, as journalists know that inaccuracies and lazy reporting might be pointed out by the readers in the comment sections (Artime 2016, 4).

But comments aren't all good, and they often make an impression on us when they are an irritating element to be disabled, or an offensive element to be ignored (Reagle 2015, 3). Several studies have found that there is a significant amount of offensive, aggressive and deviant messages in online debates. It is difficult to find an exact number of uncivil comments, as reported numbers vary from 4 to 22 % (Vergeer, 2015). While comment sections and online forums can provide people with a great community, successful platforms suffer from the negative effects of platform growth. The cognitive limit of how many relationships a human can maintain is around 150. And when an online community where all members know each other grows too big, people complain that the "magic is gone" (Reagle 2015, 3-4).

2.4. Previous research

Because comments have such a bad reputation for being a place of trolling, critique, anti-social and anti-democratic behavior – what I have chosen to call derogatory comments in my own coding scheme (described in detail in chapters 3.4 and 4.1) -, a lot of the research on commenting focuses on how much bad behavior there is in comments, and the reasons for it. Bad behavior online is not a new concept, and qualitative research has been done on the subject since at least as early as the 1990's, as the world wide web became popular. Phillips (1996) explored how a newsgroup used flaming as a defensive measure when faced with difficulties from new members who were challenging established norms. John Suler

developed theories about why people behave badly online – ranging from the pathological to the healthy - (Suler and Phillips 1998), and his separation of anonymity and invisibility (2005) has been the theoretical background for later studies (Lapidot-Lefler and Barak 2012; Gonçalves 2015; Buckels, Trapnell and Paulhus 2014).

Later studies have used experimental situations and statistical analysis to look into the subject of derogatory comments and the role of anonymity. Lapidot-Lefler and Barak (2012) concluded that the lack of eye-contact was the biggest factor contributing to bad behavior. Gonçalves (2015) looked at how comment sections are affected by anonymity and hierarchies and found that hierarchical systems with moderation by the users themselves lowered the number of derogatory comments, but that such systems are susceptible to abuse when users try to rise in the hierarchy. There seems to be some validity to the argument of anonymity leading to bad behavior online. The theoretical background provided through psychological research and the theories of Suler is backed up by some research results. Sites requiring users to log in with their real names to comment are found to have more civil content than sites where commenting is anonymous (Stroud, Muddiman and Scacco 2016, 3). Santana also found that being anonymous made users more likely to be uncivil (2014), but Rowe argues that the observed effects may be explained by other factors, such as geographical differences (2015, 126). The persistent belief that anonymity leads to incivility is why many newspapers have moved from anonymous comment sections to integrated Facebook comment sections that require commenters to use their Facebook account, and it has been found to have a positive impact on the civility of commenting (Sonderman, 2011).

But other explanations for bad behavior have been suggested. Waytz and Epley (2012) have shown experimentally that thinking about or being around close ones, such as family members, increases an individual's tendency to dehumanize other people – suggesting that even the people in a commenter's immediate surroundings may affect their online civility. Blom et al. (2014) claims that frequent contributors to online forums are more likely to act in uncivil ways, and Gonçalves (2015) found that it is not anonymity itself, but the use of pseudonyms and constructed identities that predicted bad behavior in his study. Social influence also seems to be a factor, as Cheng et al. (2015) discovered when analyzing bulletin boards, suggesting that the culture of a comment system can affect the commenters. And Rösner and Krämer (2016) found that participants wrote more aggressive comments if other people's comments were aggressive. Janne Berg (2016) studied the effect of issue controversy and found it to have a greater impact on discussion quality than anonymity.

2.5. Current trends

In the last decade, there have been many attempts at cleaning up the comment sections. Employing moderators is one popular, but expensive, solution for larger news sites. Some sites, such as Stack Overflow, have tried using meta-moderation, where users moderate each other. But this system has been criticized because it often allows for a group of moderators to abuse their power. Similar criticisms have been made about comment systems where users can rate each other's comments (Reagle 2015, 7-8). Registration systems where users are required to register with their real name have been shown to reduce the number of unwanted comments (Gonçalves 2015, 3), but at the expense of anonymity – which might raise the bar for participation. Systems such as the integrated Facebook commenting system also raise concerns about privacy (Reagle 2015 8-9) – not to mention the fact that it may lead to a future where a Facebook account is a requirement for public participation. Facebook will then have a great authorative influence over the public discussion, something that Habermas has criticized traditional media for (Habermas 1991, 158-162; Loader and Mercea 2011, 760). This is a problem that I will discuss in more detail in chapter 9 when I use the Habermasian Public Sphere to judge the quality of commenting on Facebook and vg.no.

In recent years, more and more newspapers and websites have closed down their comment sections, citing bad behavior by commenters and spam as reasons for doing so. The Chicago Sun-Times closed their comment sections in 2014, and the newspaper's managing director said at the time that "There's got to be a better place we can offer people to interact without comments taking away from the article or denigrating the people who are reported on." (Bilton 2014). Several news sites have closed their comment sections and are instead making an effort to use their Facebook pages for public debate and interaction with the readers. Popular Science, claiming that comments are bad for science, closed their comment sections in 2013 (Bilton 2014), followed by Reuters, The Week, The Verge and USA Today (Ellis 2015). Some news sites, like CNN, haven't closed their comment sections, but make commenting impossible on some, or most, of their articles (Finley 2015). And some newly opened online news sites, like Quartz and Vox, have decided not to implement commenting from the start (Bilton 2014).

In Norway, Dagbladet, one of the country's largest newspapers, closed down its comment sections in 2016. The reason given by the newspaper was that they wanted to have the staff members responsible for moderating the comment sections working with social media instead, because there is more user activity there. At the time about 3000 active users

contributed to the discussions in the comment sections each month. But on Dagbladet's two Facebook accounts, Dagbladet.no and Dagbladet Meninger, they receive as many as 6-7000 daily comments (Ramnefjell 2016).

The ability to comment on articles has become an expectation for a lot of people, and Finley (2015) called comment boxes a staple of the online experience when questioning why so many of them were closing. It is important to note that comment sections do not appear to be in any immediate danger of becoming extinct, as 82% of newspaper managers and editors reported that they were unlikely to close comment sections (Stroud, Muddiman and Scacco 2016, 2). But as we have seen, in the past few years a growing number of news sites have been closing their comment sections and forcing public debate to be moved to Facebook. This creates a situation where newspapers have less control over any public debates that their articles spark. They cannot as easily control the design and labels of the comment input sections, how identifiable the commenters are, or how the comments are being presented. And it creates a privacy concern, as news sites will no longer be able to control the way private information about the commenters are being used. Also, if we are to make Facebook the arena of public debate and commenting on articles, it is important to know what this does with the quality of commenting. Even if such a move were to lower the number of derogatory comments, it is important to know what else it changes, so that we can ask ourselves an important question: is it worth it? To answer that question, we need more information about the difference between comments on a news sites comment sections and Facebook.

2.6. Categorizing comments

The truth is that anonymity, invisibility, moderation, frequency of commenting and cultural factors can all be thought to affect the quality of commenting. But I would argue that one problem with the available research is that it focuses too much on anonymity, and that the tendency to judge the quality of commenting by the level of hostility alone is insufficient. It is certainly possible to be both civil and socially friendly to other people without contributing with anything of value to a debate. By only using hostility to measure the quality of discussion, and by only explaining hostility with anonymity, researchers are missing out on many other potential measures of quality and explanations for online behavior.

I believe it is possible to measure the quality of commenting by looking for qualities that would be found in an informed rational-critical discussion: arguments, questions, the

sharing of information, and replies to one another. These qualities can be searched for in a set of comments using qualitative research methods, and formalized categories can be created – which can then be used to measure the quality of comment sections beyond just looking at hostility and bad behavior. Categorization of comments has been done before. Rowe (2015), who's study will be analyzed further in chapter 5, used a coding scheme developed by Papacharissi to analyze uncivil behavior on the Washington Post's comment sections and Facebook page. But because this coding scheme was designed for analyzing only anti-social and anti-democratic comments, it is insufficient for my own research. And Rowe, as many others have done, explains his findings of more incivility on the Washington Post's comment section as a result of these commenters being anonymous – an explanation that I found to be insufficient based on the research results in this thesis.

In creating categories to use in my own research, my goal is to create a coding scheme that could encompass all analyzed comments, not just derogatory comments. This allows for a broader analysis of comment sections, and should help answer my first research question: How are comments on news articles on Facebook different from comments on a news website? It is also my intention to propose more varied explanations for any observed differences. Anonymity is not the only psychological explanation that can be used to explain behavior online. And technological and social explanations also need to be considered. By analyzing the design of the two studied platforms and reviewing previous research that could help explain any observed differences, I hope to answer my second research question: What technological, psychological and social factors can explain the differences between comments on a news website and Facebook?

2.7. Comments in the Public Sphere

The early pioneers of the internet hoped that a new vitalization of democracy would take place as people connected digitally. It is difficult to say if the internet as a whole has been a democratizing force, or if public debate has improved because of it. This question is also too broad for this thesis, and I will focus on the democratic properties of commenting on news articles to answer my third research question: How does the increasing popularity of commenting on Facebook affect the public debate and democratic properties of comments on news articles?

It is difficult to define what makes a comment or online discussion democratically valuable, or find a way to measure the quality of commenting on a platform. But in looking back to the early days of the internet described above, a goal of commenting might be found: to revitalize democracy and stimulate public debate. So, what are the qualities of democracy and public debate in an online world? Janne Berg defines high-quality online discussions, based on a review of previous research, as characterized by rational reasoning, posting on-topic, and reciprocity and respects. Berg further explains this by arguing that "High-quality discussion emerges when participants give arguments for their opinions, stick to the discussion topic, engage in dialogues rather than monologues, and show signs of respect toward other discussants" (Berg 2016, 38). This definition provides a good standard for positive interaction in online discussions. But to find a broader and more detailed description of a democratic and good public debate, I will be using the Public Sphere as a standard for what makes a public debate democratically valuable.

Jürgen Habermas is a German sociologist and philosopher who in his book, *The Structural Transformation of the Public Sphere*, presented his theory about the Public Sphere. According to Habermas (1991), the Public Sphere was a result of the development of longer trade routes and capitalism, and the emerging press in the 16th and 17th century (15-16, 20, 23). The press started as a tool for traders and capitalists, as well as for the authorities, but it developed to become more independent and focused on reasoning, knowledge and science (25). Habermas claims that the public sphere grew out of the bourgeois, the new ruling administrational class of jurists, scholars, pastors and doctors (23). At the time, a distinction was being made for the first time between what was considered private and public (11), and the bourgeois public sphere was the conceived by Habermas as private people coming together in public, using reason to debate rules of commodity and labor. The public sphere, which was previously regulated from above, was now used by the new, enlightened class against the authorities (27). The center of this new civil society was the "town", which held institutions like publicly accessible culture, such as theaters, museums and concert halls (29-30). Coffee houses and salons became centers of literary and political criticism (32). People's status and class was disregarded in the coffee houses and salons, which functioned as forums for discussions that problematized areas that had not been questioned before. The discussions were general and open for anyone to participate (36-37).

Private Realm		Sphere of Public Authority
Civil society (realm of commodity exchange and social labor)	Public sphere in the political realm Public sphere in the world of letters (clubs, press)	State (realm of the "police")
Conjugal family's internal space (bourgeois intellectuals)	(market of culture products) "Town"	Court (courtly-noble society)

Figure 2-1: An illustration of the public sphere, made by Habermas (1991, 30)

As Figure 2-1 shows, the Public Sphere lies in the overlapping space between the private and the public. On one side, the Sphere of Public Authority contains the state and the royal court. On the other side lies the Private Realm, containing civil society with the exchange of commodities, services and labor, and the family. The Public Sphere lies within the Private Realm, but is the part of it that overlaps with the Sphere of Public Authority. It contains the political realms, the word of clubs and the press (the world of letters), and the "Town", described as a market of culture products (30).

Through his theory of the bourgeois public sphere, Habermas has both described the state of public debate in a particular time period, and provided an ideal for democratically valuable discussions. It is important not to use Habermas' public sphere to describe the internet as a whole. Habermas wrote that in the modern age, the public sphere has been in decline because of the refeudalization by the commercialized mass media (158-162). He is not much more positive about the internet, calling computer-mediated communication parasitical because internet-based communities have fragmented the public (Geiger 2009, 2). And several researchers have found that Internet users do not embrace opinion diversity and provide argumentation of little deliberative value (Edgery et al. 2009, 6).

It is not my intention to argue that comments or comment sections are equal to the idea of the Public Sphere. But by reading Habermas' theory of the Public Sphere, we can find an ideal of public communication. Habermas presents us with three requirements for a good, democratically valuable public debate. These ideal requirements make it possible, not to judge whether or not comments *are* examples of the public sphere, but to make an assessment about which set of comments fulfill the most requirements – and thereby is closer to the ideal. Therefore, I will use these ideal requirements to answer the research question of how the

increasing popularity of commenting on Facebook affect the public debate and democratic properties of comments on news articles.

The ideal requirements for a democratically valuable public debate can be found in Habermas' description of the institutional criteria for the salons and coffee houses of the bourgeois Public Sphere (1991, 36-37). Based on these criteria, the following requirements will be used to determine which set of comments are closer to Habermas' ideal Public Sphere:

1: Informed, rational-critical debate. The foundation of any democratically valuable debate is that there is a debate, and that it is based on informed and rational argumentation. The debate should be independent from the authorities, and based on reason. This means that the participants are required to have an open mind, and should be willing to be persuaded by rational argumentation.

2: Open participation. A public debate should be open for anyone to participate. This means that the barriers for participation should be low enough that it is reasonable to expect most people to be able to participate. But it also means that the debate takes place in such a way that people are welcomed to participate, and not scared away.

3: A disregard for people's status. For a democratic debate to take place, people's status cannot give weight to their argumentation. All arguments should be based on reason, and reason alone. Someone's status should not negatively or positively affect the weight placed on their arguments.

In conclusion, I find the current available research to be too focused on online hostility and too eager to use anonymity as the only explanation for online behavior. In a time when the public debate is being moved from news site comment sections to Facebook it is increasingly important to understand how the debates are being affected by this move. My own research and coding scheme has been designed with a broader view of comments in mind. The coding scheme has been created using a heuristic approach, reflecting the varying content found in comments on news articles. In the next chapter I will present this research methodology and coding scheme in more detail.

3. Methodology

The research participants in this study were people who have commented on selected news articles, either on VG's Facebook page or on vg.no. A total number of 452 comments on 6 articles were gathered to be analyzed, 161 from vg.no and 291 from VG's Facebook page. The comments were written by 403 commenters, 132 on vg.no and 271 on VG's Facebook page. In addition to this, 152 comments from 2 articles in the Washington Post were analyzed as an international comparison.

Articles were chosen from VG because it's a national newspaper with over 2 million daily readers (medienorge 2017). It was assumed that the varied demography of VG's readers would be reflected in the comments, ensuring a wide sample of participants. Another reason for choosing VG is that VG has both an active comment section and Facebook page, allowing for the desired comparison of data. The comment section on vg.no is an integrated Facebook commenting system, where the users must be logged in to their Facebook accounts to be able to comment. This means that both platforms require a Facebook account, and they both offer the commenters the same level of anonymity. For an international comparison, the Washington Post was chosen because it's an English-language, free to read, national newspaper with both an active comment section and Facebook page. The Washington Post uses their own comment section system, not the Facebook plugin, and allows for anonymity. This may influence the results of any comparison between VG and The Washington Post.

Participants were not considered when news articles were selected. Biographic and demographic information about the participants is unknown and was not subject to analysis. The commenters to be analyzed in this project ware divided into two experiment groups: 1) The Facebook Group, which consists of people commentating on VG's Facebook page. 2) The Website Group, which consists of people commenting on news articles on vg.no. The data collected from these two groups has been labeled as the Facebook set and the Website set. Comments from the two articles on the Washington Post has been divided and labeled in the same way.

The research methodology used for this project was content analysis. This method involves the establishing of categories and the counting of the number of instances of each category (Silverman 2001, 123). One of the advantages of using this qualitative research method is that it provides a way to survey, analyze and compare the whole set of data. Silverman argues that "Instead of taking the researcher's word for it, the reader has a chance

to gain a sense of the flavor of the data as a whole". However, he also specifies that counting for the sake of counting is a mistake (Silverman 2001, 35-36). I would argue that content analysis is an appropriate methodology for this research, due to the large number of individual instances of data (comments) and the research goal of comparing two larger sets of data (Facebook- and website comments).

3.1 Pilot project

In preparation for this research, I performed a pilot project with two main goals: 1) To become further acquainted with comments and comment sections to look for patterns, and to help concretize my research question. 2) To find useful information about articles on vg.no that might be helpful in determining how to select articles for study later.

A set of 12 news articles were analyzed to determine how many comments were made on Facebook and on vg.no, and the longevity of commenting – how many hours between the publishing of the article and the last comment. These articles were chosen at random, and were not subject to any qualitative analysis. They were also not used during later research. The pilot project did lead to the creation of the first list of comment categories used for later coding. And because of findings about the longevity of commenting on news articles, it was helpful later when establishing the criteria for selecting articles for qualitative analysis.

The result of the pilot project can be seen in figure 3-1 and 3-2. Figure 3-1 shows the total number of comments on the 12 articles. As can be seen, on 10 of the 12 articles there are more comments on Facebook than on vg.no. There is also a lot of variation in the number of comments on the different articles. Figure 3-2 shows the longevity of commenting in number of hours. Again, we see higher numbers in the Facebook sets. There are also no comments on any articles older than 100 hours – or just over 4 days.
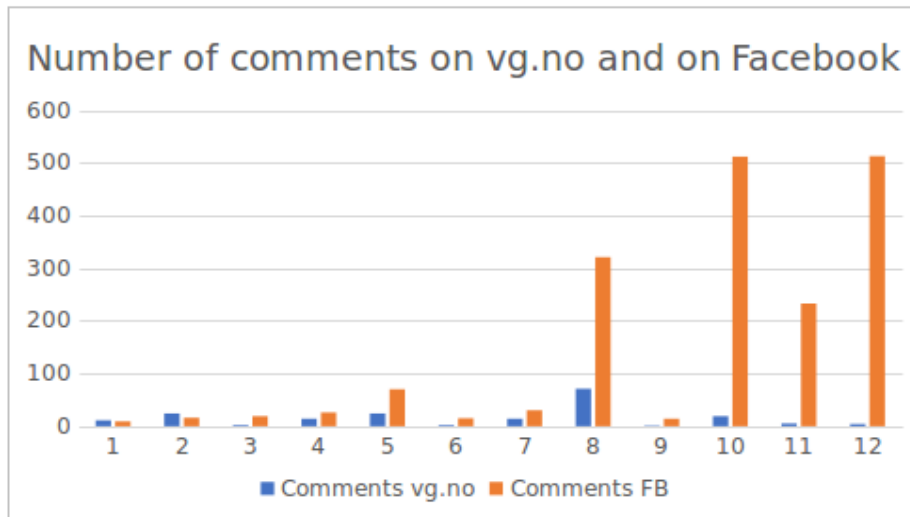
Figure 3-1: The number of comments on 12 random articles.
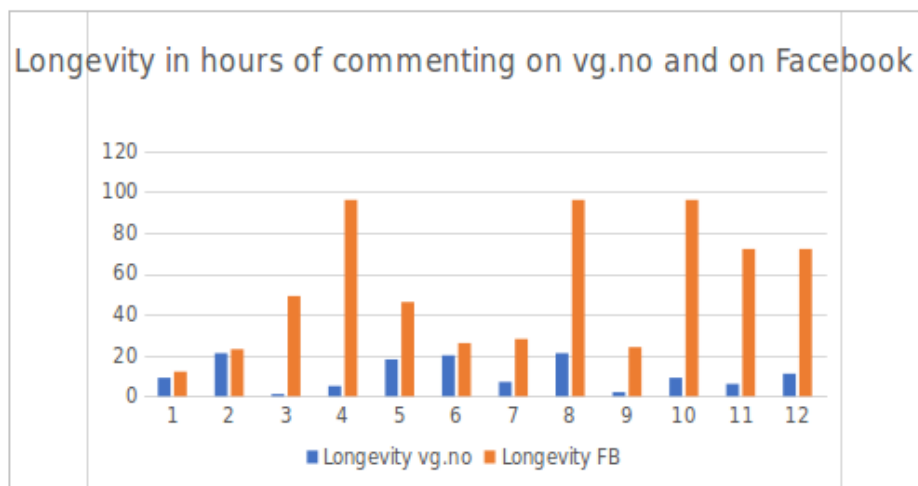
Figure 3-2: The longevity of commenting, in number of hours shown vertically, and the articles on vg.no and on Facebook shown horizontally.

The pilot project was important for my research because it allowed me to get acquainted with comments and comment sections in an academic and analytical way. Having already worked with comments and with the experience of thinking critically about them, I could begin my research project with more knowledge, and academic and technical experience.

But the pilot project did also narrow my definitions and focus too early. When I began my research after the pilot project I already had a very clear idea about which categories I should look for in the data. As I will describe in detail in this chapter, this led to a period of uncertainty about the results, before I finally had to redefine my categories and create several new ones.

3.2 Article Selection

This project aims to analyze all comments on the selected articles. However, it is possible for someone to comment on an article weeks, months or even years after its publishing, thereby making it impossible to guarantee that all comments made on an article will be analyzed. But the observations made during the pilot project about longevity allows for assertions to be made about when the intensity of commentating has reached a low enough level that no more comments should be expected. This point seems to be reached within five days of publishing, as can be seen in Figure 3-2 where the longest longevity can be found on articles that were commented on for just under 100 hours. However, to provide a margin of error, data was only collected on articles published at least seven days earlier, and a minimum of three days after the most recent comment was posted.

The pilot project also demonstrated that the number of comments and their longevity varied depending on the topic covered by the article. While previous research has focused on studying comments on articles with a certain topic (Rowe 2015), my own pilot study suggests that topic may influence who comments, and the content and argumentative quality of commenting. Therefore, I don't think the topic of the articles should be restricted, and the selected articles for this study covers a range of topics, including national politics, international politics, crime, sports and economy. It is also important to attempt to limit the number of potential variables that could affect the results of the research. One such variable could be the time-period of data collection. It is possible that a certain group of people are more actively commenting on articles within a certain time frame. Therefore, the data collection for this research was stretched out over several months, from June to September of 2017. This, in addition to the variation in article topics, should result in a wide range of individual commenters, making it more likely that any differences among Facebook- and News website-comments are the result of the different platforms.

The articles selected have at least 10 comments to ensure that there would be enough data for analysis. But it is also important to remember that many comments are made in a larger context, as replies to previous comments and as a part of a discussion. Analyzing an article where one set has many comments, and the other has fewer than 10 could provide a result where any differences could potentially be caused by the lack of commenters and discussion in one set.

Issues such as the privacy of the commenters, the efficiency of the data collecting, and how the data is formatted for analysis are important when choosing a method of data collection. Because the data would eventually be analyzed using NVivo, a licensed software used for qualitative research, using NCapture for data collection seemed like the most obvious choice. NCapture is a browser extension used to capture web pages and download them to NVivo. Despite being easy to use and providing a way of collecting data, NCapture had several drawbacks. Firstly, it did nothing to protect commenters' privacy, as their names and profile pictures would be downloaded and stored. Secondly, NCapture would download an entire web page. This meant that when gathering data from Facebook, it was not possible to download just the comments on the article of interest – a limitation that would result in the downloading and storing of thousands of comments, with personal information, not being used in the study. Finally, NCapture did not work when gathering comments from vg.no. As can be seen in Figure 3-3, the iframe containing the Facebook comment section plugin on vg.no is not read by NCapture, and thereby does not get captured or downloaded.

Figure 3-3: Screen shot from NVivo of the comment section on an article on vg.no, showing how the comments are not displayed in NVivo.

To protect personal information and efficiently collect data, formatted in a way that makes it easy to work with in NVivo, I wrote a custom script (Appendix 1). The script was written in PHP and JavaScript, and was designed to automatically anonymize commenters. To use the script, the source code of each article, including its comments, is retrieved using the

built-in inspector tool, found in most browsers, and then manually copied into a text box, which serves as the user interface of the script. This method makes it possible to specify precisely which sets of comments from VG's Facebook page should be analyzed, and it works for comments on vg.no as well (for the time being - updates to Facebook's plugins may in the future make my script incompatible and not usable).

The PHP script then formats the source code, removing clickable links to profile pages and changing some of the class names. JavaScript is then used to remove profile pictures and anonymize the commenters. This is done by temporarily storing each name, found by selecting the appropriate class names, in an array. Then the names are replaced with each name's corresponding array index number. This method ensures that each name is anonymized, while still being able to identify each individual commenter's contribution to a set of comments. The same process is used to anonymize people's names who have been tagged. But because some commenters do not tag people, but just write names in plain text, some precautions had to be made. Before downloading the anonymized comments, it was necessary to read through each comment to look for names written in plain text. These names were then marked by writing them in an extra input field before resubmitting the form. At this point, names written in plain text would be anonymized as well. Figure 3-4 shows the output of the script.

Comments Commentators Comments pr commentator Tagged people Emoticons
22   23   0.9565217391304348   2   12

NAME: 1

LikeShow more reactions · Reply · 1919 · 1 hr

NAME: 2

NAME: 3 og NAME: 4.

LikeShow more reactions · Reply · 66 · 1 hr

NAME: 5
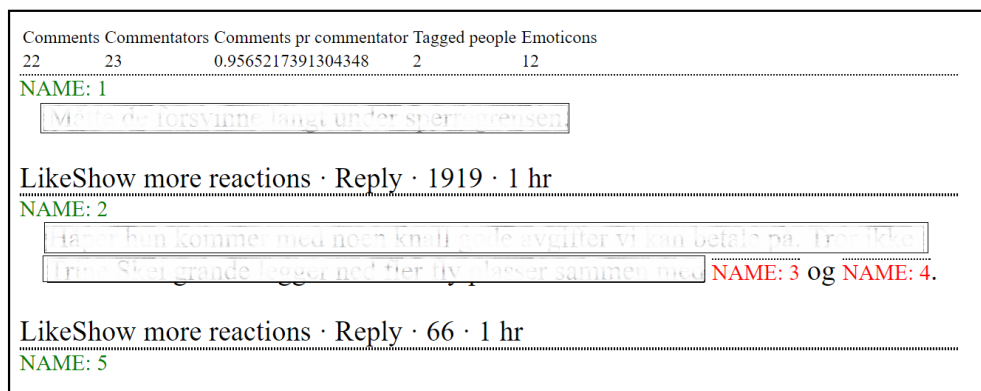
Figure 3-4: Screenshot of the output from the script used to anonymize comments. Green name tags are the names of the original commenter, while red name tags are names that have been tagged. Because these are original comments, the contents of the comments have been removed using an image editing software. This has been done to further protect the anonymity of the commenters.

Besides providing anonymity for commenters and a nicely formatted document for the researcher, the script described above has the added advantage of providing some statistics. For each set of data, the JavaScript counts how many comments and commenters there are,

the average number of comments per commenter, and the number of tagged people and emoticons used. It is also possible, after submitting the form the first time, to add words that the researcher would like to highlight, although this specific function was not used during the data collection.

After anonymizing a set of comments, NCapture was used to download them to be used in NVivo. It was at this point, after the comments had been anonymized, that any comments were saved for the first time – thereby giving commenters a reasonable degree of anonymity. The method described above was approved by the Norwegian Centre for Research Data, and was repeated for each set of comments, both from Facebook and from vg.no.

The motivation for creating a specialized script was in part out of necessity, part practical and part exploratory. While there exist tools to perform this sort of data collection, finding one that performs within certain criteria on multiple platforms, as was the case in this research, can be difficult. Creating specialized scripts, however buggy and low user friendly they may be, is a good way for a researcher to not only collect the required data, but to also explore the data in a new way. Engelbart compares programming to the ability to modify tools in a workshop, and Montfort introduces the term exploratory programming, which involves using computation as a way of enquiring about important issues (Montfort 2016, 98-101). During the process of creating the script used for this research it was necessary to explore the Facebook comments in a technical way. This led to the discovery of an HTML class-attribute for emoticons, which led me to make the script count the number of emoticons – a number which was used in the comparison of the Facebook- and website set. It is difficult to say if this is something that I would have done manually later, but the exploration of coding directly influenced my decision to count and compare emoticons.

The script I created did not work for the comments on the Washington Post website, because they use their own technology for their comment sections – not the Facebook plugin. When collecting comments from the Washington Post I did not download them, but instead coded them by writing the category for each comment in an excel spreadsheet.

3.4 Data analysis

3.4.1 Categories

Based on the literature review in chapter 2, and my initial observations and heuristic coding, the following 12 categories of comments have been created. They will be described in detail in chapter 4, while the process of developing them will be described in this chapter.

- Argumentative comments

- Reactive comments

- Informative comments

- Humorous comments

- Suggestions

- Questions

- Derogatory comments

- Supportive comments

- Opinions

- Tagging comments

- Speculative comments

- Linking comments

Some of these categories, including reactive, informative, supportive and derogatory comments, have sub-categories. It is important to note that this research does not compare the sub-categories, just the parent categories. I did not add these sub-categories as categories in their own right, both because of my wish to limit the scope of the research and because they are essentially so similar that fully separating them would change the result in a way that it would not reflect the real difference between the two datasets. If, for example, the four sub-categories of derogatory comments, which mainly just distinguish who is the target of the comment, were separated into four different categories, someone would eventually wonder about how many derogatory comments there are in total, forcing them to add up the four categories to find out.

The reason for the sub-categories, which I could have also called "descriptive labels" or "additional notes", is to show that there can be some variations within a certain category. And even if I don't directly compare the sub-categories of the two sets, they are still presented in the data in Appendix 3, where the sub-category follows the main category (e.g. Derogatory – journalist / newspaper). This means that anyone interested in this specific aspect of the data can explore it themselves. And I would also argue that just because I choose not to use something, that doesn't mean that I can't point out that it is there. I am interested in comparing two sets of Derogatory comments, along with other categories, because that is what I think will be the most helpful to answer my particular research question. But by pointing out that my categories could be divided further, I might point another researcher with a more specific research question in the right direction.

As noted earlier, the pilot project led to the conceptualization of a set of preliminary categories. While the pilot project did not involve the recording and categorization of comments, it did involve me reading a lot of comments. Looking at both content and the length of comments it made me change my research question from "Is there a difference…?" to "What is the difference between comments on a newspapers comment section and Facebook page". This is because the differences between commenting on the two platforms were so obvious that I became more interested in finding out what exactly the differences are.

While there are some quantifiable variables, such as number of comments and replies for each individual article, that can be compared, a qualitative research method was necessary to look further into one specific observation I made during the pilot project: I saw more argumentation on VG's comment sections. And on VG's Facebook page I saw more of what I could only describe as reactions; short, often emotional outbursts. These observations led to the creation of my first two categories: argumentative and reactive comments.

I decided that analyzing comments to identify how often the two newly formulated categories appeared on the two platforms would be a good way to find out what the differences between comment section- and Facebook commenting is. I further decided to look for positive and negative argumentation, count the number of replies, and to add derogatory comments – because I knew that anti-social and mean comments is a much-discussed topic in the literature (Gonçalves 2015; Lapidot-Lefler and Barak 2012; Rowe 2015; Stroud, Muddiman and Scacco 2016; Vergeer 2015). Finally, based on my observations of seemingly meaningless comments, I added arbitrary comments as a category.

The pilot project, along with initial observations and literature review, lead to the creation of the following set of preliminary categories:

- Positive argumentative: Comments that in some way support the content or argumentation of the article, or the people portrayed in the article.
- Negative argumentative: Comments that in some way disagree with the content or argumentation of the article, or the people portrayed in the article.
- Reactive: Comments that have little or no argumentative content, but are made to portray a reaction to the content of the article.
- Positive reply: Comments that are supportive replies to other people's comments.
- Negative reply: Comments that argue against other people's comments.
- Derogatory comments: Comments containing personal attacks, trolling, sexism or racism.
- Arbitrary comments: Comments that do not fall into the other categories due to arbitrary or irrelevant content.

As mentioned earlier, content analysis was chosen as my research method. I believe that this method, involving the formulation of categories and qualitative categorization, is the best method to answer my research question of what are the differences between comments on vg.no and VG's Facebook page. It allowed me to quantify and compare two sets of data that would otherwise be difficult to compare with each other.

According to Atkinson, one of the disadvantages of content analysis as a research method is that the categorization can create what Atkinson calls a "powerful conceptual grid" (Silverman 2001, 123). When coding data based on pre-conceptualized categories, there is a danger of these categories effecting a researcher's view of that data, and potential categories might be ignored. It is important for any qualitative researcher to be aware of this potential problem. Therefore, in my own research, I implemented a heuristic approach to categorization. The qualitative heuristic approach is an exploratory research method where the data affects the categories. This means that the researcher should be "open to new concepts and change his preconceptions if the data are not in agreement with them" (Kleining and Witt 2000).

During the data analysis, the preliminary categories described above were changed based on observations of the data and my review of previous research. The separation of positive and negative argumentative comments made little sense. It was often difficult to determine if a comment was positive or negative towards the article itself or other comments. There were also many argumentative comments that were neither positive or negative, and some were both. Based on the data, I decided to only operate with "argumentative" as a category.

Positive and negative replies were also changed based on observations of the data. The division of positive and negative was problematic for the same reasons as with the argumentative comments. I also decided that categorizing a comment as a reply was not accurate enough. Replies could also be categorized as any of the other categories, as a reply can be informative, argumentative or any of the previously mentioned categories. I have later begun to view levels of replies as a dimension, not a category, which I will explore further in the next sub-chapter. The reply dimension is labeled in the statistics by writing the word "reply" and the comment category. A reply containing an argumentative comment, for example, would be counted as an argumentative reply and noted as a "reply – argumentative" – thereby properly categorizing the comment, while still emphasizing that it is a reply to a previous comment.

Reactive and derogatory comments were found to be useful in the research, and were the only two preliminary categories that were kept – though with more detailed definitions. Derogatory comments were divided into subcategories, based on who the target of the comments was: commenter, institution, public figure, article subject and journalist / newspaper.

During the coding of the comments, new categories emerged in addition to the preliminary categories. A lot of comments in the data were longer, informed and expressed opinions; not reactive in nature, but also not argumentative. These were categorized as "Opinions". Other comments contained factual information, whether accurate or not, which did not express the opinion of the commenter or presented an argument. These were classified as "Informative comments". It was observed that some commenters expressed themselves through humor, and so the category "Humorous comments" was created. Some comments contain suggestions, and others contain questions. And so these two categories were added as well. Some comments were found, that expressed support for public figures, or other commenters. And so supportive comments became a category, with the two sub-categories

"Supportive of commenter" and "Supportive of public figure". A third sub-category of supportive comments were self-defensive comments, that were structurally and rhetorically similar to comments showing support for other people. Another category created based on the data was "Speculative comments". A final category called linking comments are comments that only contain a link to another website. This category has not been observed or analyzed in this research, but I decided to make it a category because these types of comments were observed during preparation for this research and during the pilot project.

Finally, it was observed that a lot of comments, mostly on Facebook, contained no information at all - only tagged names. These comments were categorized as "Tagging comments". This lead to a final list of categories which included opinions, questions, suggestions, argumentative, informative, reactive, derogatory, supportive, humorous, speculative and tagging comments.

Some comments would not easily fit into a single category. These comments, referred to as hybrid comments, contain two or more categories. These comments were categorized as whichever comment was interpreted as the most important. For example, an argumentative comment that also contained an informative section would be coded as argumentative classified as "argumentative / informational".

Arbitrary comments are comments that are either grammatically or contextually difficult to understand, or for whatever reason does not fit into any category. Some examples of arbitrary comments are:

Arm wrestling… "Do you like moszjiik?"

What, did he get to be "stopod" this time?

Boo

???

It doesn't matter what I think… doesn't matter

On the ears take something then?

3.4.2 Comment dimensions

The analyzed comments have three dimensions: category, conversation level and modality. This research mainly focuses on categorical differences and conversation level. The category dimension simply refers to which category a comment is tagged as. The conversation level refers to whether a comment is a first-level parent comment, or a second-level reply. I have decided to operate with only two levels of conversation: reply and not reply. It could be argued that there are more levels than two, but this can be difficult to measure, as both Facebook and the comment section on vg.no visually present two levels of conversation. Consider the following example of three made-up comments:

> *John: Star Wars are the best science fiction movies of all time!*
>
> *Karen: No, Star Trek is the best!*
>
> *Bob: I agree with you, Karen. Star Wars is not the best.*

In this example, John's comment is the only first-level comment. Karen's comment is a reply to John's, and is therefore a second-level comment – which I would simply label as a reply. But what about Bob's comment? It is a reply to Karen's, and could be considered a third-level comment. But visually it's presented on the second level. It also refers to the John's first-level comment. And if I were to say that Bob's comment is a third-level comment, would a reply to Bob be a fourth-level comment? If so, a single conversation can lead to a daunting number of levels, as each reply to a reply would represent another hierarchical level. This can quickly become an unmanageable number of levels, and the subjective interpretation of the context of comments becomes the deciding factor when assigning the level of a comment. Therefore, I have decided to operate with two levels. This means that every time an array of second-level replies is found, they are considered to be a conversation or a discussion.

A third dimension of comments is modality. Most of the comments in this research contain text, some in combination with emoticons. Some comments contain only emoticons, but these are categorized as reactive, with the added description of non-verbal. This is because, as I will describe in more detail in the next chapter, reactive comments are defined as short expressions of emotions. Emotional expressions can be non-verbal, and all non-verbal expressions of emotions analyzed have been reactive. A non-textual modality that has been observed in this research is the use of an image to express an opinion, which is described in

more detail in chapter 4.3.6. An image is considered a modality because it can contain relevant information, and can even be considered argumentative - a view dating back to classical rhetoric (LaGrandeur 2003, 119). Such an image has only been observed once in the data used for this research, and other modalities, such as video or audio, has not been observed or analyzed in this study.

3.4.3 Ensuring reliability

Inter-rater reliability, or multiple coding, is a standard method for ensuring reliability in qualitative research, and involves having multiple coders with the same data and category definition categorize the data individually. The coders then compare their coding, and any differences are discussed (Silverman 2001, 229). Mavoa, Gibbs and Carter made a point of explaining how the reliability of their research was "…established through discussion and critique of the codes and coding procedure by all authors" (2017, 4).

For the current research, inter-rater reliability was not possible to achieve, as there was only one researcher working on this thesis. The reliability of this research was tested, however, by asking a person not involved in the research to answer a questionnaire with randomly chosen comments. This was done early in the research to discover any potential errors in methodology. Figure 3-5 shows the first design of the early questionnaire questions, with now outdated categories. The comment has been translated into English.

What's wrong with the justice system when this is the punishment? I think he should have received 1 year behind walls.	☐ Argumentative ☐ Informative ☐ Opinion ☐ Reactionary ☐ Derogatory ☐ Humorous ☐ Tagging Other: _____

Figure 3-5: An example of a comment with category options used for testing the first rounds of reliability of tagging.

In addition to the questionnaire, a short description of each category was provided. For continued privacy protection of the commenters, the questionnaire was printed on paper and handed out. The answers were given using pen and paper, before the questionnaire was

properly destroyed. A total of 60 comments were categorized this way. The comments chosen were the first 10 comments from the Facebook- and website sets of the first 3 articles analyzed in this study. These categorizations were then compared to my own tagging of the same comments.

Several such reliability tests were performed. There was an agreement of categorization of 60% on the first test, which was too low. Changes were made to the definition of the categories, making them more standardized, as proposed by Silverman (2001, 229). In addition to this, a more procedural method of categorization was implemented using a checklist for each category, before I coded the comments again. This resulted in an agreement of 79% on the second test. Some of the disagreement may have been the result of the other coder not having read the original article. But upon closer examination and discussion it was found that only a few humorous comments could be explained by this. This is because humorous comments seem to be more dependent on the context to be understood as humor, but because of the low number of humorous comments in the reliability test, this alone could not explain the disagreements. Working with the hypothesis that the disagreements between myself and the other coder was due to the coder being given a description of the comments that was too simplistic, a third test was performed. This time the coder was provided with the same checklist I had used myself, but this did not affect the results of the reliability test, as the third test showed an agreement of 75%.

A reliability score of 70% or more is often used as a criterion for exploratory research. But a score of 80-90% would be considered more acceptable in most situations, and above 90% is considered acceptable in all situations (Lombard, Snyder-Duch and Bracken 2002, 593). My own reliability score of 75-79% was not considered to be good enough by these standards.

Hypothesizing that there was something wrong with the categories and their definitions, I decided to start fresh and do a round of exploratory coding, creating new categories based on the observed data. The difference between the first round of coding and this one, was that I now used a more open tagging system. Each comment was tagged with any word that I thought of when reading the comment. These were than compared with each other to look for repeating words. This led to the creation of the final 12 categories that were used in this research.

Using the 12 new categories, three new reliability tests with the questionnaire depicted in Figure 3-6, were performed. This shows the design of the later questionnaire, with more

categories than before, and a line prompting the tester to add her own category if needed. The arbitrary category was not included, because arbitrary comments are those that the coder can't categorize in any of the other categories. Instead, the line marked "My category" would be used for categories that cannot be categorized. In the test, this line was only filled out on one comment with the word "Nothing", which is presumed to mean that the comment was meaningless. The comment in question had been categorized as arbitrary by myself. A short description of each category was also provided (Appendix 2).

What's wrong with the justice system when this is the punishment? I think he should have received 1 year behind walls.	My category:_____	
	Humorous	Reactionary
	Informative	Suggestion
	Question	Derogatory
	Supportive	Argumentative
	Expressed opinion	Tagging
	Image	Link

Figure 3-6: An example of a comment with category options used for testing the second rounds of reliability of tagging.

The score of the three reliability tests performed after changing the categories was 82%, 93% and 90%, averaging 88%. As noted earlier, a reliability score of 80 – 90% is considered acceptable in most situations. And because the goal of this research is to compare two sets of data, if it is the same coder tagging the two sets, any minor reliability differences should not affect any observed differences between the data sets.

Rosaline Barbour warns against using multiple coders on entire datasets. She argues that it can be useful to have another coder look over segments of the data and the emerging frameworks, or categories. The greatest advantage of using multiple coding is not the coding of all data by multiple people, but the discussion surrounding the interpretations of the data and emerging categories. Whether analysis is carried out by a single coder or a team, what matters is that a systematic process is followed (Barbour 2001). This view is supported by Silverman, who associates high reliability with low-inference descriptors, which involves recording observations in terms that are as concrete as possible (2001, 226-227). The reliability testing of the current research is in line with this view, as segments of the data has

31

been considered by a different coder. Discussions about categorization have also taken place, and a systematic process has been developed. This, in combination with the used qualitative heuristic approach and the average 88% reliability score, makes me confident in the developed categories, the performed analysis and the comparison of the two datasets.

3.5 Research method problems and limitations

While I do believe that the chosen research method is sufficient for the answering of my research question, it is not perfect. The act of categorizing comments is a subjective exercise, despite of the reliability score mentioned above. A different researcher might not have created the same categories, and might categorize comments differently. However, because I am comparing two different datasets to identify differences between them, I believe that this is not a major problem. Because I am the one doing the categorization of both datasets, differences should be the result of the datasets, not my categorization. And I feel confident that while another researcher might categorize differently, he or she would find the same general differences as I would.

While this is a qualitative study, it does not go into great detail. My objective is to compare quantifiable differences with a larger set of data. This means that a narrower in-depth analysis will not take place in this research. This might lead to details being overlooked, some of which might shed light on factors related to my research question, or that might lead to new insights worth exploring further. My method for data retrieval and subject anonymization means that I will only be able to identify the anonymized numbers of individual commenters within the comments of a single article. I have no way of knowing if any of the commenters have commented on other articles.

As I have explained, I do not believe that analyzing sub-categories would be very helpful at answering my research question. Had I chosen a more detailed level of analysis, however, other insights might have been discovered. The same is true for the levels of replies I am working with. I have chosen to divide the analyzed comments into two levels of replies: parent comments and replies. Creating more levels of replies would provide a more detailed view of the conversations in the comment sections, but would create more uncertainty in the interpretation of the data due to its increasing complexity.

3.6 Data presentation

As seen above, it is sometimes necessary to present full comments in this thesis. This becomes especially true during the presentation of research results and analysis of the data in the next chapter. According to Markham and Buchanan, even anonymized datasets can contain enough personal information for an individual to be identifiable (2012, 7). To further anonymize comments and protect the privacy of the commenters, I translated all comments presented in this thesis from the original Norwegian to English. This, in combination with not presenting the names or URLs of the chosen articles, would make it increasingly more difficult to use search engines to find the comments. This method of presentation was approved by the Norwegian Centre for Research Data.

Article 1: Facebook

Comment tag	Words	Emoticons
Humorous	9	0
Reactionary	1	0
Reactionary - Non-verbal	0	3
Informative - Interpretation	13	0
Reply suggestion	9	1
Reply informative - explanation	8	0
Reply informative - self-correction	4	0
Reply derogatory - commentator	10	0
Reply humorous	7	2
Reply informative - interpretation	39	0
Reply humorous	8	4
Reply opinion	11	0

Figure 3-7: Excerpt of a table showing the tagging of comments. Each row represents one comment, and each comment is represented by its tag, and the number of words and emoticons used.

Figure 3-7 shows an excerpt table of analyzed comments, where each row represents a single comment. Each comment is represented by its category tag, and information about the number of words and emoticons used for each comment is presented in the two aligning columns. By using conditional formatting in Microsoft Excel, where the lowest value is colored beige and the highest value is colored brown, the number of words and emoticons used in the comments can be easily compared both within and between data sets. It also makes it easy to calculate both the total and the average number of words and emoticons used in different sets of data. This is considered valuable statistical data when comparing comments on vg.no and VG's Facebook page.

In order to make it easier to compare statistical information from different tables, and because of the high number of analyzed comments, I decided to not include these tables in the results. The tables are instead presented in Appendix 3, and graphical representations of the data are used in the results chapter.

3.6.1 Data visualization

Visualization of text is used when there is too much text for the text itself to represent the desired information. Using visualization, text is transformed in a way that reduces the amount of information being presented, but also draws attention to some significant aspect of it (Sinclair and Rockwell 2016, 276). Visualization of text is not only a way of representing it, but can also be used in an analytical and exploratory way – as was the case in this research project. The tables described above is used to create a set of graphs displaying the quantitative relationship between the different categories of comments in the Website- and Facebook sets (Figure 3-8). These graphs allow for easy side-by-side comparison of the different sets of comments on each article studied.

Figure 3-8: Example of graph showing the quantitative relationship between the six categories of comments in the Facebook- and Website set.

4. Results

4.1 Comment categories

During the tagging of the analyzed comments, 12 categories were identified and used to answer my first research question: How are comments on news articles on Facebook different from comments on a news website? These categories are called argumentative, humorous, informative, reactive, derogatory, suggestions, questions, opinions, speculative, supportive, tagging and linking comments. In some cases, comments contained different parts that could be categorized separately as different categories. An example of such a hybrid comment is:

> No, even if the evidence were present, Putin would probably not admit it. By the way did you hear that the USA admitted that they tried to effect the election in Russia when Jeltsin was elected in 1996, -or all the other incidents? [Link to external site]

This comment contains two sentences. The first one is an opinion: that Putin would not admit any wrongdoings, even if there was evidence. The second sentence is informative, as it presents factual information – which is even referenced with a link to an external news article. In such cases the different parts of the comment were categorized separately. Then a judgement call was made about which part was the most important. In the example above, the opinion category was judged to be the most important for two reasons: 1) The comment is in reply to a previous comment, and the opinion of the commenter fits into the broader discussion more than the information. 2) The informative sentence begins with the words "By the way", which suggests that this sentence is an afterthought and not the commenter's main point. This hybrid comment would be categorized as "Opinion – Informative". Setting the "Opinion"-category first suggests that this is the dominant of the two categories, and the comment will be counted as an opinion.

Following is a description of the 12 categories that were created for this research. As described in the previous chapter, these categories were developed through a heuristic coding, in which the content of the comments shaped the definitions of the final categories.

Argumentative comments. An argument supplies the audience with reasons for accepting a point of view. Arguments contain a proposition that can either be true or false (Blair 2009, 44). These propositions should be testable. They are also formulated for the purposes of persuasion. This means that there needs to be a point of view, backed up by a proposition, that the commenter wants someone to adopt. In looking for signs of good quality commenting, as defined in chapter 2, argumentative comments are interpreted as a sign of an informed debate – as any debate is dependent upon participants making arguments, and not just sharing their point of view as opinions.

The purpose of argumentative comments seems to be to persuade others to adopt the views of the commenter. This is done by using arguments that can be both logical and emotional in nature. In classical rhetoric, Aristotle classified three proofs (pisteis) that were essential for a good, persuasive speech (Keith and Lundberg 2008, 7, 36). Due to the short length of a comment it is unlikely that commenters would take full advantage of all these proofs in a single comment. But as a part of the process of determining if a comment is argumentative, in addition to looking for true- or false propositions, the comments were analyzed for the presence of one or more of the three proofs defined by Aristotle (Keith and Lundberg 2008, 36-40):

1) Logos: The use of argumentative, reasonable steps to move an audience from one belief to another.

2) Pathos: The use of emotion, and how the emotional state of the audience is affected by the speaker or the speech.

3) Ethos: The credibility and trustworthiness of the speaker.

Some examples of argumentative comments are:

She knew what she was doing, so she only has herself to blame.

This is why most people don't like the labor party. There's personal power struggles for the best paying positions. They have forgotten the politics that is supposed to be foundation for the party.

Opinions. Opinions are comments that are not necessarily meant to persuade, but function as a direct or indirect statement of what the commenter thinks and believes about an issue. The difference between opinions and arguments can be unclear at times. An opinion doesn't have to begin with the words "I think that…" or "It is my opinion that…", but can be a statement with a true or false proposition, just like an argument. But opinions are not considered to be persuasive and do not use the proofs of Aristotle. Opinions often contain non-factual statements stated as facts, and are often speculative.

In situations where opinions and argumentative comments are difficult to differentiate, the broader context can provide important clues about which is which. Opinions are more often unprovoked statements, seemingly coming out of nowhere, whereas argumentative comments are usually made in response to something – often an opinion. Some examples of opinions in comments are:

> Haha, the crazy man had to pay in the end… he deserved it…

> What's wrong with the justice system when this is the punishment. I think he should have received 1 year behind walls

Reactive comments. Reactive comments are short expressions of emotions with little or no informative value. They can also be unspecific statements – that is statements that are not specific enough for the reader to accurately interpret what the commenter is writing about. The intended audience is the general public, and the commenters are expressing basic emotions as a reaction to an article. Some examples of reactive comments are:

> Lovely!!

> Fabulous!!

Reactive comments often contain a set of punctuation marks, especially the exclamation mark, or sets of emoticons. Reactive comments can also be non-verbal. In these cases, the comments contain either only emoticons or written non-verbal expressions, such as "*Haha!!*", indicating laughing or joy. Emoticons are considered to be reactive comments

because they represent non-verbal communication, such as facial expressions. Aldunate and González-Ibáñez (2017, 1) wrote that:

> …computer-mediated communication (CMC), particularly text-based communication, is limited to the use of symbols to convey a message, where facial expressions cannot be transmitted naturally. In this scenario, people use emoticons as paralinguistic cues to convey emotional meaning.

If emoticons are symbolic representation of non-verbal communication, then a comment containing only emoticons can easily be classified as a reactive comment. Such comments do not contain any information that could be seen as informative, argumentative or an expressed opinion. The same can be said for written non-verbal expressions. The word "Haha" can be argued to have the same semantic meaning as a laughing emoticon.

Informative comments. These comments do not directly argue for or against something, although they can be used in discussions to build a case for a point of view. They are meant to provide relevant information – whether or not that information is factual. Informative comments, with the exception of those classified as personal experience, contain testable factual information that can be either true or false. These comments were often observed in replies to other comments, written as clarification or explanation. Informative comments containing personal experiences are not as easily testable, but should still be considered informative because they bring new information into a debate and they are not numerous or different enough to be considered its own category – at least not for the purposes of this research project.

The ideal requirements for a good debate described in chapter 2.7 which is based on Habermas' description of the institutional criteria for the salons and coffee houses of the bourgeois Public Sphere (1991, 36-37), include "informed rational-critical debate". When trying to determine which platform has the highest quality commenting, informative comments are interpreted to be a sign of such an informed and rational debate.

Some examples of informative comments, as found in the analyzed dataset of this research, are:

No it wasn't his land, it was a common area.

Well it's only Putin who has held a press conference at this meeting.

During the coding of the comments, several sub-categories of informative comments were identified. These include:

- Interpretations: A commenter's interpretation of the content of the article.

- Explanations: When a commenter explains the content of the article, usually to correct someone else.

- Self-corrections: When a commenter writes a comment that conflicts with his or her previous comment, for the purposes of correction one's previous mistakes.

- Personal experience: These comments provide information about the commenter's personal experience about something.

Derogatory comments. These are comments that uses some form of critique or potentially hurtful discourse. They are usually directed at another commenter, but can also be directed at a public figure, the subject of the article, or the writer or publisher of the article. Davis works with the definition "bad behavior online", which he explains to be a result of context and the interpretation by the target person (2002, 2). But because the methodology used in this study makes it difficult, if not impossible, to determine how the target person interprets a comment, another definition will have to be found. One solution is to use community guidelines, such as the website's rules of conduct. In the case of vg.no, however, the rules are not very comprehensive, and only specifically mention the use of obscene words as a breach of the rules (VG, 2017).

As a guideline, it is possible to use a coding scheme by Rowe (2015), which was adapted from Papacharissi (2004). It contains 12 codes for uncivil and impolite comments

(Appendix 4), and if a comment fits into one of these it can most likely be categorized as derogatory. Rowe's coding scheme is used extensively in the Rowe Replication Study described in chapter 5, but for my main research is has only been used as a guideline for what may be considered derogatory comments. As an example of how I may disagree with Rowe's coding scheme, Rowe operates with "Sarcasm" as a category of impolite comments. In my own research I have seen sarcasm being used several times, but in what I have coded as humorous comments. I would argue that whether a sarcastic comment is impolite or not depends both on culture and context, and that all sarcastic comments cannot be automatically coded as impolite or derogatory.

Comments that have been labeled as derogatory for this project are always directed at a person or group of people, and contain language that reflects negatively on the target person. These are comments that usually do not contain much argumentative or factual information, but instead express a negative opinion about a person or group, often being directed at the targeted person. The intended audience is usually the commenter being targeted, unless the derogatory comment is about a public person not involved in the discussion. The derogatory comments in this research are comments that, while being interpreted as a form of personal attack, have not been severe enough to be deleted by moderators. Some examples of derogatory comments are:

> He That: Do you have dyslexia since you haven't read what the case is about?
>
> Didn't you understand what was written [NAME OF COMMENTER]?
>
> Are you actively trying to appear as an idiot?

I feel forced to make a quick note about the first of the three derogatory comments above, after receiving feedback from confused people who have read a draft of this thesis or the comment in question. The words "He That:" are confusing, and they are found in the actual comment, and is not a mistake on my part. I could have edited this out in order to avoid such confusion, but except for the necessary translation into English, I do not believe that such editing should be done. That is what the comment says, and if I am to present comments in an academic paper, they should be presented in their entirety, unless it is necessary and more meaningful to present parts of a comment – and then only with an expressed notification

that a comment has been edited. Furthermore, I find that this comment captures some of the seemingly random and confusing elements of comments, which is part of the experience of reading them.

During the coding of the comments, several sub-categories of derogatory comments were identified, based on the target of the critique:

- Critique of commenter

- Critique of public figure

- Critique of article subject

- Critique of journalist / newspaper

Humorous comments. Some commenters have the intention of being funny. Hubler argues that there is a connection between humor and establishing ethos, and that humor is a tool used by individuals to position themselves within a group (2003, 282). This group, for the purposes of this study, consists of either the comment section on vg.no, the comment section on VG's Facebook page, or the commenter's group of contacts on Facebook.

Humor is, of course, subjective and contextual. But some definitions can be used. Lefcourt and Martin defines humor as discourse that "brings together two disparate ideas, concepts or situations in a surprising or unexpected manner" (Hubler 2003, 278). Play on words is also a form of humor observed in this study. Self-deprecating humor, which Hubler sees as a strategy for ensuring continued goodwill (2003, 281) has also been observed.

Based on this, the definition of humorous comments are comments that, with the intention to be funny, brings together two disparate ideas, concepts or situations in a surprising or unexpected manner, or that contains a play of words or self-deprecating, humorous statements. A humorous comment is also often marked as humorous by the commenter by adding non-verbal ques, such as laughing or blinking emoticons.

Following are some examples of humorous comments. These are presented with a short explanation of the joke, as humorous comments often have to be put in context to make sense.

I hear clown music every time I read about him. (About President Trump)

Is this what they call house arrest? (About a man convicted after destroying an outhouse)

Please search me. I could use 150 000 (On an article about a man receiving money after being subject to an illegal search by the police)

Tagging comments. Tagging comments are found only on Facebook. These are comments that almost exclusively contain tagged names. If they contain any other information, this is usually just a few words. The intent of the people doing the tagging of Facebook seems to be to direct the attention of the people being tagged to the article. Following are two examples of typical use of tagging in comments on Facebook:

[Tagged name] [Tagged name] [Tagged name] [Tagged name]

 [Tagged name] hint hint

When names are tagged on vg.no it works differently. Tagged names in the website set are usually tagged by the commenter to direct a reply to the person being tagged. The tagged name is also followed or preceded by a longer comment which fits into one of the other categories.

Suggestions: Suggestions are comments where the commenter proposes that an alternative action should be done, either by the article subjects or by other commenters. Some commenters look for solutions to the issues described in an article and provide suggestions for how to improve on these situations. Others make suggestions to other commenters on how they should act, write or what they should do about something. Examples of suggestions seen in comments are:

Just stop reading things you don't like.

The rest of the skiing girls should show solidarity with Johaug and boycott the Olympics.

Questions: Some comments simply contain questions. These can be questions about the article, the points of view of other commenters, or a request for more information from other commenters. Questions are seen as a sign of a good debate, as questions suggests that there is both an active conversation and requests for information of some kind. Some examples of comments with questions are:

Do they really believe Putin would admit anything?

Why are you comparing sports and rape?

Supportive comments: Supportive comments are comments made in defense of someone, including the commenter himself. They are either defensive towards a specific person, or a statement of general support for someone. Some examples of supportive comments are:

Good luck in life to you both. I hope you win the most gold medals, Marit. You're great girls.

I'm sorry to hear that, [tagged name]

Three sub-categories of supportive comments have been identified:

- Supportive of commenter: These comments are made in support of another commenter.

- Supportive of public figure: These comments are made in support of a public figure, usually the subject in the article.

- Self-defensive comments: These are comments where the commenter supports him or herself. These comments are very similar to comments that are supportive of another commenter.

Speculative comments. Speculations are defined by the dictionary as the contemplation or consideration of some subject, and the conclusion reached by such contemplation.[1] Speculative comments are comments where the commenter is making speculative assumptions, for which there is no real evidence, and making conclusions that cannot reasonably be verified. Examples of such comments are:

Putin is controlling him like a puppet. That's why Putin preferred him for president.

It's because Therese is such a great skier that these men decided to show her who's in charge.

The police and the criminals are buddies. They took what was in the house and shared it between themselves.

Links. During the process of preparing for this research, comments containing only links to other websites were observed. These comments contained little or no other information other than the external links. And although there have been links observed in the analyzed data for this research, these have been shared in a context where these comments have been categorized as something else. Therefore, even though links should be considered its own category, they are not a part of this research.

Arbitrary comments. Arbitrary comments are comments that are either grammatically or contextually difficult to understand, or that does not fit into any category. Some examples of these comments are:

Arm wrestling… "Do you like moszjiik?"

Boo

---

[1] Dictionary.com: http://www.dictionary.com/browse/speculation

4.2.3 International comparison.

To see if the results of this study could be generalized internationally, 152 comments on two randomly chosen articles from the Washington Post were analyzed, 109 from Facebook and 43 from the Washington Post comment section. Because of the low number of American comments, it is difficult to make any conclusions about these comments. Another factor that can be thought to affect the results is that the Washington Post comment section is not an integrated Facebook system, like the one VG uses, and it allows for anonymous commenting. As mentioned earlier, research has identified anonymity to be a factor that effects online communication (Lapidot-Lefler and Barak 2012; Rowe 2015), though this research is mostly focused on anti-social and derogatory comments. Potential demographic differences between readers of VG and The Washington Post could also affect the results, as VG is a more tabloid newspaper than The Washington Post. But despite this, some general trends can be observed.

There are some differences between comments on VG and the Washington Post (Table 4-1). Firstly, the Washington Post contain far more replies (F=56%, W=58,1%) than VG (F=31%, W=38%), suggesting more conversations between the commenters on The Washington Post. The Washington Post comments also have a higher average number of words per comment, and no use of emoticons. But the tendency for number of words to be higher in the website set is still true for the Washington Post comments (F=22, W= 33,9).

Comparing the two newspapers suggests an international trend of longer more argumentative and derogatory comments in a newspaper's comment section than on Facebook, and fewer reactive and arbitrary comments. Some trends on VG, such as more informative comments, suggestions and questions in the website set, and fewer supportive comments were not found on The Washington Post. Also, opinions differed much more in the data from The Washington Post, and the popularity of informative comments is also different. There is also a tendency for comments on the Washington Post to be more speculative, especially on Facebook.

Informative comments: The two website sets have a similar number of informative comments, but on Facebook The Washington Post contains more informative comments

Argumentative comments: There are more argumentative comments on The Washington Post, but the general trend of more argumentative comments in the website set is true for both sets of data.

Opinions: There are more opinions on VG's Facebook page, but the two website sets have a very similar percentage of opinions.

Reactive comments: The number of reactive comments is very similar for both newspapers, in both the website- and Facebook sets, with slightly more on VG.

Derogatory comments: The data from both newspapers show a very similar number of derogatory comments. There are more derogatory comments in both website sets than the Facebook sets, which is in line with previous research on comments on the Washington Post website and Facebook page. Rowe found that 6% of comments on the Washington Post were "coded as containing at least one form of democratic incivility", compared with just 2,7% on the Washington Post Facebook page (Rowe 2015, 129). This is very similar to my own results on derogatory comments on the Washington Post (F=3,7, W= 7).

Humorous comments: Humorous comments are almost non-existing on The Washington Post.

Tagging comments: Tagging comments are only found on VG's Facebook page.

Suggestions: There are more suggestions on the Washington Post's Facebook page than on VG's, but more on VG's comment section than on The Washington Post's.

Questions: The percentages of questions on The Washington Post and on VG are reversed, with 11 - 11,8% on VG's comment section and on The Washington Post's Facebook page, and 6,2 – 7% on VG's Facebook Page and The Washington Post's comment section.

Supportive comments: Supportive comments are relatively similar in both website sets, but higher on VG's Facebook page.

Speculative comments: The percentages for speculative comments are about twice as high in both sets of data from The Washington Post.

Arbitrary comments: The number of arbitrary comments is higher for both sets of data from VG, but a general trend of higher numbers in the Facebook sets is true for both newspapers. The differences in arbitrary comments between the two newspapers can be explained by The Washington Post having drastically fewer grammatical errors, resulting in fewer of these comments being judged grammatically or contextually meaningless.

4.2 Quantitative results

Table 4-1 shows the statistical information about the analyzed comments from VG and from the Washington Post, which was used as an international comparison. All percentages are the percentages of each individual dataset. This means that when the table shows 6,5% informative comments on the Facebook set, that is 6,5% of all comments from Facebook alone. As can be seen in the table, comments on vg.no have a higher average number of words (Facebook=11,8, Website=35,2) per comment, and comments on VG's Facebook page have a higher average number of emoticons (F=0,6, W=0,2) per comment. The comment sections on vg.no have a higher number of replies (F=31%, W= 38%), and the qualitative analysis shows that there are longer arrays of replies in the website set and more conversations and discussions.

	VG (No)		Washington Post (US)	
	Facebook	Website	Facebook	Website
Number of comments	291	161	109	43
Replies %	31,0 %	38,0 %	56,0 %	58,1 %
Average number of words	11,8	35,2	22	33,9
Average number of emoticons	0,6	0,2	0	0
Informative	6,5 %	13,7 %	17,4 %	14,0 %
Argumentative	8,9 %	19,9 %	16,5 %	37,2 %
Opinion	17,2 %	19,3 %	10,1 %	23,3 %
Reactive	26,8 %	6,8 %	22,9 %	4,7 %
Derogatory	3,4 %	8,7 %	3,7 %	7,0 %
Humerous	5,2 %	4,3 %	0,9 %	0,0 %
Tagging	11,7 %	0,0 %	0,0 %	0,0 %
Suggestion	1,4 %	6,8 %	3,7 %	0,0 %
Question	6,2 %	11,8 %	11,0 %	7,0 %
Supportive	5,5 %	1,9 %	1,8 %	2,3 %
Speculative	2,4 %	2,5 %	10,1 %	4,7 %
Arbitrary	4,8 %	3,1 %	1,8 %	0,0 %

Table 4-1: Results from VG and the Washington Post, divided into the two Facebook- and Website sets. All percentages are the percentages of each individual dataset, represented by the individual columns of data.
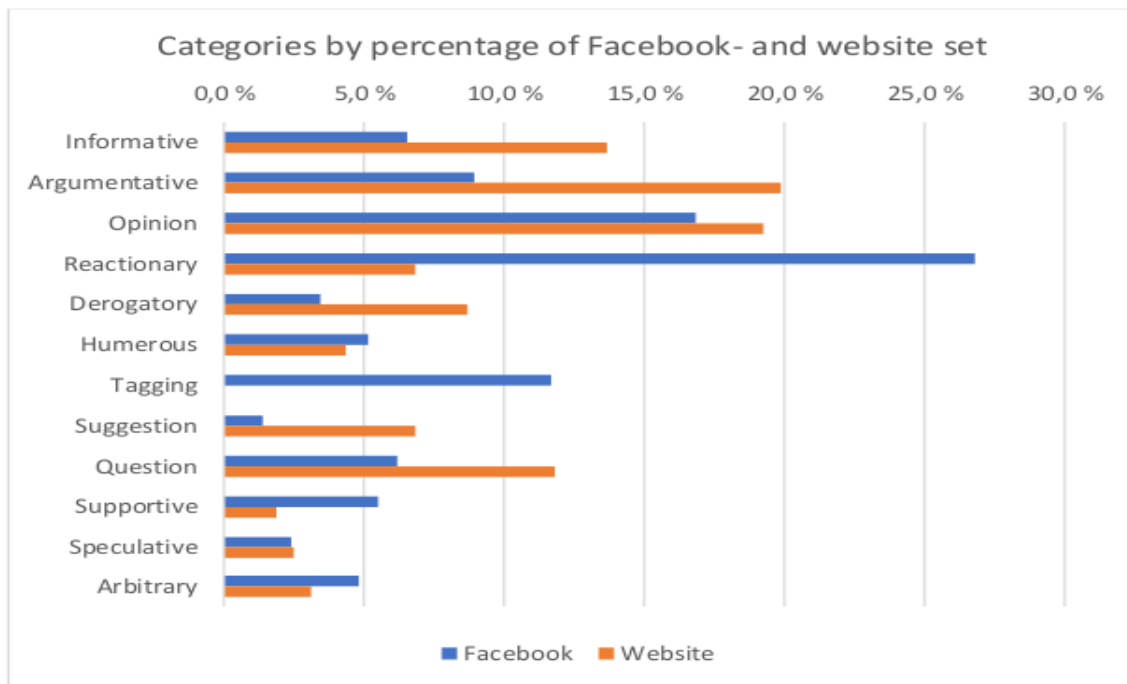
Figure 4-1: The percentage of comments in each category from the Facebook- and Website set from vg.no and VG's Facebook page.

There are some major categorical differences between the Facebook and Website set, as can be seen in Table 4-1 and Figure 4-1. The Facebook set contains far more reactive comments (F=26,8%, W=6,8%) and supportive comments (F=5,5%, W=1,9%). The Facebook set is also the only one with tagging comments (n=11,7). This is assumed to be because people use the tagging of people's name as a way to direct attention to the article. The website set contains more informative (F=6,5%, W=13,7), argumentative (F=9,3%, W=19,9%), derogatory comments (F=3,4%, W=8,7%), questions (F=6,2%, W=11,8%) and suggestions (F=1,4%, W=6,8%). Some of the categories are relatively similar in size. These include opinions (F=18,9, W=21,7), humorous (F=5,2%, W=4,3%), arbitrary (F=4,8, W=3,1%) and speculative comments (F=2,4%, W=2,5%).

In this study I intend to use ideal requirements for good public debate, as found in the Habermasian Public Sphere (Habermas 1991, 36-37), to determine which platform has the highest quality commenting. Based on the data, it seems that the quality of commenting is higher in the website set. Despite having more derogatory comments, which is in line with previous research (Rowe 2015), the higher number of replies suggests more conversations – and any public discussion is dependent upon some form of conversation to take place. The higher number of argumentative and informational comments suggests a more rational and argumentative debate. This finding is in line with previous research by Hille and Bakker.

Their study also found that there were more comments on news sites than on Facebook (2014, 570). This is not in line with my results from VG or the Washington Post, and could possibly be explained by different populations commenting on the studied news sites. My own study looks at comments from one Norwegian and one American newspaper, while Hille and Bakker studied 62 Dutch news sites.

4.2.2 Likes, reactions and shares

As explained in chapter 3, likes and reactions on Facebook have not been compared to data from the website set because the comment sections on vg.no do not have any equivalent functionality. Likes and reactions were counted, though, to be able to fully compare the spreadability of comments on vg.no and VG's Facebook page. The total number of comments on vg.no is 161. The total number of comments for the six articles on VG's Facebook page is 291. When this is added to the 886 likes and 519 reactions these comments have generated, the six articles have been interacted with on Facebook a total of 1696 times, an average of 282,6 interactions for each article – much higher than the average 26,8 interactions with the same articles on vg.no. The same tendency was found in the American control group, with an average of 21,5 comments on each article, and 429,5 interactions for each Facebook post (54,5 comments and 375 likes and reactions). However, because the Washington Post comment section is not integrated with Facebook, this means that the actual number of exposures to an Facebook audience due to commenting on the Washington Post comment section is 0.

The number of shares were not recorded at all. There are at least two methods for retrieving the number of shares of an article: the share-count on the Facebook post itself, and through the Facebook API by using the URL graph.facebook.com/?id=URL. These two methods, however, provide very different results. There are also several ways of sharing an article: by clicking the share-button on the Facebook post, by clicking the share-button on the article itself, and by copy/pasting the article URL. It is unclear how many of these methods for sharing an article are counted in the statistics. Methods for separating the shares from Facebook posts and website share buttons have not been found, and therefore it has not been possible to compare the two.

4.3 Articles

While looking at the quantitative data can tell us a lot about the differences between comments on VG's Facebook page and on the comment sections on vg.no, a more detailed analysis has been performed. Each article's comments have been analyzed more closely to uncover interesting aspects of commenting.

4.3.1 Article 1: Neighbor dispute

This article is about a neighbor dispute in Norway and the sentencing of one of the neighbors in a court case. With 40 comments on VG's Facebook page and 44 on the website, and 34 commenters on both sets, the two sets are unusually similar in quantity of comments and commenters (Table 4-2).

	Facebook	Website	Total
Comments	40	44	84
Commenters	34	34	68
Replies	15	30	45
Tagged People	5	17	22
Average number of words	8,5	32	
Average number of emoticons	1	0,2	
Likes	265		265
Reaction Haha	58		58
Reaction Love	15		15
Reaction Wow	0		0
Reaction Sad	0		0
Reaction Angry	0		0
Informative comments	5	6	11
Argumentative comments	1	8	9
Opinions	7	5	12
Reactive comments	13	5	18
Derogatory comments	2	8	10
Humorous comments	7	1	8
Tagging comments	2	0	2
Suggestions	1	4	5
Questions	0	5	5
Supportive comments	0	1	1
Speculative comments	0	0	0
Arbitrary comments	2	1	3

Table 4-2: Statistical information about the Facebook- and Website set from Article 1.

The two sets differ in the number of tagged people, average number of words, average number of emoticons used and number of replies. The website set has 17 tagged people compared to the Facebook set's 5. This could be explained by how commenters communicate in the comment section on vg.no. Tagging each other's name in replies to comments is a way to both direct their comments to a specific commenter, and to gain the targets attention because a tagged name will result in a notification on the target's Facebook account. And so, the higher number of tagged people on the website set might indicate more communication between commenters in the form of replies and discussion. Following is an example of this sort of communication, taken from the website set of Article 1:

[Name 6]: The message is, fences are good to have..

[Name 7]: [Tagged: Name 6] didn't he tear down the fences as well? Maybe I'm not remembering it right.

Tagging people on VG's Facebook Page seems to work differently, as suggested by the data from this Article. It's not used to reply to a comment. This observation is supported by a longer chain of replies in the Facebook set (containing 10 replies to a comment) that has the qualities of a conversation – with four commenters involved in a discussion. But none of these replies contain tagging, making it necessary to use the content and the context of the replies to determine which comment and commenter each comment is directed at.

Following is an example of how tagging is used on Facebook:

[Name 19]: [Tagged: Name 35] [Tagged: Name 20] [Tagged: Name 36] [Tagged: Name 37]

[Name 20]: Hahaha

These two comments show how one commenter, Name 19, is tagging four people – without writing anything other than the names of the tagged people. This indicates that this comment is not meant to be a comment on the article, but simply a way to draw attention to the article itself. Only one of the four tagged people, Name 20, replied to the comment, with a written non-verbal reactive comment. There are generally more reactive and non-verbal

comments in the Facebook-set, which also helps to explain why the Website-set has a higher average number of words and fewer emoticons. The website set has an average of 32 words per comment and 0,2 emoticons, versus the Facebook-set with 8,5 words per comment and 1 emoticon.

Figure 4-2 shows that the most popular category of comments in the Facebook set is reactive comments, one that is not very popular in the website set. Most of the comments on Facebook are reactive, opinions or humorous, while most of the comments in the website set are argumentative, derogatory or informative. Some similarities can be found as well: arbitrary comments and suggestions are low in both sets, and opinions are found near the middle.
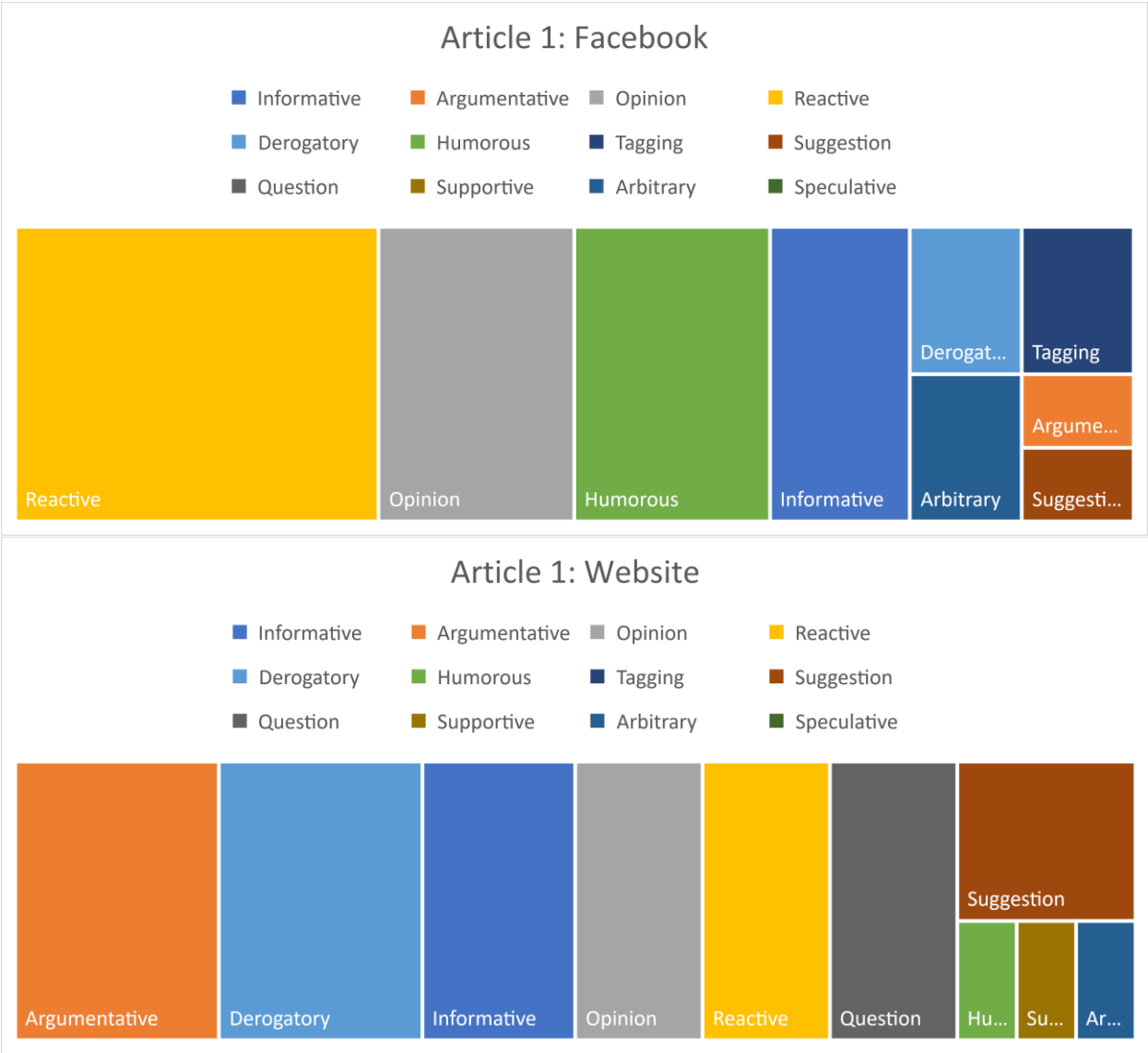
Figure 4-2: The quantitative relationship between the categories of comments in the Facebook- and Website set of Article 1.

4.3.1.1 Replies: Conversation and discussion

A reply is a comment that is directed at a previously made comment. Replies to comments is an interesting aspect to look at, because it can be argued that replies are a necessary aspect of conversations and discussions. According to Gumperz (1982, 1), communication is "a social activity requiring the coordinated efforts of two or more individuals… Only when a move has elicited a response can we say communication is taking place".

There are three ways in which a reply can be identified as a reply:

1. A reply, found in the second level of comments, can be technically marked by identifiers in the coding, and visually marked as a reply by being indented in relation to the first-level comment being replied to.

2. A reply can be found on the same level as the comment being replied to, but can be directed at a specific commenter by using tagging or writing the name of the commenter in plain text. This is the standard way in which one can identify the reply to a reply.

3. Sometimes replies are on the same level as the comment being replied to, without the use of tagging or writing names in plain text. In these cases, a reply can be identified by looking at the content and context.

As mentioned earlier, the Facebook set of Article 1 contains a chain of replies where four commenters are replying to each other's comments, without using tagging or writing each other's names. This conversation is interesting for two reasons: the fact that it contains replies without tagging, and that the conversation shows how a factual misunderstanding is being responded to.

[Name 4] That means that we can build wherever we want even on our neighbor's land

[Name 5] If you try you'll figure this out

[Name 6] No it wasn't his land, it was common land

[Name 4] Ok I read it wrong

[Name 7] Are you actively trying to appear as an idiot?

[Name 4] Yes to fit in to the system

53

The conversation continues for five more comments, but it changes into not being about Name 4's misunderstanding, but about the content of the original article. The first thing to note is that despite the lack of tagging, and even when the conversation is happening on the same hierarchical level, it is easy to follow due to content and context. The second note-worthy thing about the conversation is how a factual error is being responded to. The first reply does not contain any facts to clear up the misunderstanding, but is instead a sarcastic message of support, hinting to the fact that Name 4 has made a mistake. Then, the next reply is an informative comment explaining the article, followed by Name 4's admission of his error and simple explanation for it. Finally, after this admission, a fourth commenter asks a derogatory question in which he is indirectly calling Name 4 an idiot – to which Name 4 replies with an agreeable joke.

Other than the conversation above, the Facebook set contains very few replies indicating a conversation or discussion. There are three other comments with replies: one with on arbitrary reply, one with two reactive replies responding to a humorous comment and one non-verbal reactive reply to a comment containing only tagging. In the Website set, however, there are two cases of these short arrays of arbitrary or reactive replies. But in addition to this there are two longer arrays of replies indicating conversation or discussion.

The first of the two discussions start with a factual misunderstanding, similar to the one just mentioned from the Facebook set.

> [Name 3] Conclusion: Now anyone can, according to the verdict, build and or plant anything on any property belonging to someone else. That doesn't sound like a fair verdict at all.
>
> > [Name 4] It would be nice if you would have read what the case is about
> >
> > [Name 5] The neighbor had the right to use the property he bought. He knew that when he bought the property.
> >
> > [Name 6] They had the right to use it, and yes – if you're using another man's property believing it to be yours, then after a while you can claim the right to use it even if it's not your property. But, this would probably not be enough in the usa…
> >
> > [Name 1] He That: Do you have dyslexia since you haven't read what the case is about?

After this, there are 14 more replies in which there is a general discussion about the issue of the article, and to some extent about how the different commenters are replying to each other. There are several similarities between this conversation and the one from the Facebook set. They both start with one of the earliest comments to the source article, and they both contain the same misunderstood interpretation of the facts of the article. The difference is that the comment from the Website set is longer, and that the commenter making the mistake does not reply to any criticism in the replies, as the commenter from the Facebook set did. It is also noteworthy that in both cases a general discussion about the issue of the article arises after the four or five replies about the misunderstanding of the original comment.

The second discussion found within the Website set of comments is a 10-comment long array of replies to a criticism of the newspaper for using grammatically bad language. This starts a discussion about how much should be expected from journalists, about whether comment sections should be used as a forum for critique of journalists (which is an interesting question about the collective discourse of comment sections), and about how to spell the word the original commenter had mentioned in his critique.

At this point it is worth noting that the description of how replies work as described above can be generalized to the other articles studied in this research. There is a general tendency towards shorter arrays of replies on Facebook, and two or three longer arrays of replies on vg.no. The arrays on vg.no are usually where conversations and discussions take place. For both the Facebook- and the website set, replies are more concentrated at the top, suggesting that the earlier comments generate more conversation than the later ones.

4.3.2 Article 2: Trump and Putin

This article is about U.S. President Donald Trump's meeting with Russian President Vladimir Putin and his claim of expressing distress over Russian involvement in the 2016 U.S. Presidential Election. As seen in Table 4-3, Unlike Article 1, Article 2's Website set has far fewer comments (F=62, W=17) and commenters (F=61, W=14) than the Facebook set – which is the trend seen in most of the studied articles. There are also very few tagged people in both sets on Article 2. Article 2 shows the same tendency as Article 1 for higher number of words (F=10,5, W=20,5) and lower number of emoticons (F=1, W=0,3) in the Website set.

	Facebook	Website	Total
Comments	62	17	79
Commenters	61	14	75
Replies	7	9	16
Tagged People	2	1	3
Average number of words	10,5	20,5	
Average number of emoticons	1	0,3	
Likes	64		64
Reaction Haha	121		121
Reaction Love	0		0
Reaction Wow	0		0
Reaction Sad	9		9
Reaction Angry	0		0
Informative comments	3	4	7
Argumentative comments	6	3	9
Opinions	16	4	20
Reactive comments	19	0	19
Derogatory comments	3	1	4
Humorous comments	4	2	6
Tagging comments	2	0	2
Suggestions	1	0	1
Questions	4	2	6
Supportive comments	0	0	0
Speculative comments	2	1	3
Arbitrary comments	4	1	5

Table 4-3: Statistical information about the Facebook- and Website set from Article 2.
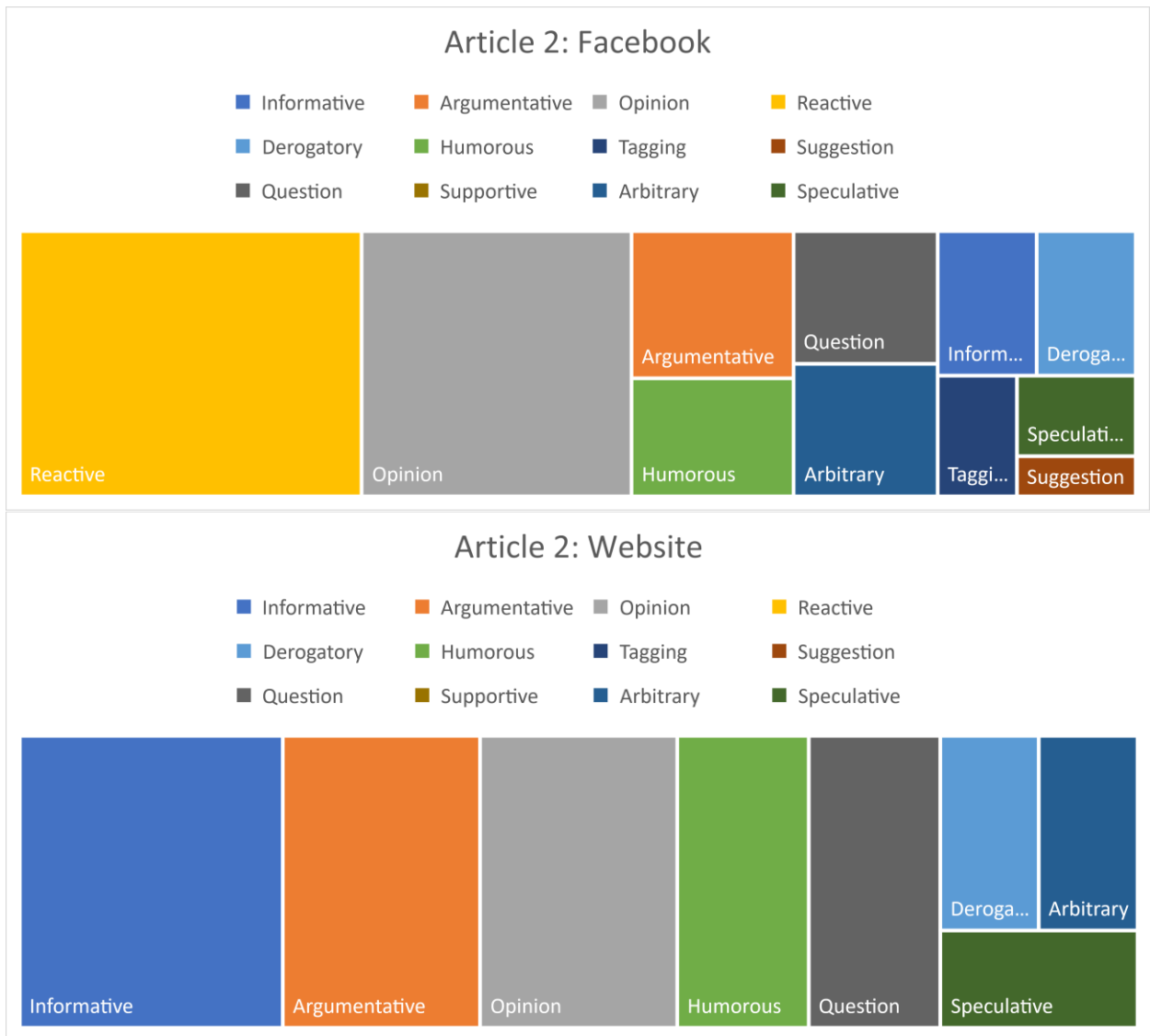
Figure 4-3: The quantitative relationship between the categories of comments in the Facebook-and Website set of Article 2.

Figure 4-3 shows that opinions are a popular category of comments in both sets, but that informative comments top the website set and reactive comments top the Facebook set. The content of the article seems to bring up a lot of opinions about Presidents Trump and Putin. From the Facebook set of comments, a lot of the comments are short, reactive outbursts of opinions, like "*Bragging*", "*Two dangerous men*" and "*I doubt it*".

The website set contains more expressed opinions, like in the following example:

I can't picture Trump pressuring anyone, more the other way around (if you catch my drift):P

In the Facebook set there is one incident of critique of newspaper or journalist, but it is formulated as a critique of the media in general:

[Name 10] The media are a bunch of distorters, know-it-alls and idiots who always have a need to distort what is being said.

[Name 11] Then you should stop reading what you don't like

There is also an example of a factual misunderstanding and an informative derogatory reply in the Facebook set:

[Name 16] If it's bragging or not, is difficult to say, as there hasn't come anything from Putin about the meeting. We only have Trump's version, so I have my doubts.

[Name 17] Well Putin is the only one who's held a press conference at this meeting. But apparently you didn't get that detail?

4.3.3 Article 3: Cross-country skier reacts to doping verdict

In this article, a Norwegian cross-country skier shares her reaction to a team-mate being sentenced for doping, after using a lip balm with performance enhancing ingredients. As table 4-4 shows, this article continues the trend of average number of words being higher in the website set (F=17,3, W=70,9), and the average number of emoticons being higher in the Facebook set (F=1, W=0,1). There are also more comments (F=81, W=19) and commenters (F=58, W=14) in the Facebook set.

	Facebook	Website	Total
Comments	81	19	100
Commenters	58	14	72
Replies	36	11	47
Tagged People	5	15	20
Average number of words	17,3	70,9	
Average number of Emoticons	1	0,1	
Likes	358		358
Reaction Haha	0		0
Reaction Love	40		40
Reaction Wow	0		0
Reaction Sad	154		154
Reaction Angry	0		0
Informative comments	6	6	12
Argumentative comments	12	3	15
Opinions	14	4	18
Reactive comments	21	0	21
Derogatory comments	2	0	2
Humorous comments	2	0	2
Tagging comments	0	0	0
Suggestions	1	4	5
Questions	6	0	6
Supportive comments	14	2	16
Speculative comments	2	1	3
Arbitrary comments	3	0	3

Table 4-4: Statistical information about the Facebook- and Website set from Article 3.

Figure 4-4: The quantitative relationship between the categories of comments in the Facebook- and Website set of Article 3.

Looking at Figure 4-4, there are some similarities in the number of opinions and argumentative comments. But reactive comments top the Facebook set, while informative comments top the website set, followed by suggestions. We also see far more supportive comments in the Facebook set.

Supportive commenting was taken to an extreme by one commenter on VG's website article. This commenter wrote a 674 words long comment that read as a letter of support to the cross-country skier who had been sentenced. This also included a paragraph of critique towards the organization that had performed the sentencing.

There was a noteworthy division between the group of people who were saddened by the sentencing and thought it unfair, and those who agreed with it. Almost all first-level comments were in support of the skier and negative towards the sentencing, whereas all the comments made in agreement with the sentencing were replies to first-level comments. This suggests that the article was mainly reacted to by people who thought the sentencing to be unfair; arguing against the sentence, sharing their opinions, and sending supportive messages through their comments. The people holding an opposing view seems to have been unwilling to comment on the article itself, and only argued against the comments made by those in disagreement with the sentencing.

There was one comment in a discussion in the Facebook set that hints at how some people commenting on Facebook view the act of commenting on the platform. The discussion begins with a commenter simply writing: [Name 18] Deserved it ["OK"-emoticon]. When asked by another commenter why she deserved it, a brief discussion begins, ending with Name 18 writing:

> I don't want to discuss a case like this here. My opinion is that it was deserved, and you are allowed to disagree.

While this comment can be seen as simply an attempt to end the current discussion, the choice of wording in the first sentence is interesting. "I don't want to discuss" tells us that the person doesn't want to be engaged in a discussion. "a case like this" tells us that the specific case presented in the article is what the person doesn't want to discuss. And finally, "here" tells us that the platform itself, being Facebook, is not a place where the person wants to have the discussion. This can be interpreted to mean that this commenter never intended, or wanted to, start a discussion on Facebook. The intention of the comment was to do nothing more than comment on the article. It was not meant to be a smaller part in a larger context – a discussion of different opinions. This interpretation cannot be generalized to other Facebook comments. But as seen on earlier articles, there seems to be more first-level comments without replies to them on Facebook than on vg.no. This means that the general tendency observed in this study is that comments on Facebook to a higher degree function as single comments that are not put into a larger context of discussion.

4.3.4 Article 4: Police performing an illegal search

This article is about a Norwegian citizen being payed 150 000 NOK (19 375 USD) after being the victim of an illegal search by Norwegian police. As table 4-5 shows, this article is unusual in that there are far more comments in the website set than in the Facebook set (F=10, W=28). This is the second article with more comments in the website set - the other one being about crime and legal decisions as well, suggestion that this category attracts more interest on vg.no than on VG's Facebook page. Article 1, which was also about national law and crime, had slightly more comments in the website set. Another unusual find in the data from Article 4 is that there is an equal average number of emoticons in the two sets (n=0,1). But as seen in previous articles, the website set has a higher average number of words (F=13,5, W=32,5).

	Facebook	Website	Total
Comments	10	28	38
Commenters	13	22	35
Replies	3	13	16
Tagged People	5	4	9
Average number of words	13,5	32,5	
Average Emoticons	0,1	0,1	
Likes	100		100
Reaction Haha	0		0
Reaction Love	6		6
Reaction Wow	8		8
Reaction Sad	0		0
Reaction Angry	0		0
Informative comments	1	4	5
Argumentative comments	2	4	6
Opinions	3	11	14
Reactive comments	0	2	2
Derogatory comments	0	2	2
Humorous comments	0	2	2
Tagging comments	4	0	4
Suggestions	0	0	0
Questions	0	3	3
Supportive comments	0	0	0
Speculative comments	0	2	2
Arbitrary comments	0	0	0

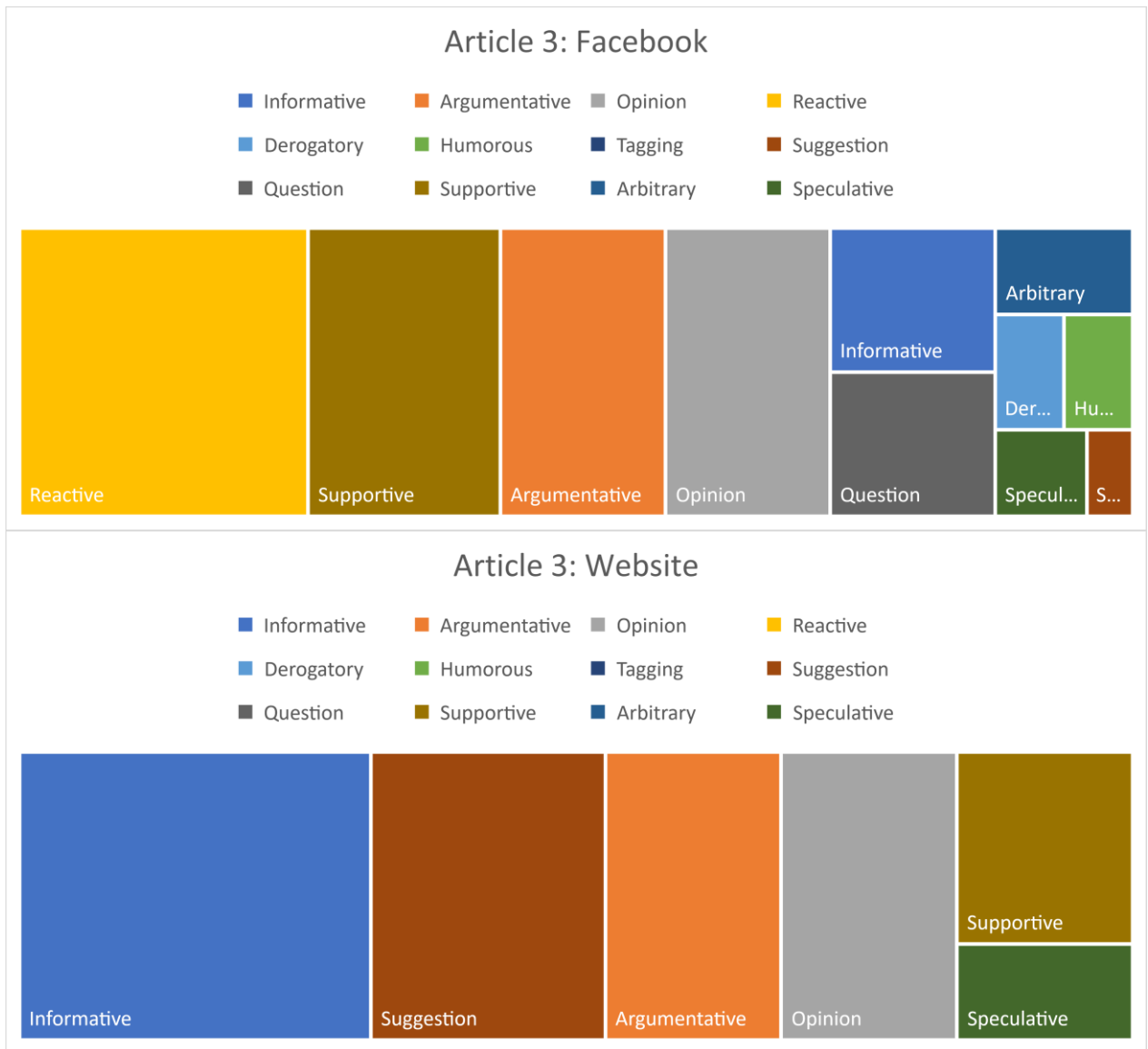**Table 4-5: Statistical information about the Facebook- and Website set from Article 4.**

Figure 4-5: The quantitative relationship between the categories of comments in the Facebook- and Website set of Article 4.

Figure 4-5 shows that article 4 has generated a very high percentage of tagging comments on Facebook, suggesting that the article has been very popular to share with specific people by tagging their names. The other three categories found in the Facebook set; opinions, argumentative and informative comments, are similar to the top three categories on the website set. But argumentative comments are more popular on Facebook than on the website, which has a very high number of opinions.

One comment that is worth looking more closely at comes from the website set. After writing a longer argumentative comment, the same commenter adds a new comment saying:

> And I'm sorry about all the grammar errors. VG's comment section only lets me see half of what I'm writing…

This comment is an interesting clue to the experience of writing a comment. We don't know anything about what device the commenter was using. To explore this, I tried writing a longer comment on vg.no, using both a computer and a smartphone. I did not experience the problem described in the comment. And as my walkthrough of the act of commenting, described in chapter 6, shows, the design of the comment section on vg.no encourages longer comments than is the case on Facebook. But obviously, this commenter experienced some form of platform-related issue that he felt had a negative influence on his ability to comment on the article.

It is worth noting that, despite the low number of comments on this article, some observations about the level of discussion can be made. 13 out of the 28 comments in the website set are replies. The longest array of replies in the website set is 7 comments long. There are also some replies in the Facebook set. The two replies make up a relatively large percent of the total number of comments (20 %). But because there are so few comments in the Facebook set it is not possible to generalize this number. In fact, two replies to one comment is something that has been observed across the different Facebook set.

4.3.5 Article 5: Bankrupt Clothing Company

This article is about bankruptcy of a Norwegian clothing company. As seen in Table 4-6, the Facebook set has an unusually low average number of words (n=3,3). This can be explained by the high number of tagging and reactive comments, comments that are often very short. There is also a very similar average number of emoticons in the two sets (F=0,3, W=0,23).

	Facebook	Website	Total
Comments	53	16	69
Commenters	66	14	80
Replies	17	6	23
Tagged People	31	3	34
Average number of words	3,3	24,5	
Average number of emoticons	0,3	0,25	
Likes	68		68
Reaction Haha	12		12
Reaction Love	0		0
Reaction Wow	0		0
Reaction Sad	56		56
Reaction Angry	0		0
Informative	2	1	3
Argumentative	1	3	4
Opinion	1	4	5
Reactive	16	2	18
Derogatory	0	0	0
Humorous	0	1	1
Tagging	26	0	26
Suggestion	0	0	0
Question	4	4	8
Supportive	2	0	2
Speculative	0	0	0
Arbitrary	1	1	2

Table 4-6: Statistical information about the Facebook- and Website set from Article 5.

Figure 4-6: The quantitative relationship between the categories of comments in the Facebook- and Website set of Article 5.

Figure 4-6 shows that the Facebook set has a very high number of tagging and reactive comments. The general tendency of comments on Facebook were that people tagged their friends, presumably as a way to direct their attention towards the closing of the clothing company, and short expressions of sadness in the form of reactive comments. The website set contained a lot of opinions about the clothing brand in question, but also an unusually high number of questions. 3 of the 4 questions were directed at other commenters who were asked to further explain their previous comments.

4.3.6. Article 6: Leadership debate in political party

This article is about a leadership struggle in a major Norwegian political party. Two interesting numbers from Table 4-7 makes this article different from most of the previously analyzed articles. The first is that the average number of emoticons used in the comments are the same in both the Facebook- and website set (n=0,2). The other is the relatively small number of likes (n=31) and reactions (n=40).

	Facebook	Website	Total
Comments	45	37	82
Commenters	39	34	73
Replies	11	10	21
Tagged People	0	0	0
Avarage number of words	17,7	30,5	
Avarage number of emoticons	0,2	0,2	
Likes	31		31
Reaction Haha	34		34
Reaction Love	0		0
Reaction Wow	6		6
Reaction Sad	0		0
Reaction Angry	0		0
Informative	2	2	4
Argumentative comments	5	12	17
Opinions	15	7	21
Reactive comments	9	2	11
Derogatory comments	3	3	6
Humorous comments	2	1	3
Tagging comments	0	0	0
Suggestions	1	3	4
Questions	4	5	9
Supportive comments	0	0	0
Speculative comments	3	0	3
Arbitrary comments	4	2	6

Table 4-7: Statistical information about the Facebook- and Website set from Article 6.

This article provides the first example of an image being used to express an opinion. A comment from the Facebook-set contained a single animated image, with no accompanying text (Figure 4-7). The image is of an animal wearing a thief's mask and carrying a bag labeled "LUNCH". While technically this might be an emoticon, it is not categorized as a reactive non-verbal comment. Non-verbal comments are described as representing non-verbal communication, such as facial expressions. Whenever the category reactive non-verbal has been used, it has been used to describe emoticons or written words, such as "haha", that

represent the commenter's emotional reaction. The image in Figure 4-7, however, does not appear to represent an emotional response. Instead it seems to represent, as interpreted by myself, the opinion of the commenter that the politicians in the article are thieves.
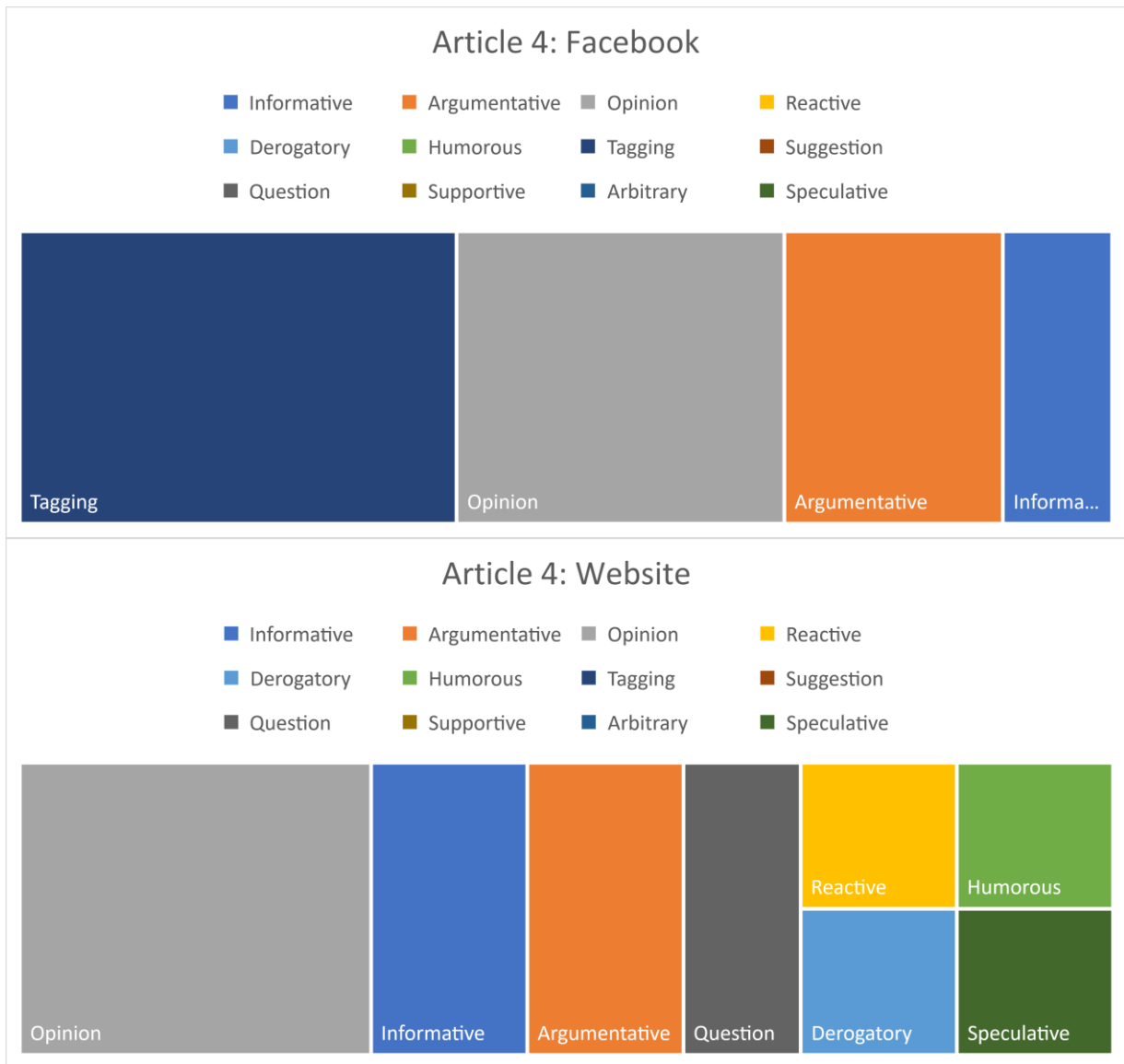

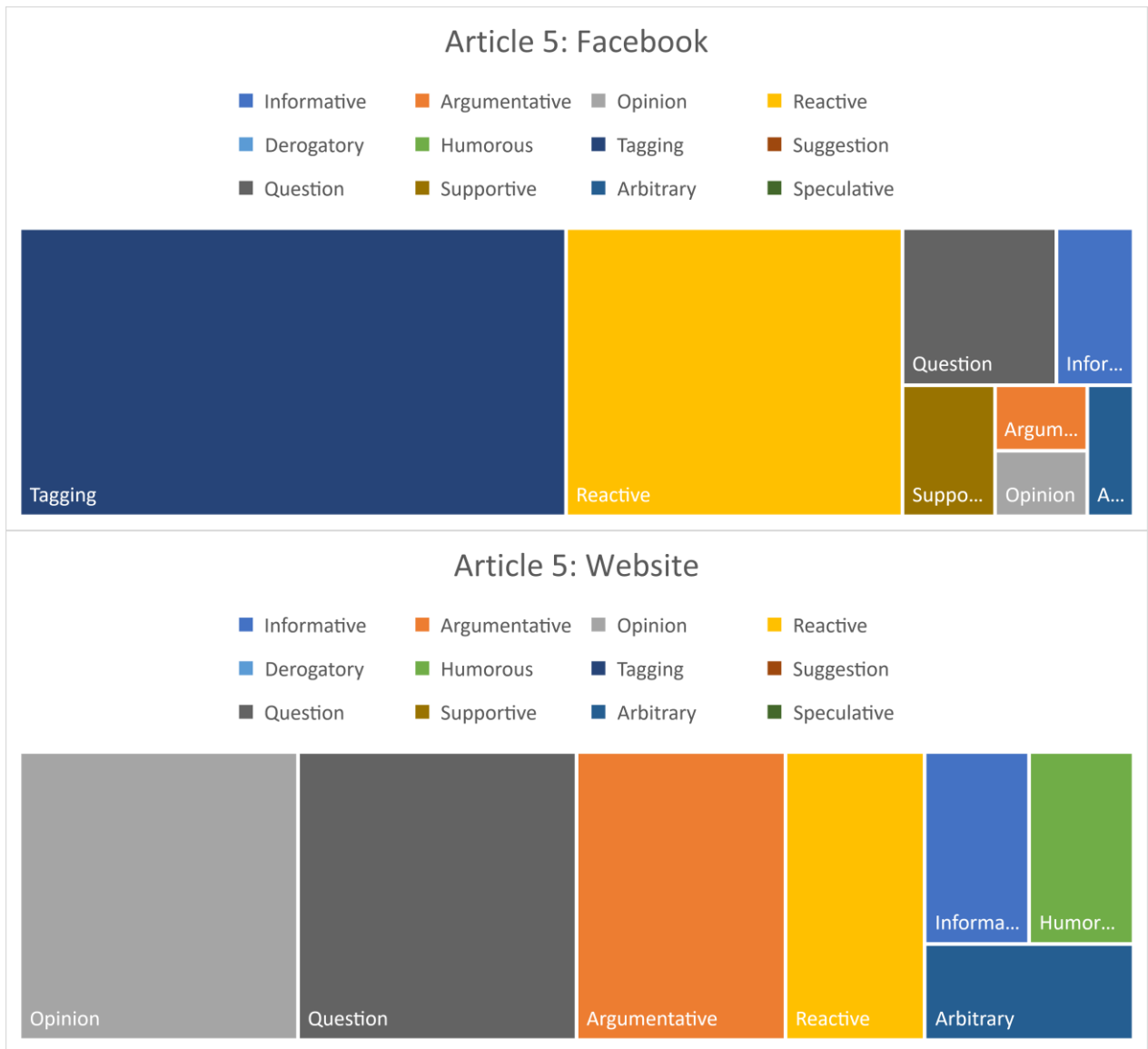**Figure 4-7: Animated image used in a comment, with no accompanying text.**

Figure 4-8: The quantitative relationship between the categories of comments in the Facebook- and Website set of Article 6.

Figure 4-8 shows how argumentative comments are the most popular comments in the website set, closely followed by opinions. Opinions and reactive comments top the Facebook set, followed by argumentative comments. Both sets have a similar percentage of derogatory comments, all of whom were directed at the politicians in the article. There was also an unusually high number of arbitrary comments due to several grammatically and contextually confusing comments. One of which was actually pointed out by another commenter:

In labor party there is power struggle inbgovernments is dialogue shit talk by media.

While it is possible to imagine what this commenter is trying to say, the grammatical errors create a sentence that is difficult to interpret without effort. Another commenter replied to this comment by saying: Whaa what does that mean didn't understand

4.4 The differences between comments on Facebook and newspaper website

This research has found several differences between comments on Facebook and comments on the newspaper website that can be divided into four general trends: differences in public engagement, meta data, level of discussion and categorical differences. Below is a summary of these differences, but a more extensive discussion around the four types of differences can be found in chapter 9.

1) **Public engagement:** There are more comments on VG's Facebook page than on articles on vg.no. When also adding up the number of likes and reactions on the examined articles on Facebook, the total number of Facebook interactions is approximately 10 times higher than on vg.no. This means that even if all commenters on vg.no were to choose to share their comment on their Facebook profile (which is optional), articles on Facebook receive 10 times as many comments, likes and reactions – making Facebook a more effective platform for increasing the spreadability of an article than the comment section on the article itself. This tendency was also found on the Washington Post.

2) **Comment meta data:** Comments on vg.no have a much longer average word count than on VG's Facebook page, a tendency also found on the Washington Post. Comments on Facebook contain more emoticons.

3) **Level of discussion:** A higher percentage of comments on vg.no are replies to previous comments. The qualitative analysis of these replies shows longer and more argumentative replies on vg.no, with each string of replies usually containing several comments from the same individuals. This suggests more debates and conversations on vg.no than on VG's Facebook page.

4) **Categorical differences:** There is a higher percentage of questions, suggestions, informative, argumentative and derogatory comments on vg.no than on Facebook. The qualitative analysis of these comments suggests that these five categories are often used in a conversational setting, again suggesting more discussions and conversations on vg.no.

On Facebook, there is a much higher number of reactive and supportive comments. The qualitative analysis of the supportive comments show that they are very similar to reactive comments, and just like reactive comments, they are rarely used in a conversational setting. This, again, suggests that there is more discussions and conversations on vg.no. There is also a high percentage of tagging comments on Facebook, which are never found on vg.no. These have been interpreted to be a method for Facebook commenters to direct a person's attention to the article in question.

5. The Rowe Replication Study

Before moving on to the possible explanations for the results presented in the previous chapter, Ian Rowe's research article "Civility 2.0: a comparative analysis of incivility in online political discussion" deserves our attention. Rowe (2015) studied the effects of anonymity on commenting on news articles, and his findings have later been cited by several researchers (Dalisay, Kushin and Yamamoto, 2016; Fox, Cruz and Lee, 2015). He compared comments on articles on the Washington Post website and the Washington Post Facebook page and found that 6% of the website comments and 2.7% of the Facebook comments were uncivil. As the results in the previous chapter show, and as repeated in Table 5-1, my study found that 8.7% of the comments on vg.no and 3.4% of the comments on VG's Facebook page were derogatory. And my own coding of comments from the Washington Post, the same newspaper that Rowe used for his research, resulted in 7% of comments from the Washington Post comment section and 3,7 from its Facebook page being coded as derogatory.

	Derogatory Comments from VG (Knustad 2018)	Derogatory Comments from The Washington Post (Knustad 2018)	Uncivil comments from The Washington Post (Rowe 2015)
Facebook	3.4%	3.7%	2.7%
Website	8.7%	7.0	6.0%

Table 5-1: Percentage of derogatory comments from my own categorization of comments and the number of uncivil comments from Rowe's (2015) research.

The statistics from Table 5.1, showing the number of comments from VG and The Washington Post that I coded as derogatory, and the number comments from The Washington Post that Rowe coded as uncivil, is interesting because it shows fairly similar numbers across three sets of data from two researchers and two newspapers, one of which was studied by both researchers. In other words: the two research projects seem to support each other, at least on the coded percentage of derogatory or uncivil comments.

But I have found one problem with Rowe's research. Rowe concludes that anonymity can explain the difference he found in civility between the two platforms, arguing that there are more uncivil comments on the Washington Post comment section because the commenters there were not identifiable. The Washington Post uses their own comment system where users

have to sign in to comment. To create an account, the user can either use an amazon account, Facebook account, or their e-mail. Either way, when commenting, the user is only identified through a pseudonym. This allows commenters on the Washington Post to be anonymous. On Facebook, however, commenters are not anonymous. Anonymity may seem like a reasonable explanation for Rowe's results. But I will argue that this explanation is inaccurate because my own results shows a higher number of derogatory comments in the website set than the Facebook set – just like Rowe's results. But if Rowe's interpretation about anonymity as the main explanatory factor was correct, one would expect the number of derogatory comments on vg.no and VG's Facebook page to be similar, because neither of these two platforms allow for anonymity, and users are equally identifiable.

Because Rowe used a very different coding scheme than mine, it's difficult to draw any definite conclusions. But because I already had the comments from my main research formatted and anonymized, I decided to perform a new study using the same data I collected for my main study and coded it using Rowe's coding scheme. This new study, which I from now on will call the "Rowe replication study", would confirm Rowe's interpretation of his data if there was a close to equal number of uncivil comments on the comment sections on VG's website and their Facebook page. This is because VG's comment section does not allow for anonymity, and if Rowe's interpretation is correct that would make commenters on vg's comment section as civil and polite as those on Facebook. If, however, the results from the Rowe replication study showed the same difference between comments on Facebook and on The Washington Post as has been found in my main study and Rowe's study of the Washington Post, Rowe's interpretation and use of anonymity as an explanatory factor would not be supported. If there are more uncivil comments on vg.no than on VG's Facebook page, despite users being equally identifiable on both platforms, then anonymity cannot be considered the only explanation for uncivility in news site comment sections.

5.1. Methodology

The hypothesis for this study is that there will be an equal, or close to equal, number of uncivil comments on VG's comment section and VG's Facebook page, because commenters are not anonymous on either platform. This study aims to recreate Rowe's study, using a different sample of data taken from two platforms where users are not anonymous. Therefore,

this study replicates Rowe's research methodology, using content analysis to code comments and compare them.

5.1.1. Sample

Because the "Rowe replication study" analyzes the comments that were collected for my main thesis study, it is important to note that there are some differences between Rowe's study and this one in how the sample was selected. Rowe used constructed week sampling to generate a stratified sample of political news articles over two constructed weeks (2015: 127). The current study has not used this method. Rowe only studied comments on political articles, whereas this study has analyzed comments from different types of articles, including national and international politics, crime, sports and finance. Although it is not written specifically, one can assume that Rowe chose only political articles because he wanted to study political discussion in comment sections to look for incivility. I would argue that uncivil and impolite comments can be found on articles covering a wide range of topics, and that narrowing down the area of research to only cover political articles is a mistake.

Another difference between Rowe's study and this one, is that in Rowe's study, 4502 comments from the Washington Post and 2304 comments from their Facebook page, were collected. Of these, a random sample of 500 comments from each platform was analyzed. In the current study, all collected comments have been analyzed in their original context. When doing qualitative research, I believe it is important to analyze each comment as part of a larger context. Consider the following example: "*Your contribution to Norwegian industry will probably last for generations. Thanks*." This comment, which was coded as sarcastic, is only sarcastic when read in context. On its own it could potentially be a sincere message of appreciation to another commenter, or the subject being reported on in the article. In chapter 4.1 I provide an example of a hybrid comment that contain both an opinion and an informative part. The comment was coded as an opinion, in part because of the context of the comment. By not analyzing comments in their context, the meaning of some comments may be lost on the researcher, and I therefore believe that when doing qualitative research such as this, the context should be considered.

5.1.2. Coding

This study is designed to replicate the coding scheme used by Rowe. Rowe's coding scheme is an adaptation of a pre-existing coding scheme by Papacharissi that is used to code comments as uncivil or impolite (Rowe, 2015: 128). Incivility is defined by Papacharissi as "a set of behaviors that threaten democracy, deny people their personal freedoms, and stereotype social groups" (Papacharissi, 2004: 267; Rowe, 2015: 128). Based on this, a three-item index has been developed to determine if a comment has violated the standards of democratic discourse (see Appendix 4 for a more detailed explanation of the categories). A comment was coded as uncivil if it verbalized a threat to democracy, threatened the rights of other individuals, or assigned stereotypes. A second index was developed to determine if a comment is impolite. A comment was coded as impolite if it contained name-calling, aspersions, claims about lying, vulgarity, pejorative speech, hyperbole, non-cooperation or sarcasm. A final category, called "other, was created for uncivil or impolite comments that did not fit into any of the categories.

The direction of incivility for each coded comment was also recorded. Comments aimed at another commenter were coded as Interpersonal. Comments that were aimed at a specific person or group of people not present in the conversation were coded as other-directed. Uncivil comments that were not directed at any one person or group of people were coded as neutral.

5.2. Results

Most of the comments analyzed in this study were neither uncivil or unpolite, which is in line with Rowe's results and previous research (Rowe, 2015: 129). 8.1% of the comments on VG's website were coded as uncivil, with most of them being threats to individual rights or the use of stereotypes. Only 2.1% of the comments on VG's Facebook page were coded as uncivil, all of them being use of stereotypes. This closely matches the results of Rowe's coding of comments from the Washington Post (Table 5-2). The current study also found that there are more impolite comments on vg.no (15.5%) than on VG's Facebook page (6.2%). Rowe found far more impolite comments, and the difference in politeness between vg.no and VG's Facebook page is much higher than what Rowe found on the Washington Post

	The Washington Post – Rowe (2015)		VG – Knustad (2018)	
	Website	Facebook	Website	Facebook
Comments total	498	490	161	291
Threat to democracy	1,0 %	0,8 %	0,0 %	0,0 %
Threat to rights	1,6 %	1,0 %	4,3 %	0,0 %
Stereotype	4,4 %	1,0 %	3,7 %	2,1 %
Total incivility	**6,0 %**	**2,7 %**	**8,1 %**	**2,1 %**
Name-calling	8,8 %	11,2 %	3,7 %	2,7 %
Aspersion	8,4 %	5,1 %	3,7 %	2,1 %
Lying	1,0 %	1,0 %	0,6 %	0,7 %
Vulgar	0,6 %	1,8 %	1,2 %	0,3 %
Pejorative	0,4 %	0,2 %	3,7 %	0,0 %
Hyperbole	3,0 %	2,4 %	2,5 %	0,3 %
Non-cooperation	1,0 %	0,2 %	1,2 %	1,0 %
Sarcasm	10,2%	6,5 %	1,2 %	0,3 %
Other	5,8 %	7,3 %	0,0 %	0,0 %
Total impoliteness	**34,5%**	**32,4%**	**15,5%**	**6,2%**

Table 5-2: Incivility and impoliteness among comments from the Washington Post coded by Rowe (2015), and comments from VG coded for the current study.

Rowe looked at the direction of impolite and uncivil comments, being specifically interested in interpersonal comments - meaning impolite or uncivil comments that are targeting other commenters. On the Washington Post comment section, Rowe coded 89 interpersonal comments, which is 17.9% of his sample of 498 comments. He found 41 interpersonal comments on the Washington Post Facebook page, which is 8.4% of the total sample of comments. The current study found that 6.8% of the total sample of comments from VG's comment sections, and 1.5% from VG's Facebook page, were interpersonal (Table 5-3). This means that even if the current study has found fewer interpersonal comments among uncivil comments than Rowe's, both studies have found more interpersonal uncivil and impolite comments on the website comment sections than on Facebook.

	The Washington Post (Rowe 2015)		VG (Knustad 2018)	
	Website	Facebook	Website	Facebook
Interpersonal	17,9 %	8,4 %	6,8 %	1,5 %

Table 5-3: Number of uncivil or impolite, interpersonal comments from the Washington Post (Rowe 2015) and VG, in percentage of total number of sample comments.

5.3. Discussion

Rowe found more uncivil comments on the Washington Post comment section than on Facebook. Because the comment section allowed for anonymous commenters, Rowe explained this difference by assuming that anonymity made commenters more uncivil. Based on this it was assumed that a different online newspaper, one that does not facilitate anonymous commenting, would have a similar number of uncivil comments on their comment section and Facebook page. This hypothesis has been tested in the current study by replicating Rowe's coding scheme on comments from VG, a newspaper with an integrated Facebook commenting plugin to power their comment sections, thus not allowing for anonymity. The result of this study is that the hypothesis could not be confirmed. The number of uncivil comments from VG closely matched those from the Washington Post. Considering Rowe's explanation for his research results, and the nonanonymous comment section of VG, this is a surprising result - suggesting that anonymity alone cannot be used as an explanatory factor for why there are more uncivil comments in the comment sections of the Washington Post and VG.

It is important to note that there are factors that could have affected the results of this study. As mentioned earlier, the sample collection in this study was different from that of Rowe's. It is also worth considering the potential differences between the commenters on the two newspapers. The Washington Post is an American newspaper, and VG is Norwegian. There is certainly a possibility of demographical, linguistic and cultural differences having an effect. Finally, the coding processes could also have affected the results. It is unlikely that the coders in both studies would have coded all comments similarly. Cultural differences, language and the interpretations made by the coders could help explain the differences in impolite comments, as these could be argued to be especially susceptible to cultural and linguistic factors. Concepts such as name-calling, vulgarity and sarcasm can be quite different across cultures and languages.

Despite the potential factors that could have affected the results of this study, the similarity in uncivil comments between the two newspapers is striking. This suggests that the comments in a newspapers comment sections are more uncivil than those on Facebook, regardless of the anonymity of the commenters. In this thesis I have attempted to both expand my research beyond looking at incivility or derogatory comments, and to not use anonymity as a single explanatory factor for incivility. In my main study I have found several differences between comments on vg.no and VG's Facebook page. And the "Rowe replication study" has

shown that anonymity alone cannot be used to explain differences in incivility. This could also be true for the other observed differences. Therefore, it is important to consider other explanatory factors, such as technological, psychological and social factors, which I will be doing in the following chapters.

6. Technological factors

This study has found several differences between comments on a news website and its Facebook page: comments on vg.no are longer, and there are more questions, suggestions, derogatory, informative and argumentative comments, as well as longer average number of words and more replies and conversations. Comments on Facebook are shorter and contain more emoticons, and there are more supportive, tagging and reactive comments. The Rowe Replication study described in the previous chapter showed that anonymity alone could not be used as an explanation for uncivil, or derogatory, comments because VG's comment section does not allow for anonymity. The same is thought to be true for other categories of comments as well, so other explanations must be considered. There are several factors that can be thought to explain the differences found in this study, such as technological, psychological and social factors. Considering that this research is about comparing two different platforms - the comment section of vg.no and VG's Facebook page - a good place to start would be to look at the technological and stylistic differences between the platforms.

But first it is important to acknowledge the similarities between the two platforms. VG's Facebook page and comment section are both platforms where discussions take place in a forum-like environment. This means that discussions and conversations can mutate, diverge and branch out, making it difficult for participants to keep track of the conversation and reflect carefully on their own opinions in a given conversation. This is however relieved by the fact that there is a digital record available of any conversation or discussion, which makes it possible for participants to more easily follow a conversation (Dahlberg 2001, 5).

Both platforms also involve asynchronous communication, like many other online environments. This is theorized to affect how people communicate in online discussion boards and e-mails, and has been suggested as one of several reasons for anti-social behavior online (Suler 2005, 185-186). In moment-to-moment communication a feedback loop develops that reinforces some behaviors and extinguishes others. But in asynchronous communication, the delay in feedback allows for free association, and a person's stream of thought develops towards expressions of disinhibition, either benign or toxic. Suler describes a situation where people experience asynchronous communication as "running away" after posting an overly personal, emotional or hostile message (2005, 186). Asynchronous communication allows commenters to read previous posts to get acquainted with the discussion and post comments

without expecting immediate responses. It is difficult to determine how much comments on Facebook and on vg.no are affected differently by this.

6.1 A walkthrough of the act of commenting

In order to study apps, a method has been developed that involves the active and critical use of an app, called the walkthrough method. The walkthrough method is described as "a way of engaging directly with an app's interface to examine its technological mechanisms and embedded cultural references to understand how it guides users and shapes their experience" (Light, Burgess and Duguay 2016, 2). Using this method, I analyzed the style and functionality of vg.no and VG's Facebook page on PC and mobile, looking at the following four mediator characteristics (Light, Burgess and Duguay 2016, 11-12):

- User interface arrangement: How users are guided through activities by the placement of buttons and menus.

- Functions and features: Arrangements that mandate or enable an activity, such as compulsory fields.

- Textual content and tone: Text embedded in the user interface, such as options of available categories, and how they shape the use of the app.

- Symbolic representation: The look and feel of the app.

The line between apps and websites can sometimes be diffuse, especially with a newspaper like VG. VG has published an app, but technically it is just a browser that retrieves the mobile version of vg.no, with the same style and functionality. Commenting on Facebook's mobile website and the Facebook app is also similar enough that I don't see it necessary to analyze both, and so only the app has been analyzed.

6.1.1 Commenting on mobile

According to Facebook, 93% of their monthly users access the site using mobile at least some of the time, and 61% access the site using only mobile (Facebook Investor Relations 2016). The number of mobile users on vg.no is also quite high, with 62% accessing vg.no through mobile phone (Pettersen 2015).

Commenting on VG's Facebook page on mobile is fairly straight-forward. The user must click a bar, containing information about how many comments and reactions the article has received, to open up the comments. Only the latest comments are visible, so the user has to actively request earlier comments. At the bottom of the screen, a small fixed comment input box if found. Upon clicking it, the mobile keyboard appear and the user can write a comment (Figure 6-1).
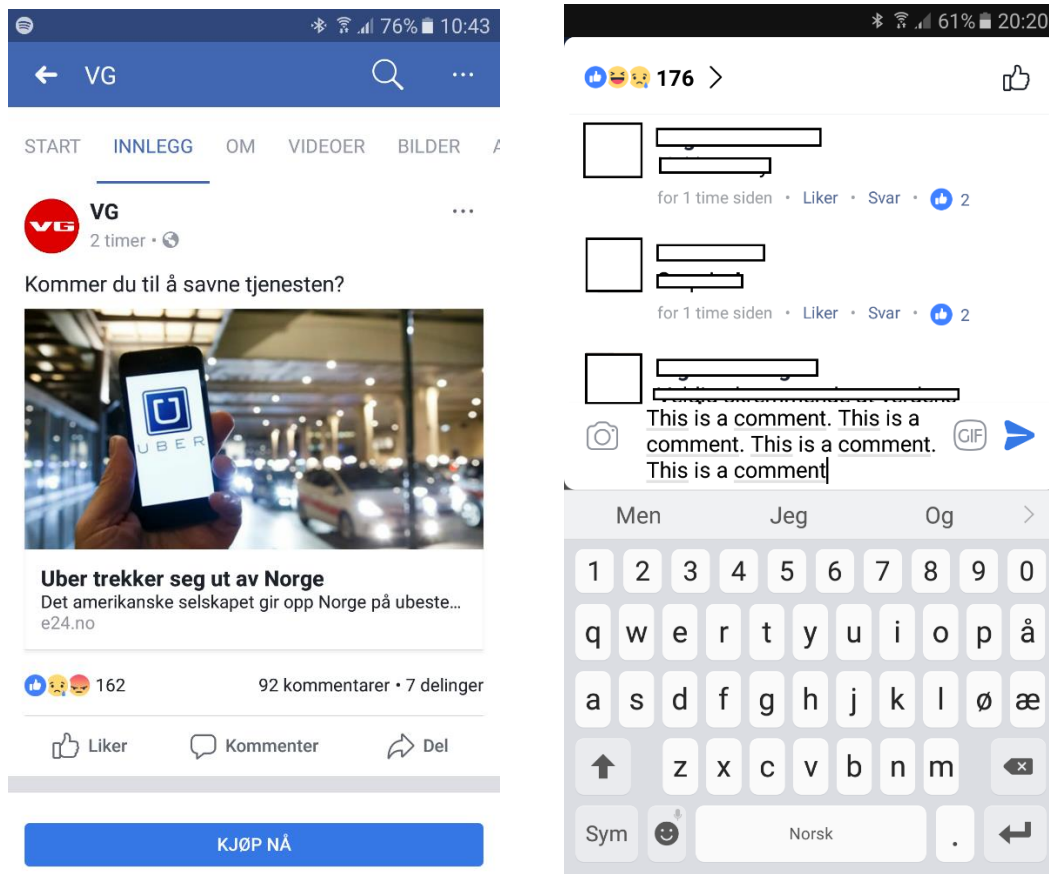
Figure 6-1: Commenting on VG's Facebook page on mobile. The image on the left shows an article on VG's Facebook page where the user must click the bar below the article to comment. The image on the right shows the comments and the comment input box.

There are two places where the user can click to comment on Facebook: the previously mentioned bar showing the number of comments, shares and reactions, and the button labeled "Kommentarer" (Comments), in the middle, near the bottom. It is interesting that the label reads "Comments", not "Comment". Textually, this prepares the user to read comments, as opposed to write a comment. This button also competes with the like-button and share-button on either side.

It is also worth noting that the most interesting visual elements on the article are the emoticons and like-symbol above the like-button. Emoticons have been shown to activate the same regions of the brain that are involved with emotional discrimination, and that perceiving emoticons is similar to perceiving other non-verbal ques like facial expressions (Aldunate and Gonzalez-Ibanez 2017, 3-4). When seeing an emoticon, the user's emotional responses may be more triggered than if not, priming the user to react to an article more emotionally, either through Facebook reactions or more reactive comments.

On vg.no on mobile, the user must click a big blue button at the bottom to display previously written comments (Figure 6-2). This is similar to how the user has to click the bar below the article on Facebook. Previously written comments are shown below the comment input box, whereas on Facebook they are shown above.
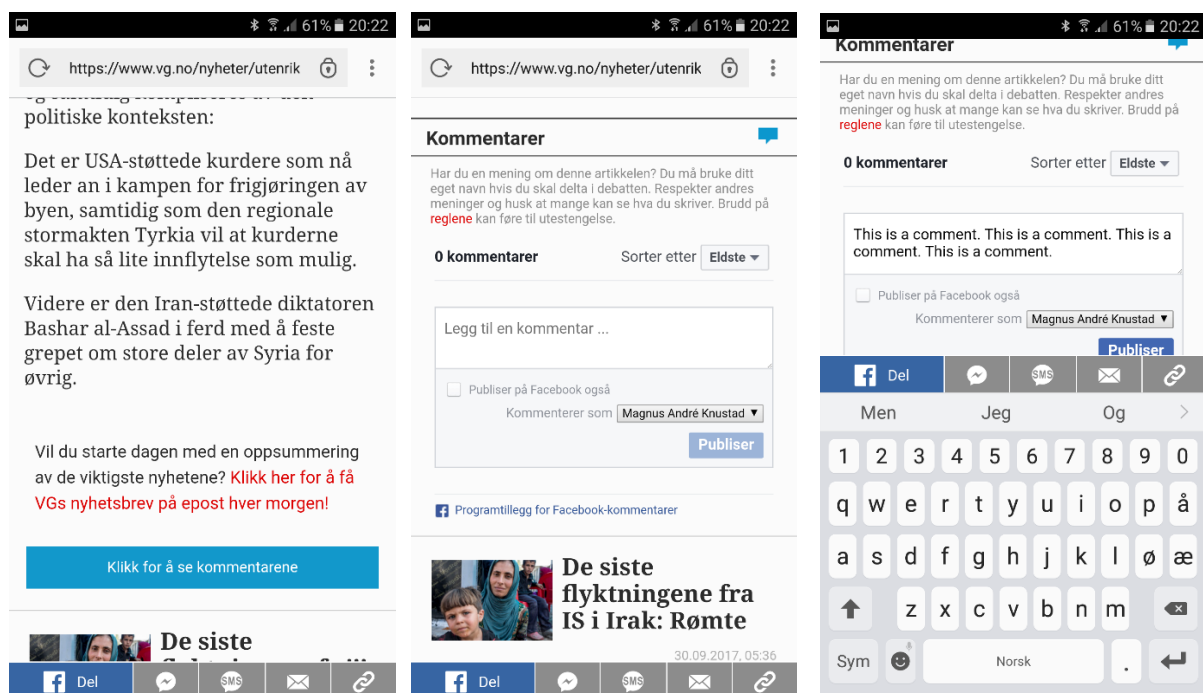
Figure 6-2: Commenting on vg.no. The left-most image shows the blue button the user has to click to see previously written comments, and to comment. The two next images show the comment input box, before and after starting to write a comment.

The two input boxes work differently when writing longer comments. On Facebook, the comment box has a maximum height of four line-heights. Any comment longer than four lines will be partly hidden. If the user, after writing a comment, wishes to read it before

posting, he has to scroll up by interacting with the input box. This is a challenging task because of the small input box, and the interaction with it can easily result in unwanted editing of previously written text. There are no such height restrictions on the input box on vg.no. The input box on vg.no is also slightly wider. These design aspects make it more difficult and less desirable to write longer comments on Facebook using a mobile phone.

In conclusion, the labeling, design and limitations of the input box, and competition with alternative methods of expression and reaction on Facebook, can be used to explain the higher average number of words on vg.no, and the higher number of reactive comments and lower number of argumentative and informative comments on Facebook.

6.1.2. Commenting on PC

Commenting on VG's Facebook page on PC is relatively similar to on mobile. But on PC the user doesn't have to click anything before commenting. The comment input box is already visible below the article and the information about how many people have reacted or commented on the it. Just like on mobile, the comment input box is one line-height high, but expands vertically as the comment being written gets longer. (Figure 6-3).
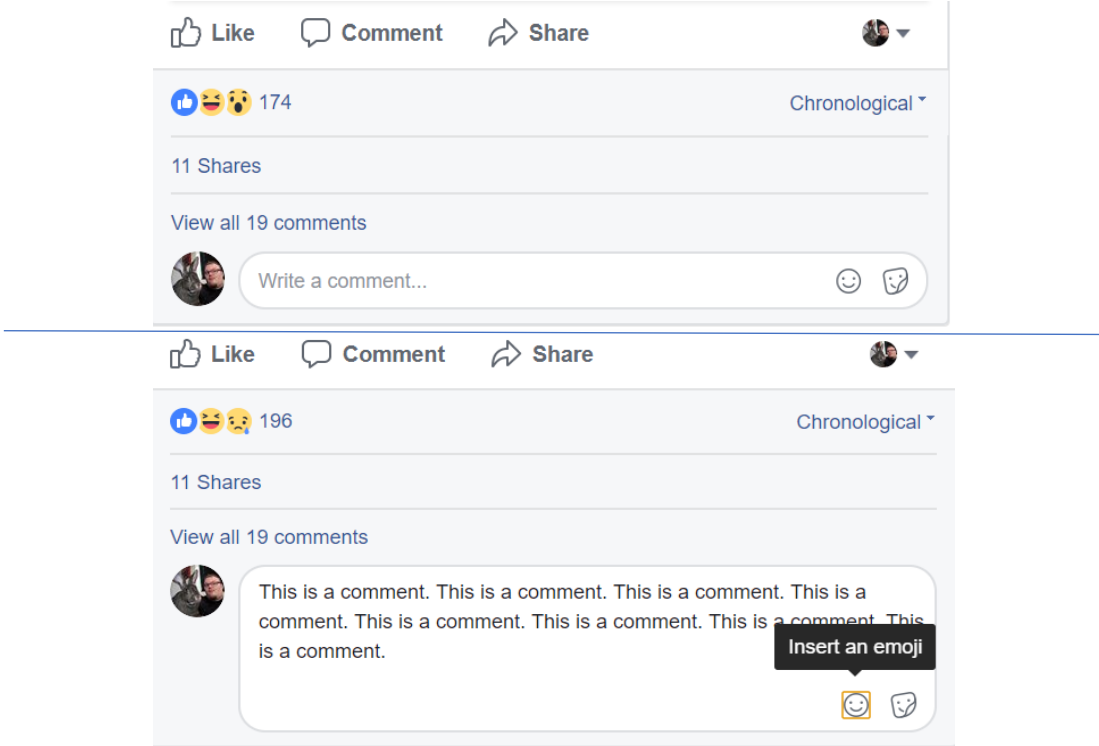
Figure 6-3: Commenting on VG's Facebook page on PC.

On the PC-version of Facebook, emoticons are still very visible. In addition to this there is a prompt to "insert an emoji" when hovering over the emoticon-symbol in the input box (Figure 6-3). Both factors could explain the higher use of emoticons on Facebook compared to on vg.no. The user also has to actively choose to view previously written comments by clicking "View all X comments" – something the user does not have to do to write a comment. This can discourage the reading other people's comments and replying to them, thereby creating more barriers for users to engage in conversations and discussions. If a user does choose to view all comments, they still can't see replies to these comments without actively choosing to view replies on each comment (Figure 6-4).
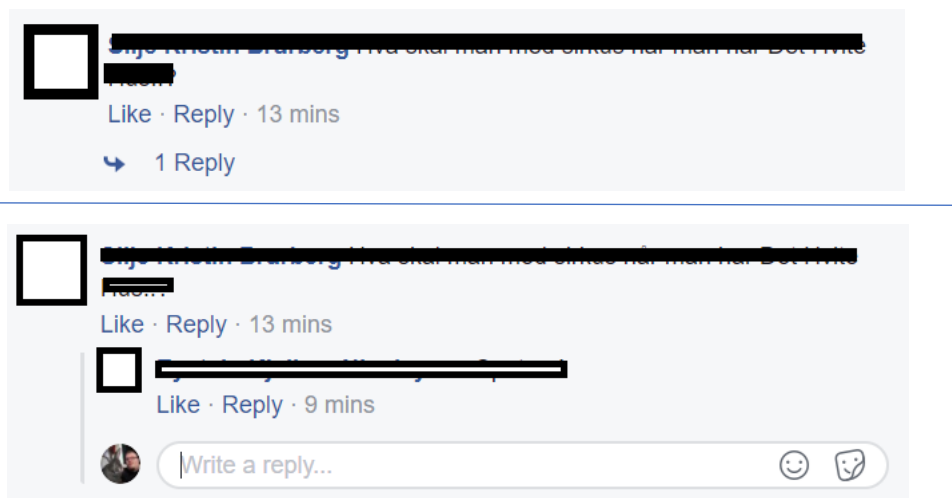
Figure 6-4: A single comment with reply on VG's Facebook page, before and after clicking "1 reply"

VG's comment section also requires the user to actively choose to view previous comments, in the same way as on the mobile version of vg.no. But the difference between VG and Facebook is that on Facebook the user can comment on an article without ever seeing previous comments. On VG the user has to click the blue button marked "Klikk for å se kommentarene" (Click to view the comments) (Figure 6-5), not only to view previous comments, but also to write his own comment.

Figure 6-5: The end of an article on vg.no with button to open the comment section.

Unlike on Facebook, where the user has to actively choose to view replies to comments, on vg.no the replies are visible without further user interaction (Figure 6-6). The user only has to choose to view replies when there are so many replies on a comment that the system hides some of them. In addition to the fact that a user can comment on Facebook without ever seeing any previous comments, this makes it more likely that a user on vg.no will not only read previous comments, but also take part in conversations and discussions. There are also no options to share or like on vg.no, making it more likely that the user will share his opinion through commenting, rather than using reactions.

Figure 6-6: The comment input box, plus a comment and a reply.

While there are no height limitations on the comment input box on PC, neither for Facebook or for vg.no, the input box on vg.no is wider. This might encourage the writing of longer comments because a few long lines of text may seem incomplete due to how we are used to seeing paragraphs. If a one-paragraph long comment over two lines is stretched because of the width of the input box, it may seem incomplete. A commenter may feel the desire to write a longer comment to reach a state of closure, which is defined by Nodder as the desire for a firm solution rather than enduring ambiguity (2013, 26).

In conclusion, the ability for Facebook users to comment without seeing previous comments and them having to actively choose to view both comments and replies to comments, may help explain the fewer number of replies on Facebook than on vg.no. And the

design of the comment input boxes may help to explain the higher number of average words on vg.no. On both mobile and PC, the user is visually and mentally directed towards liking or using reactions on Facebook because of the visual cues provided by the reactions emoticons. This may also prime the user to use more emoticons in comments, because they are already looking at emoticons while or just before commenting (Nodder 2013, 50).

6.2. Spreadability

Spreadability refers to the ability of something to spread. More precisely, it refers to the technical and cultural potential for audiences to share content for their own purposes, with or without the permission of the content's rights holders (Jenkins, Ford and Green 2013, 3). The shift from distribution to circulation, described by Henry Jenkins, Sam Ford and Joshua Green (2013, 1-2), means that people spread media content from the bottom-up, beyond their immediate geographic proximity, through social media. Articles from professional news sites may be shared and spread, not necessarily because people are interested in sharing the content itself, but because they want to share their opinion and thoughts about the content. In a digital world, where social media is a popular source of news stories (Shearer and Gottfried 2017), it is important for newspapers to have their articles spread amongst social media users. But a user's Facebook feed is valuable real estate, and there is a lot of competition. According to an article in *Advertising Age*, a Facebook engineer explained that about 1500 items are eligible to appear on a daily Facebook user's feed, and only 300 of them are prioritized to appear in the user's feed by the news-feed algorithms of Facebook. This makes it more difficult for organic posts, meaning posts that are not being financially boosted, to spread. In December of 2017, the news-feed algorithm was changed to show more links to articles published by media organizations, which lead to more referral traffic to news publishers (Delo 2017). But there is still competition for newspapers, not only against other types of posts, but also against other news publishers.

For the spreading of an article, both paid and organic, shares and likes are central measures of social media success (Turnbull and Jenkins 2016, 157). It is reasonable to assume that this is important for VG, just like any other newspaper. There are several reasons why the interaction with articles on Facebook creates a higher chance of organic spreading than commenting on vg.no. Firstly, even though commenting on vg.no is done through an integrated Facebook system, comments are not automatically posted on the commenter's

Facebook page. As can be seen in Figure 6-7, while writing a comment on vg.no the user can choose to click a checkbox labeled "Publiser på Facebook også" (Also publish on Facebook). This is unchecked by default, which makes the article less spreadable through interactions in the comment section. Using negative options, which is based on the fact that inertia makes people less likely to opt out of something that has already been chosen for them, is an often-used tactic for web- and app developers to make users choose what the developer wants them to choose (Nodder 2013, 56-57). With the option to publish on Facebook unchecked by default, VG is lowering the spreadability of articles through commenting on vg.no. This is most likely done because commenters on a news site do not expect their interactions to be publicly visible on Facebook. The opposite is true for articles being interacted with on Facebook, where each comment, like, reaction and share is spreading the article to new potential readers. And users expect their interactions on Facebook to be publicly visible.

Figure 6-7: A comment being written on vg.no, with a checkbox labeled "Also publish on Facebook" marked in red.

This could help explain why there are so many more comments on VG's Facebook page. It could be a factor for why there are less reactive comments on vg.no; because the commenters have chosen to access the article, scroll down to the bottom (while hopefully reading the article), click the button to view comments, and then comment. This suggests that commenters on vg.no are more interested in the topic and more likely to have knowledge

about the content of the article. Commenters on VG's Facebook page can comment without ever having read the article, because they can comment without ever being exposed to anything other than the article's headline and accompanying image. This may result in less informed commenting and more reactive comments.

In conclusion, the design of how comments and replies to comments are being presented, the design of the comment input box, the ability to react to an article on Facebook in more ways than by writing a comment, and the ability for Facebook users to comment without having read the article, could all be potential factors explaining the differences found in commenting on Facebook and on vg.no.

7. Individual and psychological factors

While there are some clear technological differences between Facebook and vg.no that may explain the observed differences in commenting, it is important to remember that technology does not exist in a vacuum. The shift from news site comment sections to commenting on news articles on Facebook is a technological development, and the changes this has caused to commenting could be seen as technology shaping society. It's easy to adopt this technological deterministic view, which involves the idea that technology is autonomous and determines social change (Kline 2015, 109).

But it is important to note that how people use technology also shapes it. Winner argues that technical systems are interwoven in the conditions of politics (Winner 1980, 122) – that technology is the expression of, and dependent upon, politics. Consider how several newspapers have decided to close comment sections in favor of using Facebook pages. This is not done because there is something wrong with the technology behind comment sections, or that the technology's politics dictates that they should be closed. It is, according to the newspapers themselves, because of how users use the comment sections, as a place for anti-social behavior (Bilton 2014). The same can be said for those news sites, like VG, who implement an integrated Facebook comment system to strip the users of their anonymity. Users shape the technology as well as being affected by it. This is called the social constructionist view, and revolves around the idea that the design of technologies is the result of negotiations between different social groups, like publishers, developers and users (Kline 2015, 111).

One could argue that the technology of comment sections, especially those providing anonymity, facilitates anti-social behavior. But firstly, it is still the combination of the technology and the users that creates anti-social behavior, so using technology as a single explanation for any online phenomenon would be unsatisfactory. Secondly, as the Rowe Replication Study from chapter 5 has shown, I would argue that it's wrong to assume that anonymity is the only factor that determines how an individual behave online. Therefore, other explanatory factors will be explored further in this chapter.

7.1. Affordance and cost

Affordance is a psychological term, described by Gibson as the possible actions afforded to an individual (or animal) by the environment. Affordance is usually linked to tool-use, and while this can include computers, the main focus is on physical, real world tools (Osiurak, Rossetti and Badets 2017, 403-404). I will, naturally, focus on the affordance provided by digital tools, specifically a comment section and Facebook. Unlike a physical tool, like a hammer, digital tools provide a lot more possible actions for a user – many of which may not even have been considered by the developers of these tools. As an example, consider the use of tagging on Facebook described in chapter 4. I concluded that the phenomenon of tagging comments, that is comments containing only a tagged name, can be explained as Facebook users directing the attention of other users to an article. It is unlikely that the tagging functionality was developed with this specific behavior in mind – tagging on Facebook is generally seen as a way of notifying a user that he or she has been mentioned in a post as part of a larger context. In fact, in the early days of Facebook, tagging was only possible to do on photos (Moreau 2017). But the affordances provided by Facebook allows for users to do unexpected things, like using tags solely for the purposes of directing attention.

Another affordance that the Facebook platform provides is the easy access of articles - or article headlines to be precise - to comment on. Because article headlines and accompanying images can be found directly in the user's news feed, with a comment input box visible without any further actions being necessary for commenting, a Facebook user can share his or her opinions on an article very easily. In comparison, the comment sections of vg.no requires more active engagement to comment, as the comment section itself is hidden at the bottom of an article behind a button, as described in chapter 6.

Commenting on VG's comment sections is a more complex and time-consuming action, as it requires the user to access the website, scroll through an article, and click the button to show the comment section. Time itself is a limited resource, and this may deter some people's participation in online discussions (Dahlberg 2001, 5). In chapter 2.2 I provided statistics showing that unmarried and unemployed people were most likely to comment on websites. This can be explained by the cost of commenting, as unmarried and unemployed people are more likely to have the time to go through the process of commenting on a news site's comment section. And motivation might help explain why more men than women comment. Men assign a greater importance to freedom of speech and can see themselves as vigilantes who regulate the social order by commenting online (Reagle 2015,

101-102). Greater importance would translate into greater interest and more willingness to invest the time required for commenting.

People with an excess of time will also be more likely to properly read an article, and its comments. The higher number of questions, derogatory and informative comments on vg.no suggests that these commenters have taken the time to read previous comments, as the qualitative analysis has shown that these are often replies. Questions are comments usually made with the expectation of getting a reply, suggesting that commenters on vg.no show a willingness to return to the discussion at a later time. And the higher number of suggestions, argumentative and informative comments on vg.no suggests that these commenters have taken the time to read the article and to conceptualize arguments, information and the possibilities of alternative solutions to a problem. And if commenters on vg.no spend more time there, and as a result post more comments, this could also help explain why there are more derogatory comments in the website set. This is because, according to one study, frequent commenters are less likely to be civil (Blom et al. 2014). The same study found that frequent commenters also were less informational. The results of my own study, however, found that there were more informative comments on vg.no than VG's Facebook page. This could suggest that the informative comments on vg.no are more likely to be posted by non-frequent commenters.

On Facebook, time becomes more of a constricting factor. Firstly, the number of people with a Facebook profile in Norway is at 83% (Ipsos 2017). Compared with the number of people who read VG, about 40% (medienorge 2017), the number of potential commenters on Facebook increases dramatically compared with VG's comment sections. And because the audience on Facebook is more diverse, and because of the affordance of easy commenting, the statistics about unmarried and unemployed people commenting on web sites is not necessarily accurate for Facebook. This means that commenters on Facebook are not as likely to be unmarried or unemployed, and may have less time to read articles and comments before making any comments of their own. And it's important to note that Facebook provides its users with a much more diverse media environment than an article's comment sections. On Facebook, the limited resource of time has to be divided amongst hundreds of posts, chat messages and games. And so, the comments below a news article has a lot of competition, and not everyone who comments on Facebook are willing to invest the time necessary to properly read the article, its comments, and to engage in a discussion with longer more argumentative

and informative comments – at least not when compared to a news sites comment sections. This leads to shorter more reactive comments.

7.2. Motivation for commenting

According to one study, 30-40 % of interactions on Twitter are about people telling others about their subjective experience (Reagle 2015, 13). While Twitter is a very different platform than both Facebook and a news sites comment section, the desire to disclose personal information is a universal feature of humans. Disclosing information about oneself is associated with the brains dopamine system, which is described as the brains reward system (Reagle 2015, 13).

The more frequent use of emoticons on Facebook might give us a clue about the motivation for commenting on Facebook, and on vg.no. One study has shown that emoticons are more commonly used in a socio-emotional context, and less used in a task-oriented context (Aldunate and Gonzalez-Ibanez 2017, 3). This might suggest that commenting on vg.no is seen by the commenters as a more task-oriented action, and that Facebook users are taking the idea of social media to heart and see commenting on Facebook as a more social and emotional action. Consider the commenter from Facebook described in chapter 4 who commented on an article about a skier being sentenced for doping by writing *Deserved it [Emoticon]*. Concluding that this comment is made in a socio-emotional context would be speculation on my part. But for the sake of argument, let's say it is. The comment is followed by a short discussion, before the original commenter writes: *I don't want to discuss a case like this here.*, effectively ending the conversation. If the first comment was made in a socio-emotional context, then the following discussion becomes a task-oriented context. The cost in time increases, and obviously surpassed the cost the commenter was willing to pay for his engagement with the article.

7.3. Anonymity and invisibility

A lot of the research done on anonymity and online behavior focuses on negative behavior, often referred to as flaming, anti-social behavior or toxic disinhibition (Lapidot-Lefler and Barak 2011, 434-435). The term toxic disinhibition is used to describe bad behavior online and was coined by Suler, who defines it as the display of rude, critical, angry, hateful and

threatening behavior online, or the act of seeking out places of perversion, crime and violence. But it's important to note that Suler's term is a subcategory of a broader term: the online disinhibition effect, which encompasses any uninhibited online behavior, both good and bad. (Suler 2005, 184).

Suler makes the distinction between anonymity and invisibility. When a commenter is anonymous, he has the opportunity to separate online actions from his real-life identity because that identity is unknown to others, and "the online self becomes a compartmentalized self, a dissociated self" (Suler 2005, 184-185). Invisibility is independent of anonymity, meaning that a user of an online service is invisible whether or not he is anonymous. Invisibility is present because users of online services, like comment sections, cannot see or hear each other, which can give people the courage to act in ways they would otherwise not (Suler 2005, 185). Suler's theories have been put to the test by Lapidot-Lefler and Barak, who found that lack of eye-contact contributed more to the negative effects of online disinhibition than anonymity and invisibility (2011).

At this point it might be tempting to conclude that because of the integrated Facebook comment system, the commenters on vg.no has the same level of anonymity and invisibility as those on Facebook. While this is technically true, one has to consider how the two platforms affects the individual experiences of anonymity and invisibility, and their social context. While Facebook and a newspaper's comment section are both public spaces, their perceived privacy may be quite different. Just because commentators on vg.no and VG's Facebook page are not anonymous, it doesn't mean that the commentators on the two platforms feel equally identifiable. Most of us use Facebook daily, and because it's a social platform where we are in contact with our friends and see our friends' online activity, Facebook may be perceived as our "home" on the internet. On Facebook we are digitally surrounded by people we know, so our perceived anonymity and invisibility may be very low. This could lead to fewer anti-social expressions. But the increased feeling of being "at home" may also lead to comments being less formal and more reactive.

In comparison, the comment section of a national newspaper, where comments are written by unknown people, may seem more public. This could lead to a person feeling more invisible, leading to more derogatory comments. But because it's a more public forum, it could also lead to a higher threshold for commenting, and more thought-through comments. And because these commenters are writing to strangers, there may be a higher need to justify and clarify a position – leading to longer and more argumentative and informative comments.

7.4. The construction and representation of the self and others

It is not possible to fully represent oneself online, and in any online environment we construct a version of ourselves. And as in real life, how we behave online is often influenced by the context of where we are and who we are with. On a social media platform people create an idealized virtual self, emphasizing what they see as their most positive traits. People also tend to share who they are in an indirect way, through what they like, post and comment on (Aalen 2013). Most of us use Facebook on a daily basis, and on Facebook we are virtually surrounded by people we know. The virtual self we construct of ourselves in a social media environment like Facebook, is an idealized representation of ourselves, but it is also informal. For a lot of people, Facebook is their "home" online, and their communication there is informal. On a newspaper comment section, however, we have left our "home, and ventured into a perceived public space, filled with strangers. Because a newspaper comment section is perceived to be public, and as an extension of that more formal, there might be a higher barrier for commenting – leading to fewer people commenting in comment sections. And when commenting, people might be more careful about their argumentation and the way they represent themselves – just as they would in the real world when speaking publicly. This may result in more argumentative and informative comments, as people are more sure of themselves and what their talking about when commenting in a comment section.

People do not just construct representations of themselves online, but of other people as well. Solipsistic introjection happens in computer-mediated communication when communicating textually. People can get a sense of their mind merging with the mind of the person they're communicating with, and reading their messages can be perceived as a voice inside one's head. If the person is unknown, their voice will be invented, and an image of the person may be created as well (Suler 2005, 186). This character that we create of other people we're communicating with, is based on very little available information. Even when the person's Facebook profile is available, as it is when commenting on vg.no, most of us will not access it for the purposes of getting a broader impression of him or her. So, if our only available information is what the person says in a comment section, the character we create of that person may be based on typical characteristics or shaped by whether or not we agree with what the person says. This can lead to greater hostility, as a person we disagree with is more likely to be given negative characteristics. And because commenters on vg.no are less likely to know each other, this may lead to more derogatory comments.

In conclusion, psychological factors play an important role in explaining the differences between commenting on Facebook and on vg.no. Most of the differences found within the categories of comments can be explained by the affordances and cost of commenting. Commenting on Facebook may be done in a more socio-emotional context, leading to more emoticons. Commenting in a comment section is done in a more task-oriented context, and these commenters are more motivated to engage in discussions, leading to more replies. Perceived anonymity and invisibility, as well as introjection, can be used to explain the higher number of derogatory comments on vg.no. Finally, how we construct our digital selves in online environment influences what categories of comments people choose to write on the two platforms.

8. Social factors

Individual and psychological factors, which can be used to explain the differences observed in the comments on vg.no and VG's Facebook page, do not operate in a vacuum. Commenting is, at its simplest, the communication of an opinion, written by a commenter for the purposes of it being read by an audience. There is also the possibility of a comment being liked or replied to, and every comment may be the first of many in a longer conversation. Commenting, then, is a social activity, and the psychological factors described in the previous chapter needs to be put into a social perspective. The social aspect of commenting may help explain why there are more argumentative, informative and derogatory comments on vg.no, and more reactive and shorter comments on Facebook.

8.1. Social Influence

When people are communicating, their behavior is affected by each other. Conformity, defined as the changing of behavior or beliefs in response to real or imagined explicit or implicit pressure from others (Gilovich et al. 2016, 305), is a powerful influence on our behavior. When faced with uncertain situations, conformity is more likely to influence our behavior, because we look to others because we believe them to be better informed. Direct influence by others is the result of someone directly trying to influence other's through persuasion. Indirect influence occurs when a person is affected by the available information about the behavior of other people (Cheng et al. 2015, 1-2).

The first people commenting on an article are not likely to be affected by social influence, because there is no previous behavior to conform to – at least not in the comment section of the article in question. But later commenters have a lot more information about how others communicate and are more likely to adopt an established theme of commenting. Cheng et al. (2015) found that people on online bulletin boards conform by adopting both positive and negative information. So, if an article has a lot of short, opiniated or reactive comments, a newcomer is more likely to conform to this style of commenting. But if an article has longer, more argumentative and informative comments, newcomers are more likely to adopt a more serious style of commenting. Social influence is also linked to aggression in commenting. If

peer comments are aggressive, a commenter is more likely to write aggressive comments (Rösner and Krämer 2016).

I have already established that people who can afford to invest the time necessary for commenting are more likely to comment on newspaper comment sections. As an extension of this, the same people are also more likely to be early commenters on an article. And because their investment in time indicates a general interest in commenting, over time they will have adopted a style of commenting that is the most effective to achieve their individual goals. If these goals are to express an opinion, and back that opinion up with argumentation and information, their comments should be more likely to be argumentative or informational. And if the first commenters on an article's comment section are more argumentative and informational, then social influence and conformity should in theory lead to more such comments by later commenters. Regular commenters may, because they're used to writing comments, be willing to invest more time and thought into their comments, leading to a greater number of words. And because they are more used to and more confident in their writing, they may not feel the need to further emphasize their points using emoticons.

In doing this research, due to the method for anonymizing them, I have not looked for individual commenters' contribution across multiple articles. Therefore, it is not possible based on this research alone to say anything about the larger culture of commenting on vg.no. But based on the findings about the cost of commenting, the demographic information about commenters, and the effects of social influence, some assumptions can be made. I've mentioned several times that some commenters are likely to be used to the act of commenting on comment sections, leading to longer and more argumentative and informative comments. Presumably, someone who is used to commenting has commented on multiple articles and can be considered a frequent contributor. Research has found that the most frequent contributors to a news sites comment section treat online forums as a place for social networking, discouraging participation by others (Blom et al. 2014, 1324), which would create a culture among the frequent commenters on a news sites comment section. In online forums, new identities and power-relations are created, as well as formal or informal hierarchies (Gonçalves 2015, 4). It is difficult to determine to what degree hierarchies and comment culture has been developed on VG's comment section, but any such development would help solidify commenting trends and increase the effects of social influence towards a certain style of commenting.

Finally, it has been found that issue controversy impacts the quality of online discussion, more than anonymity does (Berg 2016). The more controversial the issue in an article is, the more likely it is that a group of random strangers, as one would find in a newspaper comment section, would have disagreements leading to uncivil comments. This helps explain the higher number of derogatory comments observed in the website set.

8.2. Echo chambers and filter bubbles

Through social influence and conformity, the first commenters on an article may have the power to indirectly steer the discussion in the comment section. On a news site like vg.no there are few factors that can be used to explain who the first commenters on an article are. But on Facebook, things become more complicated. There are mainly three ways that a user on Facebook can be first introduced to an article:

1. The user sees that a friend has commented on or liked the article.

2. The article appears on the user's feed, either organically or as advertisement (boosted post), because the Facebook algorithms has determined that the user might be interested in it.

3. The user goes to VG's Facebook page and finds the article as a post.

If an article has not been reacted to or commentated on, the first person commenting will not find the article by seeing a friend commenting on it. It is also unlikely that he would actively go to VG's Facebook page, as this requires more work, measured in clicks, than to go to vg.no. This means that the first commenter on an article on Facebook will most likely have it appear on his Facebook feed, either as an organic or a boosted post. In other words: the Facebook algorithms decides who will see an article on Facebook. That means that the person first commenting is presumably someone who either likes the newspaper or is interested in a topic covered by the article.

It is not only the first commenter on Facebook who is affected by algorithms. The continued spreading of the article, and who comments on it, is heavily influenced by two concepts: echo chambers and filter bubbles. These terms are often used interchangeably. But it is important to clearly define and separate the two, because they describe two different processes. The echo chamber is a situation where individuals are largely exposed to views and

media content that confirms their previously held opinions (Flaxman, Goel and Rao 2016, 299). This exposure can be many things, from different sources. For example, by surrounding ourselves with friends and acquaintances, both digitally and in real life, who we agree with, we are more likely to receive confirming information from those around us. The filter bubble, on the other hand, is a purely technical phenomenon. Because of the algorithmic filtration of content, designed to make content more relevant to users (Pariser 2011, 21-24), a situation arises where algorithms amplify the opinions of someone by automatically recommending content that the person is likely to agree with, while filtering out what the person is unlikely to like (Flaxman, Goel and Rao 2016, 299).

The Facebook algorithms are mainly responsible for who sees an article in their feeds, and the filter bubble affects who the first commenters are. But as someone comments on an article, their friends are more likely to see the article – not to mention the power of tagging comments to direct specific people's attention to it. In support of this view, consider the higher use of emoticons on Facebook. As mentioned in chapter 6, emoticons are used more in a socio-emotional context, and several studies have found that emoticons are used more in interactions between friends (Aldunate and Gonzalez-Ibanez 2017, 3).

The first commenters don't just have an indirect power through social influence on how an article is commented on, but also who comments. Because of the echo chamber, people with the same views as the first commenters are more likely be exposed to the article. And the filter bubble makes it more likely that people with similar views and interests see the article. The combination of these two phenomena should make comments on articles on Facebook more unanimous in their views and opinions, resulting in less discussion. Eli Pariser warns about the cultural consequences of the filter bubble and how the dynamics of our media shape what information people consume (2011, 14). And higher consensus among debate participants would mean less debating, fewer arguments and replies. This could also help explain the fewer number of questions, derogatory and informative comments on Facebook.

In conclusion, while the filter bubble and the echo chamber effects who comments on Facebook, the first commenters on vg.no are more random. But they are also people with the time and interest to comment in more detail and using a more argumentative style of commenting. The first commenters on vg.no and on Facebook may influence the style of commenting later trough social influence and conformity.

9. Discussion

This research project had three research questions:

RQ1: How are comments on news articles on Facebook different from comments on a news website?

RQ2: What technological, psychological and social factors can explain the differences between comments on a news website and Facebook?

RQ3: How does the increasing popularity of commenting on Facebook affect the public debate and democratic properties of comments on news articles?

To answer the first research question, comments from vg.no and VG's Facebook page, on the same articles, were collected and analyzed using qualitative content analysis. Several differences were identified: level of public engagement, meta data, level of discussion and categorical differences. The "Rowe replication study" showed that anonymity cannot be used to explain differences in the number of derogatory comments. It is reasonable to assume that the observed differences in the main study, such as different number of argumentative and reactive comments, also require a broader range of explanations. Therefore, to answer the second research question, technological, psychological and social factors were considered. Using the walkthrough method (Light, Burgess and Duguay 2016, 2), technological factors were considered as an explanation for the observed differences. Then, psychological and social factors were considered as well. It was found that the observed differences could be explained by all three factors. The third research question will be discussed later in this chapter.

9.1. The differences between comments on vg.no and Facebook

The four types of differences found in the two datasets are public engagement, meta data, level of discussion and categorical differences. With the additional analysis in chapters 6-8, we can now explain these differences in more depth then when they were first identified in chapter 4.

9.1.1. Public engagement

There are far more comments on VG's Facebook page than on vg.no. And when also taking into account the ability to like, share and react to comments on Facebook, the number of interactions on Facebook is about 10 times higher than on vg.no. And each of these interactions increases spreadability of an article. On VG's comment section, a commenter must actively choose to share comments on his or her Facebook page. Because this option is turned off by default, there are probably very few interactions with the comment sections on vg.no that increases the spreadability of an article. This may help explain the motivation for news sites to close comment sections and focus their attention to user interactions on Facebook, since higher spreadability means more user clicks and ad revenue. Even though combating uncivil comments and spam is the most cited reason for closing comment sections, news sites do not deny that higher user engagement on Facebook is a at least a part of their motivation – as was the case with Dagbladet (Ramnefjell 2016).

The reason for the higher number of comments and reactions on Facebook is partly technical. The design of Facebook as a social platform, where users are automatically presented with the activity of friends and contacts, makes any content posted there spreadable by default. When a Facebook user interacts with a post, he does not have to actively choose to share it for it to be visible for his friends – although he can, and it is generally implied that interactions on Facebook results in automatic sharing.

Another explanation for the higher number of comments on Facebook is the psychological concepts of affordance and cost. Because of the design of the platform, and users actively using it on a daily basis, articles on Facebook are easily available and easy to comment on – requiring very little effort from the user. On VG's comment section the user has to go to vg.no, read an article, click on the box to show comments and allow commenting. This means that commenting on vg.no is a much costlier activity than on VG's articles on Facebook.

9.1.2. Meta data

Quantitative analysis has found that the average number of words on comments on vg.no is about three times higher than on Facebook. This can be explained technologically with an input box design that discourages longer comments on Facebook when using mobile and encourages longer comments on vg.no with a wider design. I have also speculated that users

on Facebook feel more at home on the familiar platform, and that venturing to vg.no may feel like going into a public space. This would encourage commenters on vg.no to be more articulate and emphasizing their opinions and argumentation more than they would among their friends "back home" on Facebook. Another explanation for higher number of words can be found in theories about social influence. If there is a general trend towards longer comments on vg.no, this trend may be strengthened by new commenters conforming by writing longer comments themselves.

Another observed difference is the higher number of emoticons used when commenting on Facebook. Just as with number of words, this can be explained with social influence, and the users' feelings of being at home when on Facebook making them more informal in their communication. The users on Facebook are also exposed to a lot of emoticons, and not only from other users. The article posts on Facebook display emoticons next to the react-buttons. Users on Facebook may be primed to use emoticons. Commenting on Facebook is also done for different motives than on vg.no. The informal environment and the use of emoticons suggests a more socio-emotional view on commenting, as opposed to a task-oriented.

9.1.3. Level of discussion

In chapter two I proposed a goal for what a good and democratically valuable comment section should be, based on the hopes from the early days of the internet of how a connected world would revitalize democracy and stimulate public debate, and I proposed three ideal requirements for a good public debate based on the Habermasian Public Sphere. Debate, whether public or not, is not possible without some sort of interaction. In comment sections, interaction can be measured by looking at how many replies there are to previous comments. VG's comment sections have more replies than their Facebook page. There are also longer strings of replies, which based on the qualitative analysis of them suggests more and longer conversations.

From a technical point of view, Facebook discourages conversational engagement. Users on Facebook can comment on an article without ever reading previous comments. Reading previous comments requires active clicking by the user, and reading replies to comments requires an additional click. Affordance and cost, and the user's motivation, also influences the number of replies. If users on Facebook are motivated by a socio-emotional

view, because of the low cost of commenting on Facebook, they are more likely to comment for the sake of sharing an opinion or reacting to the article content, not to engage in a debate. Commenters on vg.no are actively engaging in commenting, are speculated to be more task-oriented, and are more likely to have the time and interest to engage in discussion. A higher level of discussion can also lead to more derogatory and uncivil commenting, as uncivility between commenters is dependent upon conversations and discussions.

9.1.4. Categorical differences

This research resulted in the creation of a coding system for comments with 12 categories. The system was developed through a heuristic process where the data shaped the categories, it has been tested and refined for a high reliability score, and it has worked sufficiently for this research. All the comments, except those that were grammatically or contextually meaningless and labeled as arbitrary, fitted into the 12-category system. Using this system, it became possible to measure the full width of comments and compare differences between Facebook and vg.no.

On vg.no there were more questions, suggestions, informative, argumentative and derogatory comments. These are comments that I associate with higher interest and higher engagement with other commenters. In one way or another they represent a willingness to read previous comments, to engage with other commenters, and to expect responses. These are all signs that these commenters have the time and interest to invest in their commenting.

I have found that the higher number of informative, argumentative and derogatory comments can be partly explained by the user's feeling of being in a public space, although derogatory comments can also be explained by introjection and perceived anonymity and invisibility. Social influence might also explain these differences, as the first commenters on vg.no are more likely to be genuinely interested in the topic, and more argumentative and informative.

On VG's Facebook page, there are three categories of comments that are more common than on vg.no. Tagging comments, where a person on Facebook is tagged to bring his or her attention to the article, is not found at all on vg.no. Reactive and supportive comments were found to be more frequent on Facebook. These comments are rhetorically similar, as supportive comments are often reactive and short, but are defensive or show

empathy towards someone. Again, the cost of commenting can be used to explain the higher number of supportive and reactive comments. They are short, easy to write, and generally doesn't invite many responses. They require little activity from the commenter, and cost very little in spent time. Reactive comments can be explained technologically through labelling, and the design and limitations of the input box. The labels and the size of the input box discourages longer comments. And there is also a competition with the much easier to use like button.

9.1.5. The Washington Post

Some of the observed differences on vg.no and VG's Facebook page were observed on the Washington Post's comment sections and Facebook page. The comment section had a higher average number of words, and more argumentative and derogatory comments. On Facebook there were more reactive comments.

There are some notable differences as well: The Washington Post had very similar numbers of replies on its website and Facebook page, and there were differences in the numbers of suggestions, informative, humorous, speculative and tagging comments.

Because of the low number of comments analyzed from the Washington Post, it is not possible make any conclusions other than that there are some general trends that can be observed here as well. There are also cultural differences between Norway and the U.S., as well as between the readers of VG and the Washington Post, that might influence any results. Finally, the Washington Post comment section allows for anonymity, unlike the integrated Facebook comment system of VG.

9.2. Comments in the public sphere

This research project has unveiled several differences between comments on vg.no and VG's Facebook page, and I have proposed several possible explanations for these comments. Thus, my first two research questions have been answered. But the third one remains: How does the increasing popularity of commenting on Facebook affect the public debate and democratic properties of comments on news articles?

To answer this question, in chapter 2 I proposed using the ideal properties of a public debate as described by Habermas in his theory about the Public Sphere. None of the two

platforms being studied are expected to meet these requirements. But by looking at the differences found between the two sets of comments, and comparing these to the ideal properties described by Habermas, it should be possible to determine which of the two sets of comments more closely match the ideal requirements. The identified requirements are: 1) Informed, rational-critical debate, 2) Open participation, and 3) A disregard for people's status (Habermas 1991, 36-37).

9.2.1. Informed rational-critical debates.

The first ideal requirement for a democratically valuable public debate is that the debate should be informed and rational-critical, and independent from authorities. This means that the participants should be open and willing to be persuaded by rational argumentation, and should make informed and rational arguments. With the methodology used in this study, willingness to be persuaded is not something that is easily measurable. The only way I can think of that this can be observed is if a commenter writes that he or she has been persuaded, or has changed his mind based on rational arguments, in their comment. But no such comment has been observed while doing this research.

To make an assessment of how informed and rational-critical the debates on Facebook and vg.no are, we can look at the categorical differences found between the two sets. The website set showed a much higher number of questions, informative and argumentative comments than the Facebook set. These are all qualities that can be attributed to a more informed and rational-critical debate. Argumentative comments indicate a more argumentative form of communication – a requirement for a rational debate to take place, and questions and informative comments indicate an exchange of information. On Facebook, however, there are a lot more reactive and supportive comments. Neither of these indicate an informed debate, as both are interpreted to be emotional reactions expressed textually. There are also fewer replies found on Facebook, and shorter strings of replies, indicating fewer conversations – and fewer opportunities for an informed debate.

Finally, Habermas wrote about the refeudalization by the commercialized mass media (1991, 158-162). While the mass media of Habermas' book is what we now consider traditional media, such as TV, radio, and newspapers, scholars have considered powerful corporations such as Facebook, YouTube and Google as problematic for the Habermasian Public Sphere. These companies hold a disproportionate authoritative influence over

information sources (Loader and Mercea 2011, 760). I consider Facebook to be a more authoritative power than any individual news site, and so a debate on Facebook is less independent from the authorities. Because of the higher number of questions, argumentative and informative comments on vg.no, and the problematic authoritative role of Facebook, I consider comment sections to be closer to the Habermasian ideal requirement of informed rational-critical debates.

9.2.2. Open participation

For a debate to be truly public, it needs to be open for anyone to participate. This means that the barriers for participating should be low enough for it to be reasonably expected that most people can participate if willing, and that the debate takes place in such a way that people are welcomed to participate. Which platform has the lowest barriers for participation depends on how reasonably it is to expect someone to have a Facebook account. As mentioned in chapter 7.1, a lot more people have a Facebook profile than those who read VG. And so, it is tempting to think of Facebook as more accessible than VG, and it's reasonable to expect most people to be able to participate in a debate there. And for someone with a Facebook account, commenting on Facebook has been shown to involve the lowest barriers for participation. But, as discussed in chapter 6, the comment system on Facebook is designed in such a way that it does not encourage conversations and debate between commenters, or longer comments. The comment sections on vg.no is designed in such a way that previous comments are immediately visible, encouraging people to read and respond to previous comments. And because a public debate is dependent on people being exposed to each other's arguments and opinions, this means that the comment section on vg.no is more accessible for people to participate in a debate – even if the comment system itself is more accessible on Facebook.

In the particular case of VG, the comment system on Facebook as a whole is more accessible, if one focuses on accessing the comment system itself – not participating in a debate between commenters. The reason for this is that VG uses a built-in comment section plugin from Facebook for its comment section. This means that commenters on both platforms require a Facebook account to comment. And because the comments on Facebook are technically more accessible than on vg.no, Facebook is more open to participants. There is a problem, however, with claiming that Facebook is more accessible than comment sections in general. Not all comment sections are based on the Facebook plugin. If we consider

someone who does not have a Facebook account, however rare such a person might be, a newspaper's comment section is far more accessible than a discussion on Facebook – if that comment section is not a Facebook plugin. There is also a problem with making a Facebook account a requirement for participation in a public debate. As mentioned previously, Facebook can be seen as an authority that does not fit well with the Habermasian public sphere.

Another thing to consider when determining how open comment sections and Facebook is to participation is how welcomed participants are. If potential commenters who wish to participate in a debate do not feel welcome to do so, then that platform for commenting is not as open to participation as it should be. The presence of rude, uncivil and derogatory comments can make people hesitant to participate, even if they wish to do so. Davis (2002) reported that bad behavior online causes people to avoid online interaction. What constitutes a derogatory comment can be difficult to determine – such comments can be perceived very differently by the target of the comment and outside observers. Davis defines bad behavior as being determined by "the target person's interpretation of the behavior" and if the behavior is contextually expected or not (2002, 2). The exact effects of derogatory comments, especially on potential newcomers to a discussion, are difficult to determine. But what this research has shown is that there are more derogatory comments on vg.no than on VG's Facebook page, which is in line with previous research (Rowe 2015). It is therefore reasonable to assume that the more frequent derogatory comments on VG's comment section makes it, to some extent, less welcoming than VG's Facebook page.

In conclusion, it is difficult say which of the two platforms more closely matches the requirement of open participation. While the barrier for commenting on Facebook is lower than on vg.no, and there are fewer derogatory comments, Facebook itself may be considered an authoritative barrier when compared with comment sections in general, because not all comment sections use a Facebook plugin. Also, the design of the Facebook comment system does not encourage commenters to debate each other.

9.2.3. A disregard for people's status

As mentioned previously, a public debate should be informed and rational-critical, and the arguments made should be informed and based on reason. This means that the arguments, and the arguments alone, should be considered by the participants. Someone's social status should not negatively or positively affect the weight placed on their arguments. Status can mean

many things in this context. Habermas wrote about the new bourgeois social class, and the emerging freedom of speech. But this can be extended to economic status, ethnicity, sexuality and gender in the modern age – which should not be considered when arguments are being made. If the arguments of people of a certain class, ethnicity, sexuality or gender are considered, consciously or not, to be of more value than those of others, the democratic value of the debate declines as all voices are not heard or judged equally. In this research, I did not observe any comments where commenters were the victim of racial or sexist content – perhaps because any such comment, if being written, had already been removed by moderators.

Papacharissi claims that political and social inequalities can be reproduced online (2002), and gender stereotypes have been found to be prevalent in computer-mediated communication where participants do not expect to meet each other face-to-face (Heilman, Caleo, and Halim 2010). Because of the social nature of Facebook, and the fact that commenters may be commenting on an article because one of their friends did so, Facebook users are more likely to know each other in real life. Therefore, the findings about more prevalent gender stereotypes in computer-mediated communication should be more relevant on a news sites comment section, where commenters are not likely to know each other in real life. But a user's identity and status is very visible on Facebook. Facebook users use the site as themselves, in an online social situation where their contacts are people they know. And so, the status they have in real life they will also most likely have on Facebook. Commenters on vg.no also have to use their real identities because a Facebook account is required, so gender and ethnicity is often visible. But the information about the commenters is very limited, unless one choses to access their public Facebook profile – which can have limited information, depending on the person's privacy settings. So on vg.no commenters are more likely to be stereotyped, but information about their status is not easily accessible. But as I have mentioned previously, comment sections on news sites can vary in their degree of anonymity. And so, comment sections in general have the potential of being a place where people's status is unknown and disregarded. Facebook does not have that potential.

In conclusion, comment sections in general are considered to be closer to the two ideal requirements of informed rational-critical debate and a disregard for people's status. Which platform is more open for people to participate is uncertain, since Facebook is more accessible – but can be seen as an authoritative barrier.

9.3. Suggestions for further research

While the current research has provided valuable information about the differences between commenting on Facebook and a news sites comment sections, it has not provided a full and detailed image of commenting. The coding system created and used for this research may be influenced by my own subjectivity. It would be interesting to see the coding system being tested on multiple platforms by multiple researchers, to see if it can be used on other platforms for online communication. This may also provide the opportunity to fine-tune the categories and their definitions, as well as possibly adding others as needed. This study looks at the comments from just one newspaper. The readers of VG represent a large and varied selection of the Norwegian population, but there might still be cultural differences between these readers and commenters, and those of other newspapers. A continued research project may perform the same analysis on other newspapers to look for differences between demographic and geographic groups of commenters.

Because of the method of data collection used in this research, which automatically anonymized commenters, it has been impossible to map the contributions by individual commenters outside of individual articles. To further expand upon the social factors introduced in chapter 8, it would be interesting to map the commenters of a news site to answer questions about how many there are, how often and how many times they comment, what types of articles different people comment on, and which commenters engages in conversation and discussion with each other.

One drawback of a lot of research on commenting, including the current one, is that observations and analysis is made by researchers with an outside perspective. Using qualitative methods such as interviews, or even actively engaging with a commenting community, may provide new insights into the motivation of commenters, and their interpretation of their own and other people's comments. As Davis (2002, 2) wrote about bad behavior online: "Whether or not a behavior is deemed 'bad' is determined by the target person's interpretation of the behavior". What an outside observer sees as bad behavior, may not be interpreted as such by the commenters themselves, even if they are the target of the behavior. I have observed what I judge to be derogatory comments being answered by the target with an agreeable joke. This underscores the need for a more varied view of comment quality than bad or good behavior, as this example shows that a derogatory comment is not just a derogatory comment – it is a part of a context that the current research is barely scratching the surface of.

10. Conclusion

As more comment sections on news sites are closed, public debate is moving to social media. And especially among news sites, Facebook seems to be the preferred platform for engagement with the readers and facilitating public debate. From a financial point of view, this may make sense because it increases the spreadability of articles. But for the informed public debate, it may be a problematic trend.

The goal of this research project has been to identify the differences between comments on VG's comment sections and their Facebook page, and suggest technological, psychological and social explanations for these differences. I believe that I have succeeded in this goal. Comments on vg.no are longer, more informative and argumentative, and are more often part of a larger discussion. In chapter 2 I proposed a standard for good comment systems based on three ideal requirements described by Habermas: Informed rational-critical debate, open participation and a disregard for people's status. I believe that the comment sections on vg.no, and especially comment sections in general, are closer to this ideal than the Facebook comment system. There is a higher degree of informed rational-critical debate on vg.no, with more questions, informative and argumentative comments, and more conversations and discussions. Comment sections in general are also better at facilitating a disregard for people's status, as they can be designed to protect the identity and status of the commenters. Which platform is better at open participation is still unclear. Facebook has a lower barrier for people to comment on articles, but not necessarily for participation in discussions. And having to use Facebook as a platform for commenting is problematic, because Facebook can be considered to be an authority with a disproportionate amount of control over the debate environment.

I believe that my research represents a broader view of commenting than previous research, which focuses more on anti-social behavior. A lot of previous researchers also use anonymity as their main explanation for this behavior. I have focused on a broader range of possible explanations for the observed differences in my research results, including technological, psychological and social factors.

Moving forward, it is my hope that research such as this can provide more information about the consequences of choosing one platform over another for public debate, and that it may provide potential solutions for problematic comment sections and low levels of communication and debate. Comment sections have, despite their much debated problems,

been a tool for democratic empowerment by thousands of people, providing anyone with a forum for expression with a built-in audience of potentially millions of readers. But it is time to ask questions about the popular view of comment sections as nothing but a forum for trolling and derogatory speech. My own research confirms previous research suggesting that derogatory and anti-social comments are in minority in the comment sections. The implementation of integrated Facebook comment sections has helped, though with some privacy concerns.

There will always be derogatory comments, because there will always be inconsiderate people. But there has been proposed, and successfully tested, several methods for cleaning up the comment sections. To some publishers, the final solution seems to be to close comment sections all together. But based on my own research, this is a solution I would not recommend if the goal of commenting is to facilitate public debate.

Bibliography

Aalen, Ida. 2013. *En kort bok om sosiale medier.* Bergen: Fagbokforlaget

Aldunate, Nerea, and Roberto Gonzalez-Ibanez. 2017. "An Integrated Review of Emoticons in Computer-Mediated Communication" *Frontiers in Psychology* Published January 6. doi: 10.3389/fpsyg.2016.02061

Artime, Michael. 2016. "Angry and Alone: Demographic Characteristics of Those Who Post to Online Comment Sections". *Social sciences,* 5, no. 68: DOI:10.3390/socsci5040068

Barbour, Rosalina S. 2001. "Checklist for improving rigour in qualitative research: a case of the tail wagging the dog?" *BMJ* 322: 1115 – 1117

Berg, Janne. 2016. "The impact of anonymity and issue controverssiality on the quality of online discussion" *Journal of Information Technology & Politics* 13, no. 1: 37-51 DOI:10.1080/19331681.2015.1131654

Bilton, Ricardo. 2014. "Why some publishers are killing their comment sections" Digiday UK, April 14. Accessed May 8, 2017. http://digiday.com/media/comments-sections/

Blair, J. Anthony. 2009. "The Rhetoric of Visual Arguments" In *Defining Visual Rhetorics,* edited by Charles A. Hill and Marguerite Helmers, 41-62. New York: Routledge

Blom, Robin, Serena Carpenter, Brian J. Bowe, and Ryan Lange. 2014. "Frequent Contributors Within U.S. Newspaper Comment Forums: An Examination of Their Civility and Information Value". *American Behavioral Scientists* 58, no. 10: 1314-1328. DOI: 10.1177/0002764214527094

Buckels, Erin E., Paul D. Trapnell, and Delroy L. Paulhus. 2014. "Trolls just want to have fun". *Personality and Individual Differences* 67: 97-102

Cheng, Shu-li, Wen-hsien Lin, Frederick Kin Hing Phoa, Jing-shiang Hwang, and Wi-chung Liu. 2015. "Analysing the Unequal Effects of Positive and Negative Information on the Behavior of Users of a Taiwanese On-Line Bulleting Board". *Plos One* 10, no. 9. DOI:10.1371/journal.pone.0137842

Dahlberg, Lincoln. 2001. "Computer-Mediated Communication and the Public Sphere: A Critical Analysis". *Journal of Computer-Mediated Communication* 7, no. 1: DOI:10.1111/j.1083-6101.2001.tb00137.x

Dalisay, F., Kushin, M. J., & Yamamoto, M. 2016. Conflict as a Barrier to Online Political Participation? *International Journal of E-Politics, 7*(1)

Davis, John P. 2002. "The Experience of 'Bad' Behavior in Online Social Spaces: A survey of Online Users". *Social Computing Group*, Microsoft Research

Delo, Cotton. 2017. "Why your brand posts are fading on Facebook". *Advertising Age.* 85, no. 5: 6

Edgerly, Stephenie, Emily Vraga, Timothy Fung, Tae Joon Moon, Woo Hyun Yoo, and Aaron Veenstra. 2009. "YouTube as a public sphere: The Proposition 8 debate". *The Association of Internet Researchers conference, October 8-10, Milwaukee*

Ellis, Justin. 2015. "What happened after 7 news sites got rid of reader comments." Niemanlab, September 16. Accessed May 7, 2017. http://www.niemanlab.org/2015/09/what-happened-after-7-news-sites-got-rid-of-reader-comments/

Facebook Investor Relations. 2016. "Facebook Q4 2016 Results". Accessed November 19, 2017. https://s21.q4cdn.com/399680738/files/doc_presentations/FB-Q4'16-Earnings-Slides.pdf

Finley, Klint. 2015. "A brief history of the end of the comments" Wired, October 8. Accessed May 8, 2017. https://www.wired.com/2015/10/brief-history-of-the-demise-of-the-comments-timeline/

Flaxman, Seth, Sharad Goel, and Justin M. Rao. 2016. "Filter bubbles, echo chambers, and online news consumption". *Public Opinion Quarterly* 80, no. S1: 298-320

Fox, J, Cruz, C., & Lee, J. Y. 2015. Perpetuating online sexism offline: Anonymity, interactivity and the effects of sexist hashtags on social media. *Computers in Human Behavior,* 52.

Geiger, R. Stuart. 2009. "Does Habermas Understand the Internet? The Algorithmic Construction of the Blogo/Public Sphere". *Gnovis. A Journal of Communication , Culture, and Technology* 10, no. 1: 1-29.

Gilovich, Thomas, Dacher Keltner, Serena Chen, and Richard E. Nisbett. 2016. *Social Psychology.* New York: W. W. Norton & Company

Gonçalves, João. 2015. "A peaceful pyramid? Hierarchy and anonymity in newspaper comment sections". *Observatorio Journal* 9, no. 4.

Graham, Todd, and Scott Wright. 2015. 'A Tale of Two Stories from "Below the Line"': Comment Fields at the Guardian'. *The International Journal of Press/Politics* 20, no. 3: 317-338. DOI: 10.1177/1940161215581926

Gumperz , John J. 1982. *Discourse Strategies*. Cambridge University Press.

Hille, Sanne, and Piet Bakker. 2014. "Engaging the Social News User". *Journalism Practice* 8, no. 5: 563-572. DOI: 10.1080/17512786.2014.899758

Habermas, Jürgen. 1991. *The Structural Transformation of the Public Sphere.* United States of America: MIT Press.

Heilman, Madeline E., Suzette Caleo, and May Ling Halim. 2010. "Just the thought of it! Effects of anticipating computer-mediated communication in gender stereotyping". *Journal of Experimental Psychology* 46, no. 4: 672-675

Hubler, Mike T., and Diana Calhoun Bell. 2003. "Computer-mediated humor and ethos: Exploring threads of constitutive laughter in online communities". *Computers and composition* 20: 277-294

Ipsos. 2017. "Ipsos' tracker om sosiale medier Q2'17". Published August 29. Accessed October 11, 2017. https://www.ipsos.com/nb-no/ipsos-tracker-om-sosiale-medier-q217

Jenkins, Henry, Sam Ford, and Joshua Green. 2013. *Spreadable Media: Creating Value in a Networked Culture.* New York: New York University Press.

Keith, William M., and Christian O. Lundberg. 2008. *The Essential Guide to Rhetoric*. Boston: Bedford/St. Martin's

Kleining, Gerhard, and Harold Witt. 2000. "The Qualitative Heuristic Approach: A Methodology for Discovery in Psychology and the Social Sciences. Rediscovering the

Method of Introspection as an Example" *Forum: Qualitative Social Research.* 1, no 1, Art 13 – January 2000.

Kline, Ronald R. 2015. "Technological Determinism". *International Encyclopedia of the Social and Behavioral Sciences,* 2nd edition, Volume 24: 109-112.

LaGrandeur, Kevin. 2003. "Digital Images and Classical Persusion." In *Eloquent Images: Word and Image in the Age of New Media,* edited by Mary E. Hocks and Michelle R. Kendrick, 117-136. Cambridge: MIT Press

Lapidot-Lefler, Noam and Azy Barak. 2012. "Effects of anonymity, invisibility, and lack of eye-contact in toxic online disinhibition." *Computers in Human Behavior* 28: 424-443

Li, Xigen. 2010. *Internet Newspapers: The Making of a Mainstream Medium.* New York: Routledge

Light, Ben, Jean Burgess, and Stefanie Duguay. 2016. "The walkthrough method: An approach to the study of apps". *New Media & Society* DOI: 10.1177/1461444816675438

Loader, Brian D., and Dan Mercea. 2001. "Networking Democracy?". *Information, Communication and Society* 14, no. 6: 757-769

Lombard, Matthew, Jennifer Snyder-Duch, and Cheryl Campanella Bracken. 2002. "Content Analysis in Mass Communication: Assessment and Reporting of Intercoder Reliability" *Human Communication Research* 28, no 4. DOI: 10.1111/j.1468-2958.2002.tb00826.x

Markham, Annette, and Elizabeth Buchanan. 2012. "Ethical Decision Making and Internet Research: Recommendations from the AoIR Ethics Working Committee (Version 2.0)" *Association of Internet Researchers.* Read September 16, 2017. https://aoir.org/reports/ethics2.pdf

Mavoa, Jane, Martin Gibbs, and Marcus Carter. 2017. "Constructing the young child media user in Australia: a discourse analysis of Facebook comments" *Journal of Children and Media.* DOI: 10.1080/17482798.2017.1308400

Medienorge. 2017. "Lesertall for norske nettaviser". Accessed September 25, 2017. http://www.medienorge.uib.no/statistikk/medium/avis/253

Montfort, Nick. 2016. "Exploratory Programming in Digital Humanities Pedagogy and Research." In *A New Companion to Digital Humanities,* edited by Susan Schreibman, Ray Siemens, and John Unsworth, 98-109. West Sussex: John Wiley & Sons

Moreau, Elise. 2017. "What is 'Tagging' on Facebook?". *Lifewire,* March 15. Accessed October 11, 2017. https://www.lifewire.com/what-is-tagging-on-facebook-3486369

Nodder, Chris. 2013. *Evil by Design: Interaction design to lead us into temptation.* Indianapolis: John Wiley & Sons, Inc

Osiurak, Francois, Yves Rossetti, and Arnaud Badets. 2017. "What is affordance? 40 years later". *Neuroscience and Behavioral Reviews:* 403-417

Papacharissi, Zizi. 2002. "The virtual sphere – The internet as a public sphere". *New Media & Society* 4, no. 1: 9-27

Papacharissi, Zizi. (2004). Democracy online: civility, politeness, and the democratic potential of online political discussion groups. New Media & Society 6(2), 259-283

Pariser, Eli. 2011. *The Filter Bubble: What the Internet is Hiding from You.* New York: The Penguin Press

Pettersen, Jørn. 2015. "Nå leser du Norges største avis". *VG,* March 3. Accessed October 9, 2017. https://www.vg.no/nyheter/innenriks/naa-leser-du-norges-stoerste-avis/a/23407126/

Phillips, D.J. 1996. "Defending the boundaries: Identifying and countering threats in a Usenet newsgroup." *The Informational Society* 12, no. 1: 39-62

Ramnefjell, Geir. 2016. "Dagbladets kommentarfelt (1996-2016)" Dagbladet, January 28. Accessed May 7, 2017. http://www.dagbladet.no/kultur/dagbladets-kommentarfelt-1996---2016/60160514

Reagle, Joseph Michael. 2015. *Reading the Comments: Likers, Haters and Manipulators at the Bottom of the Web.* Sabon: MIT Press

Rösner, Leonie, and Nicole C. Krämer. 2016. "Verbal Venting in the Social Web: Effects of Anonymity and Group Norms on Aggressive Language Use in Online Comments". *Social Media + Society* August: 1-13

Rowe, Ian. 2015. "Civility 2.0: a comparative analysis of incivility in online political discussion". *Information, Communication & Society* 18, no. 2: 121-138. DOI: 10.1080/1369118X.2014.940365

Santana, Arthur D. 2014. "Virtuous or vitriolic: The effect of anonymity on civility in online newspaper reader comment boards.". *Journalism Practice* 8, no. 1: 18-33

Shearer, Elisa, and Jeffrey Gottfried. 2017. "News Use Across Social Media Platforms 2017". *Pew Research Center – Journalism and Media,* September 7. Accessed October 9, 2017. http://www.journalism.org/2017/09/07/news-use-across-social-media-platforms-2017/

Silverman, David. 2001. *Interpreting Qualitative Data: Methods for Analysing Talk, Text and Interaction.* Townbridge: Cromwell Press

Sinclair, Stefan, and Geoffrey Rockwell. 2016. "Text Analysis and Visualization: Making Meaning Count." In *A New Companion to Digital Humanities,* edited by Susan Schreibman, Ray Siemens, and John Unsworth, 274-290. West Sussex: John Wiley & Sons

Sonderman, Jeff. 2011. "News using Facebook Comments see higher quality discussion, more referrals". *Poynter,* August 18. Accessed October 23, 2017. https://www.poynter.org/news/news-sites-using-facebook-comments-see-higher-quality-discussion-more-referrals

Stroud, Natalie Jomini, Ashley Muddiman, and Joshua M. Scacco. 2016. "Like, recommend or respect? Altering political behavior in news comment sections". *New Media & Society*: 1-17. DOI: 10.1177/1461444816642420

Suler, John. 2005. "The Online Disinhibition Effect". *Contemporary Media Forum* 2, no. 2: 184-188

Suler, John, and Wende L. Phillips. 1998. "The Bad Boys of Cyberspace: Deviant Behavior in a Multimedia Chat Community". *Cyberpsychology & Behavior* 1, no. 3: 275-294

Teopfl, Florian, and Eunike Piwoni. 2015. "Public Spheres in Interaction: Comment Sections of News Websites as Counterpublic Spaces". *Journal of Communication* 65: 465-488

Turnbull, Sarah, and Simon Jenkins. 2016. "Why Facebook Reactions are good news for evaluating social media campaigns". *Journal of Direct, Data and Digital Marketing Practice* 17, no. 3: 156-158

VG. 2017. "VG og Facebook Kommentarer". Accessed July 20, 2017. http://www.vg.no/informasjon/moderering/

Waytz, Adam, and Nicholas Epley. 2012. "Social connection enables dehumanization". *Journal of Experimental Social Psychology* 48: 70-76

Vergeer, M. 2015. "Twitter and Political Campaigning". *Sociology Compass* 9, no. 9: 745-760.

Winner, Langdon. 1980. "Do Artifacts Have Politics?". *Daedalus* 109, no. 1: 121-136

Appendix 1: Facebook Comment Anonymizer Script

```
<?php ob_start(); ?>
<!DOCTYPE html>

<!-- Facebook Comment Anonymizer v.3 - Magnus Andre Knustad, 2017
    Anyone is free to use and change this open source script,
    which is provided "as is" without warrenty, under the the
    condition that this notice is included.-->

<html>
   <head>
      <meta charset="UTF-8">
      <title>Facebook Comment Anonymizer</title>
      <meta name="robots" content="noindex,nofollow">
      <style>
         #main_output{
                  max-width: 70%;
                  font-size: 160%;
         }
         .UFICommentBody, ._5mdd{/*Comments*/
                  margin-bottom: 1em;
                  display: block;
                  padding-left: 1em;
         }
         .UFICommentActorName{//Commenter
                  padding-left: 1em;
                  display: block;
                  border-top: 1px dotted black;/*Seperating comments*/
                  color: green;
                  font-size: 20px;
         }
         .profileLink, .taggedName{/*Tagged name*/
                  color: red;
                  font-size: 20px;
                  display: inline;
         }
         .UFIReplyList, ._44ri, ._2pis{/*Replies to comments*/
                  margin-left: 50px;
                  border-left: 3px solid silver;
         }
         .UFICommentLikeButton, .UFIActorImage, ._1ci, ._1cj {
                  display: none; /*Hiding extra like number and image*/
         }
         .UFICommentActions a, .UFICommentActions span, .UFICommentActions div{
                  display: inline;
         }
         .UFICommentActions{
                  border-bottom: 1px dotted black;/*Seperating comments*/
         }
         .UFICommentContainer, ._3chu, ._4q1v{
                  display: none; /*Hiding reply input form*/
         }
         #manual_form{
                  position: fixed;
                  top: 40px;
                  right: 0;
```

```
                width: 300px;
            }
</style>
<script>
        window.onload = function change_name(){

                //Setting variables
                var name = "";//The current name
                var output_section = document.getElementById("output");
                var names = ["no index zero"];//To store used names in, with index number 0 occupied
                //Getting the names
                var names_orig = document.getElementsByClassName("UFICommentActorName");
                var tagged_names = document.getElementsByClassName("taggedName");//Getting the names
                var tagged_commenters = 0; //Variable to hold the number of tagged people who comment

                //Loop through the class names from names_orig
                var i;
                for (i = 0; i < names_orig.length; i++) {

                        var x = names_orig[i].innerHTML;//Adding the content of each name-tag to variable
                        var y = names.toString();//Turning names array into string for check

                        //Checking if name is already used.
                        if(y.includes(x) == false){
                                names.push(x);//Add name to array
                        }
                        name = names.indexOf(x);//Setting name to the index value of array

                        // Replaceing names with anonymous number for array index
                        names_orig[i].innerHTML =  "<span class='name'>NAME: " + name + "</span>";
                }//End of looping through names

                //------STATISTICS
                var number_comments = names_orig.length -1;
                var number_commenters = names.length - 1;
                var number_commentsPrCommenter = number_comments / number_commenters;
                var number_tagged = tagged_names.length;
                var number_emoticons = document.getElementsByClassName("_7oe").length;

                //Printing a table containing statistics.
                output_section.innerHTML = "<table><tr><td>Comments</td><td>Commenters</td>"
                + "<td>Comments pr commenter</td><td>Tagged people</td>"
                + "<td>Emoticons</td></tr><td>" + number_comments + "</td><td>"
                + number_commenters
                + "</td><td>" + number_commentsPrCommenter + "</td><td>" + number_tagged + "</td>"
                + "<td>" + number_emoticons + "</td></tr></table>";



        }//End of function
</script>
        </head>
        <body>
                <p id="test"></p>

                <?php

//Using PHP to display a formatted version of the HTML, withoug images and altered class names.
                if(!empty($_POST['txt'])){
```

```php
            //Printing the section where the table of statistics will be inserted using javascript
            echo '<p style="text-align: right;"><a href="fca.php">RESET</a><section
            id="output"></section>';

        //Setting variable for the original, unformatted text
        $original_text = str_replace("'", "", $_POST['txt']);
        //Changing class names to standardize
        $original_text = str_replace("profileLink", "UFICommentActorName taggedName",
$original_text);

        //Checking for manually added names to be anonymized
        if(!empty($_POST['change_name'])){
            $change_name = str_replace(", ", ",", $_POST['change_name']);
            $change_name_array = explode(",", $change_name);
            foreach($change_name_array as $key){
                $original_text = str_replace($key . " "," <a class='UFICommentActorName
                taggedName' style='display: inline;'>$key</a>", $original_text);
                $original_text = str_replace($key . ":"," <a class='UFICommentActorName
                taggedName' style='display: inline;'>$key</a>", $original_text);
                $original_text = str_replace($key . "."," <a class='UFICommentActorName
                taggedName' style='display: inline;'>$key</a>", $original_text);
                $original_text = str_replace($key . "!"," <a class='UFICommentActorName
                taggedName' style='display: inline;'>$key</a>", $original_text);
                $original_text = str_replace($key . "?"," <a class='UFICommentActorName
                taggedName' style='display: inline;'>$key</a>", $original_text);
                $original_text = str_replace($key . ","," <a class='UFICommentActorName
                taggedName' style='display: inline;'>$key</a>", $original_text);
                $original_text = str_replace($key . "-"," <a class='UFICommentActorName
                taggedName' style='display: inline;'>$key</a>", $original_text);
            }
        }

        //Checking for manually added words to be highlighted
        if(!empty($_POST['highlight'])){
            $change_name = str_replace(", ", ",", $_POST['change_name']);
            $change_name_array = explode(",", $change_name);
            foreach($change_name_array as $key){
                $original_text = str_replace($key . " "," <span style='background-color:
                yellow;'>$key</span>", $original_text);
            }
        }

    //Changling all links to span-elements in order to remove clickable links with meta data
        $original_text = str_replace("<a", "<span", $original_text);
        $original_text = str_replace("</a>", "</span>", $original_text);

        //Printing the main content
        echo "<section id='main_output'>$original_text</section>";

        //Echo a new form for changing content
        if(empty($_POST['change_name']) && empty($_POST['highlight'])){
            echo "<form method='POST' action=' id='manual_form'>
                <input type='hidden' name='txt' value='".htmlentities($original_text)."'>
                <p>Type any names that still need to be anonymized.
                Use comma to seperate multiple names. This can only be done once.</p>
                <input type='text' name='change_name' placeholder='John Doe, Jane Doe'>
                <p>Type words that you want highlighted.
                Use comma to seperate multiple words. This can only be done once</p>
                <input type='text' name='highlight' placeholder='Elephant, Hot Dog'>
                <input type='submit' value='Update'>
```

```
                    </form>";
}

//END OF POST CHECK
}else{

//If POST is empty, show form
?>
<h1>Facebook Comment Anonymizer</h1>
<p>Copy paste div containing the comments to be anonymized into this form</p>
<form method="POST" action="">
        <textarea name="txt" cols="100" rows="20"></textarea>
        <input type="submit" value="Format">
</form>
<section id="info">
        <h2>About</h2>
        <p>The Facebook Comment Anonymizer anonymizes comments from Facebook,
        with each individual commenter or tagged person being assigned an individual
        anonymous id number. No personal information about the commenters or tagged
        people will be saved.</p>
        <p>Sometimes you might get an error message saying "this page isn't working". If so,
        the comments you are trying to anonymize won't work - and you have to use some
        other comments. There is no fix for this bug.</p>
        <p>WARNING: if used for scientific purposes, you should always make sure that the
        data handling done by this script is acceptable for your local institusion and your
        country's laws and regulations.</p>
        <h3>How to use:</h3>
        <ol>
                <li>Right click on the comments you wish to use. Choose
                inspector.</li><li>Using the inspector, find the div-tag that contains all the
                comments you wish to use</li>
                <li>Right-click the div, choose "Copy" and "Copy outer HTML"</li>
                <li>Paste into the form and click format</li>
                <li>Sometimes a name will not be tagged right by Facebook, and it will not
                be anonymized. If so, you have the option to add the name to a new input
                field (multiple names should be seperated by a comma) and click format
                again.</li>
                <li>Always read through the comments and make sure they are all
                anonymized before using other tools to download and store the data.</li>
        </ol>
        <p style="font-size: 12px; color: gray;">Facebook Comment Anonymizer - Magnus
        Andre Knustad, 2017<br>
        Anyone is free to use and change this open source script,
        which is provided "as is" without warrenty, under the the
        condition that this notice is included.</p>
</section>
<?php
        }//End of if POST is empty

        //Echo out closing body and html tag, and ob_flush.
        echo "</body>\n</html>";
        ob_flush();
?>
```

Appendix 2: Short description of comments – used in reliability testing

Humorous: Play on words, brings together concepts in an unexpected way.

Reactive: Expression of emotions. Short. Often with exclamation marks or emoticons. Unspecific statements.

> **Non-verbal:** Emoticons or written non-verbal words, like "haha"

Informative: Contains factual information that can be checked, but no argument.

> **Interpretation:** The commenter's interpretation of the article.

> **Self-correction:** Correcting one's own previous statement.

> **Explanation:** Explaining the facts of the article to someone.

> **Personal experience:** Not necessarily factual, but a recount of personal experience.

Suggestion: A comment providing a suggestion.

Question: A comment containing a question.

Derogatory: Comments that the target may interpret as being mean.

> **Critique of commenter:**

> **Critique of public figure:**

> **Critique of article subject:**

> **Critique of journalist / paper:**

Supportive: These comments are written in defense of another commenter or public figure.

> **Supportive of commenter:**

> **Supportive of public figure:**

> **Self-defense:** Similar to other supportive comments, but made in self-defense.

Argumentative: Contains a proposition for someone to accept, and a justification for it.

Expressed opinion: A comment where an opinion is directly or indirectly expressed ("I think that…"). Non-factual statements, often stated as fact. Speculative comments.

Tagging comment: A comment containing mainly tagged names.

Speculative comment: Speculative assumptions for which there is no evidence, and conclusions based on these assumptions that cannot be verified.

Linking comment: When a link is shared through a comment.

Appendix 3: Individual comment statistics

In the following tables, each comment from each article is represented by a row. From left to right, the columns present the tag, number of words and number of emoticons for each comment. In the comment tag column, comments that were labeled as replies have been indented. The columns with the number of words and emoticons have been color coded using conditional formatting, where the cells with the lowest number are beige and the cells with the highest numbers are brown. These two columns have been color coded separately, meaning that the color for each cell is determined by comparing only the other cells in the same column.

Article 1: Facebook

Comment tag	Words	Emoticons
Humorous	9	0
Reactive	1	0
Reactive - Non-verbal	0	3
Informative - Interpretation	13	0
Reply suggestion	9	1
Reply informative - explanation	8	0
Reply informative - self-correction	4	0
Reply derogatory - commenter	10	0
Reply humorous	7	2
Reply informative - interpretation	39	0
Reply humorous	8	4
Reply opinion	11	0
Reply informative - explanation	12	2
Reply humorous	11	3
Opinion	10	1
Arbitrary	23	0
Humorous	25	1
Reply reactive - Non-verbal	0	4
Reply reactive - Non-verbal	1	3
Reactinary - Non-verbal	0	3
Opinion	4	0
Arbitrary	17	3
Opinion	9	3
Reactive - Non-verbal	0	1
Tagging	4	0
Reply reactive - Non-verbal	1	0
Opinion	4	0

Reactive	5	0
Opinion	2	0
Reactive - Non-verbal	1	0
Humorous	6	1
Derogatory - article subject	6	1
Reactive / Opinion	3	3
Tagging	1	0
Reactive / Opinion	2	4
Argumentative	20	0
Reply opinion	15	0
Reactive	5	0
Humorous	11	0
Reply reactive - Non-verbal	0	1

Article 1: Website

Comment tag	Words	Emoticons
Question	3	0
Suggestion / Humerous	12	0
Informative - Interpretation	36	0
Reply derogatory	11	0
Reply Informative - explanation	17	0
Reply argumentative	39	0
Reply derogatory	13	0
Reply suggestion	5	0
Reply question	11	0
Reply argumentative	41	0
Reply derogatory - article subject	60	2
Reply argumentative	75	0
Reply question	15	0
Reply derogatory - commenter	13	0
Reply question	20	2
Reply Informative - explanation	58	0
Reply reactive	9	2
Reply supportive - self-defence	70	0
Reply argumentative	38	0
Reply derogatory - article subject	111	0
Reply opinion	44	0
Suggestion	33	0
Reply opinion	66	0
Reactive	7	0
Reactive	12	0
Opinion	24	0

Comment tag	Words	Emoticons
Derogatory - newspaper	27	0
Reply question	8	0
Reply argumentative	23	0
Reply argumentative	36	0
Reply opinion	25	0
Reply derogatory - commenter	1	0
Reply argumentative	48	0
Reply informative	4	0
Reply argumentative	102	0
Reply informative / suggestion	64	0
Reply derogatory - commenter	10	0
Informative - personal experience	141	0
Suggestion	32	0
Reactive	1	0
Reactive	1	1
Opinion	32	0
Humerous	8	0
Arbitrary	6	2

Article 2: Facebook

Comment tag	Words	Emoticons
Reactive	1	0
Reactive	1	0
Derogatory - public figure	10	2
Opinion	8	0
Reactive	3	0
Reactive	5	4
Tagging	1	2
Arbitrary	5	4
Derogatory - newspaper	21	0
Reply suggestion	12	0
Arbitrary	9	1
Opinion	12	0
Reply argumentative	9	0
Reactive - non-verbal	0	1
Informative - interpretation	35	0
Reply informative - explanation	20	0
Reply arbitrary	28	4
Reply opinion	12	0
Question	10	0
Reactive	1	0

Reactive	3	5
Reactive	3	3
Humorous	17	2
Reply humorous	9	2
Reply tagging - link	2	2
Opinion	4	0
Opinion	4	0
Reactive	1	0
Opinion	11	1
Opinion	11	0
Reactive	1	0
Reactive	6	2
Question	21	1
Reactive - non-verbal	0	3
Opinion	10	0
Opinion	17	0
Reactive	2	0
Opinion	5	0
Opinion	21	3
Informative - interpretation	17	0
Reactive - non-verbal	0	4
Arbitrary	4	1
Opinion	8	0
Speculative	16	0
Argumentative	31	0
Reactive - non-verbal	1	0
Opinion	11	0
Opinion	21	0
Reactive	6	1
Humerous	7	0
Derogatory - public figure	29	1
Opinion	30	1
Opinion	15	0
Reactive - non-verbal	1	0
Opinion	6	0
Reactive - non-verbal	0	2
Reactive	2	0
Humerous / Opinion	11	0
Opinion	10	1
Speculative	46	0
Question	7	0
Opinion	22	1

Article 2: Website

Comment tag	Words	Emoticons
Question	8	0
Reply informative / Opinion / Link	39	0
Reply informative	23	0
Reply opinion	49	0
Speculative	30	0
Reply humerous	16	0
Reply humerous	17	0
Reply informative	5	0
Reply arbitrary	5	0
Derogatory - public figure	8	0
Opinion	13	2
Reply argumentative	13	0
Question	6	0
Argumentative	19	0
Reply opinion	8	0
Argumentative	77	1
Opinion	12	2

Article 3: Facebook

Comment tag	Words	Emoticons
Opinion	15	0
Reply informative / Opinion	4	1
Reply suggestion	6	0
Supportive - public figure	17	3
Reactive	9	0
Argumentative / Suggestion	56	0
Reply reactive	1	0
Reply reactive	8	3
Reply question	6	0
Reply informative	3	0
Reply reactive - non-verbal	1	3
Reply arbitrary	1	0
Supportive - public figure	34	0
Supportive - public figure (Duplicate)	34	0

Supportive - public figure	2	1
Reactive	4	0
Supportive - public figure	3	0
Speculative	19	4
Reply reactive-nonverbal	0	1
Opinion	25	1
Reply argumentative	59	0
Reactive	1	1
Reply question	1	0
Reply argumentative	25	0
Reply opinion	10	0
Reply argumentative	78	0
Reply opinion	31	2
Reply derogatory - commenter	8	1
Reply question	7	4
Reply question / Argumentative	18	0
Reply argumentative	23	2
Supportive - public figure	47	0
Supportive - public figure	25	0
Opinion	25	0
Supportive - public figure	1	0
Reactive	5	0
Supportive - public figure	16	0
Reply reactive - non-verbal	0	1
Arbitrary	12	0
Reply reactive	3	0
Reactive	1	2
Supportive - public figure	3	1
Informative	20	0
Reactive	2	0
Supportive - public figure	10	4
Opinion	10	0
Reply question - non-verbal	1	0
Reply informative - explanation	16	0
Reactive	8	2
Reactive	5	1
Supportive - article subject	18	4
Reactive - non-verbal	0	2
Argumentative	7	0
Reply argumentative / Question	20	0
Reply argumentative	14	0
Reply argumentative / Question	34	0
Reply argumentative	104	0
Reply informative	20	0
Reply reactive	6	3
Reply argumentative	58	0

	Words	Emoticons
Reply reactive	2	0
Reply opinion	11	0
Reply reactive	8	0
Reply opinion	28	0
Opinion	22	2
Supportive - public figure	15	4
Reactive - non-verbal	0	5
Supportive - article subject	22	0
Opinion	39	1
Opinion	13	1
Opinion	46	1
Informative	67	0
Question	11	0
Speculative	30	0
Arbitrary	4	0
Question	11	0
Reactive	1	3
Humerous	8	2
Derogatory - public figure	26	0
Reply argumentative	18	0
Reply humerous / Derogatory comm	18	2

Article 3: Website

Comment tag	Words	Emoticons
Opinion	12	1
Reply suggestion	33	0
Opinion	22	0
Reply informative	28	0
Reply informative	33	0
Reply opinion	29	0
Reply suggestion	4	0
Suggestion	154	0
Reply informative	25	0
Informative - interpretation	74	0
Reply opinion	21	0
Suggestion	12	0
Reply argumentative	35	0
Supportive - public figure	674	0
Informative	27	0
Speculative	6	0
Reply informative	9	0

Supportive - public figure	76	0
Reply argumentative	73	0

Article 4: Facebook

Comment tag	Words	Emoticons
Opinion	16	0
Tagging / Question	6	0
Reply informative	4	1
Argumentative	69	0
Reply opinion	10	0
Reply argumentative	13	0
Opinion	13	0
Tagging	1	0
Tagging	2	0
Tagging	1	0

Article 4: Website

Comment tag	Words	Emoticons
Humerous	40	0
Reply speculative	36	0
Opinion	22	0
Reply question	7	0
Reply informative / link	18	0
Reply opinion	36	0
Reply opinion	42	0
Reply question	78	0
Reply speculative	109	0
Reply informative - self-correction	14	0
Argumentative	60	0
Reply informative	9	0
Opinion	26	0
Opinion	47	1
Reply opinion	7	1
Reply question	10	0
Opinion	64	0
Reactive	9	0
Argumentative	43	0
Reply opinion	6	0
Argumentative / Question	60	0

Comment tag	Words	Emoticons
Reply informative	16	0
Derogatory - Article subject	10	0
Opinion	16	0
Derogatory - Commenters	16	0
Humerous	6	0
Argumentative	88	0
Reactive	15	0

Article 5: Facebook

Comment tag	Words	Emoticons
Tagging	1	1
Reply informative	9	1
Reply reactive	2	1
Opinion	8	0
Supportive / tagging	2	0
Tagging	1	0
Tagging	1	0
Tagging	1	0
Question	10	2
Question	4	0
Tagging	1	0
Reply reactive - non-verbal	0	1
Tagging	1	0
Tagging	1	0
Reactive	2	0
Tagging	1	0
Reply reactive	1	0
Argumentative	41	1
Tagging	1	0
Tagging	1	0
Tagging	1	0
Tagging	1	0
Tagging	1	0
Tagging	1	0
Reply reactive - non-verbal	0	2
Tagging	1	0
Reply Reactive	8	1
Tagging	1	0
Reply reactive - non-verbal	0	1
Tagging	1	0
Tagging	1	0
Supportive / tagging	2	0
Reply question	8	1
Reply reactive	7	1
Reply arbitrary	10	2
Reactive	1	1

Tagging	2	0
Reply reactive	2	0
Tagging / Reactive	3	0
Reply reactive	1	4
Tagging	1	0
Tagging / Suggestion	5	0
Tagging	1	0
Reactive non-verbal	0	1
Tagging	1	0
Reply reactive / question	6	2
Tagging	1	0
Reply reactive non-verbal	0	4
Reply reactive	2	3
Reply informative	5	0
Tagging	1	0
Reply reactive	2	1
Question	9	2

Article 5: Website

Comment tag	Words	Emoticons
Argumentative	43	0
Reply humerous	19	0
Opinion	32	0
Argumentative	29	0
Opinion	14	0
Reply question	1	0
Reply opinion	22	0
Reply arbitrary	11	0
Argumentative	99	0
Question	13	0
Question	8	0
Reactive	7	0
Reply Question / Humerous	15	2
Reply reactive	6	2
Opinion	9	0
Informative - personal experience	67	0

Article 6: Facebook

Comment tag	Words	Emoticons
Reactive	7	1
Reply arbitrary	8	0
Reply informative	13	0
Reply informative	17	1
Opinion	10	0
Arbitrary	12	0
Reply question	7	0
Reply opinion	10	0
Reply opinion	11	0
Reply arbitrary	15	0
Derogatory - public figure	9	0
Argumentative	24	0
Reply arbitrary	18	0
Reply opinion	12	0
Reactive	13	0
Question	11	0
Opinion	73	0
Reactive	10	2
Opinion	9	0
Reactive	2	0
Question / Informative	21	0
Reactive	2	0
Reactive	12	0
Opinion - Image	0	0
Speculative	21	0
Speculative	6	0
Speculative	23	0
Opinion	13	0
Opinion	15	0
Argumentative	55	0
Derogatory - journalist / newspaper	26	0
Opinion	23	0
Opinion	10	0
Suggestion	5	0
Reply reactive	7	0
Opinion	24	0
Reactive	4	0
Question	26	0
Argumentative	83	0
Reply derogatory - journalist / paper	18	1
Argumentative / Informative	37	0
Reactive - non-verbal	0	1

Comment tag	Words	Emoticons
Humerous	10	1
Humerous	4	1
Argumentative	61	0

Article 6: Website

Comment tag	Words	Emoticons
Question / Argumentative	20	0
Derogatory - journalist / newspaper	17	0
Reply derogatory - journalist / paper	7	2
Reply argumentative	13	0
Reactive	6	0
Arbitrary	20	0
Reply question / argumentative	8	0
Reactive	8	0
Opinion	36	0
Reply opinion	9	0
Argumentative	19	0
Argumentative	46	0
Argumentative	32	0
Reply informative	9	0
Argumentative	33	0
Reply question	8	0
Reply question	10	2
Reply arbitrary	35	0
Reply question / informative	33	0
Suggestion	22	0
Argumentative	39	0
Reply humorous	2	2
Informative / humorous	62	0
Reply argumentative	12	0
Suggestion	59	0
Argumentative	26	0
Opinion	46	0
Suggestion / Opinion	15	0
Argumentative	37	1
Derogatory - public figure	10	0
Opinion	41	0
Opinion	16	0
Argumentative	67	0
Opinion	34	0
Argumentative	143	0
Argumentative	110	0
Opinion	21	0

Appendix 4: Coding scheme used for the "Rowe replication study"

By Rowe (2015), adapted from Papacharissi (2004)

All comments should be read in their entirety.

Comments may contain more than one form of incivility and/or impoliteness.

Code '1' all comments containing a '**threat to democracy'**: A comment ought to be coded as containing a threat to democracy if it advocates the overthrow of the government (i.e. if it proposes a revolution) or if it advocates an armed struggle in opposition to the government (i.e. if the commenter threatens the use of violence against the government). Examples of such threats include commenters suggesting that government efforts to restrict guns, for example, would lead them to take up arms. For example, one commenter suggested that if the government were to enforce the ban on assault weapons and try and take his gun, 'they would soon regret it'. Similarly, commenters threatening to start a revolution in response to the government implementing policy would also be coded as a threat to democracy.

Exceptions: Should you believe that the threat is sarcastic, please code for 'sarcasm' (11), not a threat to democracy. 'Non-cooperation' (8) should also not be confused with a threat to democracy.

Code '2′ all comments containing a '**threat to individual rights'**: A comment ought to be coded as containing a threat to individual rights if it advocates restricting the rights or freedoms of certain members of society or certain individuals. Such examples are common when sensitive or divisive political issues are being discussed because commenters often resort to threatening one another or often advocate restricting the rights of groups or individuals they blame for the event which led the issue to being discussed. For example, following a tragic shooting in which a psychologically disturbed individual is implicated, many people are quick to suggest that the rights of mentally ill citizens be restricted, i.e. 'They should all be locked up' would be an example of this. Also, supporters of gun-control often blame those who oppose gun-control, for example, for the widespread use of guns and, by extension, such tragic events. In doing so, they suggest that it is they who are responsible for such tragedies and, therefore, 'they have no right to participate in this debate.' Exceptions: Threats to individual rights should not be confused with stereotypes (although they might be closely related if the threat being made assumes that all members of that particular group is the same) or with non-cooperation. Refusing to co-operate is not necessarily the same as refusing others the right to participate in the discussion.

Code '3′ all comments containing the use of '**stereotypes'**: A comment ought to be coded as containing a stereotype if it asserts a widely held but fixed and oversimplified image or idea of a particular type of person or thing. This includes associating people with a group using labels, whether those are mild – 'liberal', or more offensive – 'faggot'. The use of stereotypes is common when the topic being discussed is highly partisan.

Stereotyping may also involve making generalized assumptions about the thoughts and behaviour of certain groups or individuals based on said stereotypes, for example, suggesting gun-owners/supporters are paranoid, liberals/conservatives are less/more patriotic, or immigrants rely heavily upon social security.

Exceptions: The use of the words liberal or conservative are not always used stereotypically. For example, an administration or an individual may be liberal or conservative in their views, but this type of description is not necessarily stereotypical or derisory.

Note: Stereotypes should also be coded for their direction: those intended to offend others should be coded as antagonistic (i.e., 'you liberals are all the same. You want to ban anything you don't like and that doesn't suit you.) or neutral if it was used in articulating an argument but without the intent to offend others (i.e., 'the liberal agenda has caused a huge rise in regulations across a number of industries).

Code '4′ all comments containing '**name-calling'**: (e.g., gun-nut, idiot, fool, etc.). To be coded as namecalling the words used must be clearly derogatory towards the person it is intended for. Exceptions: Be careful not to include words which may be regarded as a stereotype (i.e., liberal). If namecalling is aimed at a group, or the 'name' is often applied to a group of individuals, it may potentially be a stereotypical comment (i.e. anyone who owns a gun is an idiot – this groups all gun-owners together, therefore stereotyping them).

Code '5′ all comments containing '**aspersions'**: All comments containing 'an **attack on the reputation or integrity** of someone or something' ought to be coded for aspersion. A comment may be coded as including an aspersion if it contains disparaging or belittling comments aimed at other commenters or their ideas. These ought to include explicit efforts to express dismay at others. For example, a comment which reads: 'Teachers don't need to be carrying guns! It's stupid!' may be considered an aspersion. A comment which reads: 'sheer

idiocy' may also be considered an aspersion. Similarly, a comment which reads: 'this is a free country that prohibits slavery. Do you have a problem with that?' may also be coded as an aspersion as its tone implies it is not a genuine question, but an attack on a previous comment/idea. An aspersion may be both explicit or implicit.

Code '6′ all comments containing 'lying': All comments **implying disingenuousness** (e.g., liar, dishonest, fraud etc.) of other commenters or public figures ought to be coded as lying Exceptions: If a comment casts doubt on the truthfulness of a previous comment or a public figure this does not constitute the use of synonyms for liar. For example, if a commenter says 'that is not true', they are not implying that the other person is intentionally lying, but rather that they are misinformed.

Code '7′ all comments containing **vulgarity**: All comments containg vulgar language (e.g., crap, shit, any swear-words/cursing, sexual innuendo etc.) ought to be coded as vulgar. Comments containing vulgar abbreviations such as WTF (what the fuck) should also be coded as vulgar.

Code '8′ all comments containing '**pejorative speak'**: All comments containing language which disparages the manner in which someone communicates (e.g., blather, crying, moaning, etc…) ought to be coded as pejorative for speech.

Code '9′ all comments containing '**hyperbole'**: Comments which contain a massive **overstatement** (e.g., makes pulling teeth with pliers look easy) ought to be coded as hyperbole. Be careful not to include words which accurately describe events, particularly given that many of the topics under discussion may be described using words associated with hyperbole (i.e., the Newtown shooting may be described both as a 'massacre' and a 'heinous' act), although these words are not necessarily used to overemphasize it. Hyperbole might be characterised either as a phrase (i.e., barely a week goes by without a shooting), or the overuse of descriptive words designed to emphasize a point (i.e., 'It's not the guns that kill but a ticking time bomb of anger seething in society, giving clues & everyone ignoring him until he kills little babies with an illegal automatic weapon. I don't think it was an accident he

killed mommy, the Phd & Principal. He was suicidal & homicidal; very common & wanted notoriety. What better way than to kill babies). Note: many social issues are discussed using language which may be considered hyperbole, i.e., abortion = murder, gay marriage = abomination, etc. It is up to you as to whether you believe the commenter is making an overstatement or just describes it as such.

Code '10' all comments containing '**non-cooperation**': The discussion of a situation in terms of a stalemate ought to be coded as non-cooperation. Outright rejection of an idea/policy by a commenter should only count as non-cooperation if it involves excessive use of exclamation marks or capital letters for example. For example, a comment which reads: 'I'm 48 years old. I retired after 20 years in the military. I went back to college to be a special education teacher. I WILL NEVER CARRY A FIREARM INTO MY CLASSROOM. Find another solution' may be considered non-cooperation. Similarly, a comment which reads: 'I hate guns!! I refuse to send my kids to a school where the teachers are armed!!!!!!!' may be coded as non-cooperation.

Exceptions: A simple rejection of an idea/policy should not be considered non-cooperation. Likewise, suggesting that another commenter has no right to take part in the discussion for whatever reason should be coded as 'threat to individual rights' insofar as it threatens their right to free speech, not as non-cooperation. Only a refusal to listen or comply should be coded as non-cooperation.

Code '11' all comments containing '**sarcasm**': You'll know it when you see it!!

Code '12' all comments which may be deemed impolite, but which do not fall into any of the previous categories of impoliteness: This category ought to catch any other type of impoliteness that you think is evident and which does not fit into any other category above. This most commonly includes using capital letters to symbolise shouting and the use of blasphemous language. Even comments you believe are impolite in their tone may be coded as 'other' (12).

Exceptions: CAPITAL LETTERS, if used for single words, should be assumed to be signalling emphasis. If a phrase or sentence is written in CAPS, this may be considered shouting.

Direction of incivility:

All uncivil and impolite comments should be coded for their direction, with the exception of stereotypes which should be coded as antagonistic or neutral. Once the type of incivility has been categorised, the direction then needs to be coded. Comments containing incivility and which are aimed at another commenter in the discussion should be coded as **Interpersonal** (i). Interpersonal comments include those which are explicitly directed at other commenters (i.e. where the comment includes the name of other commenters) or those which address the comments of others, even without naming them. An example of interpersonal incivility may include: 'I can't wait to see you on the battlefield someday Leo [another commenter] because that is what it's gonna boil down to….you believe what you want and you should BUT DO NOT FORCE YOUR BELIEFS ON ME.' If the comment contains incivility and is aimed at a specific person or group of people not present, the comment is coded as **Other-directed** (od). In this case, the 'other' often refers to a politician (i.e. Obama), a pressure group (i.e. the NRA), a political party (i.e. Republicans), the media (i.e. the Washington Post) or state institutions (i.e. SCOTUS). If the comment contains incivility but does not refer, or imply reference, to another commenter or 'other', the comment is coded as **Neutral** (n). Neutral incivility occurs primarily when the commenter disagrees with the content of the article being commented on. An example of neutral incivility may include: 'A Bushmaster in a classroom?

WTF!!' The direction of a comment is very much dependent on the coders' understanding of whether or not it refers to other comments in the thread or whether it is a stand-alone comment which is not intended as a response. Thus it is important to be familiar with the content and language of the article to which the comment refers.