

**Comparing Facebook posts and news articles from English newspapers: Which medium  
is more subjective?**

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## Contents

Abstract .....	3
Introduction .....	3
Literature review .....	4
From print to online news.....	4
The transformation from objective to subjective.....	5
Indicators of subjectivity .....	6
Methodology .....	11
Materials .....	11
Procedure .....	12
Statistical treatment .....	13
Results .....	14
Conclusion .....	16
Discussion.....	17
Literature.....	21

## **Abstract**

This study investigates subjectivity in Facebook posts and articles from English newspapers. Over the years the journalistic culture has been shifting from objective to subjective according to previous research. Yet, little research has been done so far, and therefore this topic needs more investigation. For that reason, this study examines whether Facebook posts or articles from English newspapers are more subjective as expressed by the subjectivity elements of exclamation marks and 1<sup>st</sup> and 2<sup>nd</sup> person pronouns. Using a corpus analysis, this research investigates whether sentences of Facebook posts are more subjective than sentences of articles from English newspapers, as expressed by exclamation marks and personal pronouns as indicators of subjectivity. Results show that overall Facebook posts and articles are equally subjective. Yet, there is a significant difference between the use of exclamation marks and personal pronouns between the two media. Therefore, this study adds new insights to the research topic of subjective language use in different media.

## **Introduction**

Form and style are significant in the world of journalism. News articles used to be printed, journalists were taking on social responsibility, and writing objective, fair, and trustworthy stories about events. Yet, transformations in form and style have been evolving over the last couple of years. As for form, printed articles in newspapers can now also be found online on the websites of the publishing companies. Moreover, due to the evolving technology, the news is not only posted on websites, but journalists also share their articles on social media. Social media such as Facebook, Twitter, and Instagram are different formats than printed newspapers and websites, which is why it raises questions about the kind of language that is being used on these platforms. Consequently, another transformation in journalism can be detected, namely the transformation in style. Although some research observed that the 'old' approach of writing objective, fair, and trustworthy stories still exists (Deuze, 2005), some studies suggest that there is a shift from objective language use to an increased use of subjectivity (Biber & Finegan, 2001; Deuze & Witschge, 2018; Fairclough, 1994). However, this field of research is still very new, thus more research is needed regarding this topic. Therefore, this paper focuses on the increasing subjectivity in journalism by examining the frequency of two indicators of subjectivity in articles and Facebook posts from English newspapers.

## Literature review

### From print to online news

The consumption of news has drastically changed ever since the world got introduced to the new technology which is called 'social media'. According to Schulz, Fletcher & Kleis Nielsen (2022), our environment has changed from one largely composed of print and broadcast media to one now multifaceted and frequently developing in online media. Their research, among others (Benkler, 2006; Chadwick, 1972; Neuman et al., 1992; Prior, 2005), found that people normally would get exposed to the news via mass media environments like television. Yet, with the introduction of the digital and the expansion of the high-choice media environment, a transformation emerged from incidental to selective exposure of news consumption by the users themselves (Benkler, 2006; Chadwick, 1972; Neuman et al., 1992; Prior, 2005; Schulz et al., 2022).

However, the aim of online platforms was not to broadcast the news in the first place. Facebook, for example, was first invented by Mark Zuckerberg in 2003, as an exclusive networking site for Harvard students (Saravanakumar & SuganthaLakshmi, 2012). Over the years, Facebook has grown in popularity with over 1 billion daily users, according to statistics made by Zuckerberg in 2015. Because of this growth in popularity and the evolvement of the functionality of the app, a sizeable portion of the subscribers began to use Facebook as a source of news consumption (Gottfried & Shearer, 2016). According to Gottfried and Shearer (2016), 51 per cent of their participants stated that they use Facebook mostly for discovering, observing, and sharing news. Schulz et al. (2022) further investigated why people use social media as a news outlet and how traditional and digital sources of news complement each other. The results suggested that there is a positive relationship between news media knowledge and the use of social media as a news outlet. Nevertheless, the analysis showed a negative association between news media knowledge and the usage of social media as a primary source of interest. In sum, social media may constitute a useful addition to a larger news media repertoire, yet the information provided should be combined with other sources of news (Schulz et al., 2022). This situation is best interpreted by people, who seem to have a deeper understanding of the production of news (Schulz et al., 2022).

But social media has not only become an interesting platform for readers. Also, journalists began to change their ways and increased the use of social media platforms to spread and promote their news articles, as an effect of the increasing popularity of the platforms, such

as Facebook. A study by Welbers and Opgenhaffen (2019) described a standard structure for news posts that is utilized by the journalists that create the posts on Facebook. The structure of a news-Facebook post is as follows: a status message, a picture, a headline, a partial lead, an author, a source, and a comment section. The status message of the news-Facebook post is used, to sum up the news story from the website of the broadcasting outlets in a few words, sentences, a small paragraph or a quote. According to Welbers and Opgenhaffen (2019), the status message can also appear in a less formal form. Instead of referring to the article, the message can also ask for the opinion of the reader (“What is your opinion about this?”) or express emotion (“This is horrible!”). Furthermore, the researchers stated that to react to the “social media logic of virality”, news outlets utilize these kinds of messages to encourage greater interaction among users. Journalists do so by applying more subjective and positive language (Welbers & Opgenhaffen, 2019).

### **The transformation from objective to subjective**

The traditional standard in language use for journalists was objectivity, as stated by previous research by Blaagaard (2013) and Schudson (2003). Yet, both research papers conclude that remaining objective in writing is a challenge that the journalistic culture faces daily (Blaagaard, 2013; Schudson, 2003). A previous study has found a shift that from being a relatively uniform sector, reporting is evolving into an exceedingly diversified and broad variety of approaches (Deuze & Witschge, 2018).

The shift from objectivity to subjectivity has numerous reasons detected by previous research. For example, the research by Fairclough (1994), and Biber and Finegan (2001) have shown that there is a trend of public written speech converting into a more informal or spoken tone. Additionally, the trend of writing more subjective is also seen in the journalistic world (Deuze & Witschge, 2018). The amount of subjectivity is starting to increase in news articles written by journalists (Deuze & Witschge, 2018). Vis, Sanders and Spooren (2012) further developed the thesis of news becoming more subjective. The researchers examined the topic of subjectivity in language in more detail. Results showed that the increase in subjectivity is mostly due to the language of citations (Vis et al., 2012). Nowadays the number of third-person quotations of the sources, that hold subjectivity, has increased, which results in language use appearing to be more subjective (Vis et al., 2012).

Subjectivity is an expression of the speaker’s attitudes, beliefs, opinions, emotions and evaluations according to Langacker (1990), Lyons (1994), and Wiebe et al. (2005). This quality

of a person's judgement leads to personal bias and individuality, which are opposites of the term objectivity (Solomon, 2023). In sum, the term subjectivity, from a philosophical perspective, declares that objective truth does not exist and that all knowledge is biased and formed out of personal experiences (Solomon, 2023).

On the internet people usually share their personal opinions on topics, since the internet provides the users with a certain freedom to speak their minds publicly or anonymously. Moreover, when people speak up and share their opinion, these messages will most probably be more subjective. Consequently, when news organisations transition to social media platforms, the writers of the social media posts of these organisations, have to take this aspect, the use of more subjective language, into account. In other words, the journalists that provide Facebook posts about news, for example, might have to integrate more subjective language. A study by Stieglitz and Dang-Xuan (2014) examined the use of subjective language in journalism on social media in even more detail. Moreover, the researchers investigated the potential outcome of subjective language use on social media. By using two data sets containing more than 165.000 tweets about political communication, Stieglitz and Dang-Xuan (2014) observed that Twitter messages, that are emotionally laden, have the tendency to be shared more frequently than messages with a neutral tone. Thus, social media posts containing subjective language are more likely to be shared by other users (Stieglitz & Dang-Xuan, 2014). A reason for this phenomenon could be that the content of the messages represents the opinion of many different other users regarding a topic. Therefore, Stieglitz and Dang-Xuan (2014) suggested that organizations could use more subjective language on social media. In conclusion, journalists nowadays tend to use more subjective language to attract the attention of social media users and try to start some sort of interaction (Stieglitz & Dang, 2014; Welbers & Opgenhaffen, 2019).

### **Indicators of subjectivity**

The research into subjectivity in journalism is relatively new. Yet, previous studies already have found some reasons to believe that certain elements of language indicate subjectivity more than others. Vis et al. (2009) established a list of subjectivity indicators based on findings of previous research conducted by Bekker (2006), Biber (2004), Scheibman (2002), Wiebe (1994), and Wiebe et al., (2005). All of these studies examined subjectivity in journalism. Scheibman's (2002) analysis, which focused on the frequency of subjectivity in American English conversations, showed that subjectivity in the text is featured by general elements. Therefore,

Scheibman (2002) established a list with the general features that express subjectivity containing personal and possessive pronouns, modal verbs, modal adverbs, and intensifiers. Wiebe (1994) distinguished that, among other things, exclamations and direct questions are a way of expressing emotion and opinion in text. As mentioned before, the expression of a person's emotions and or opinion is a form of subjectivity. Thus, Wiebe (1994) concluded that exclamations and direct questions are elements of language that express subjectivity. The results of the research conducted by Bekker (2006) and Biber (2004) showed similar results to the previously mentioned studies. Based on these outcomes Vis et al. (2009) established a list of elements that indicate subjectivity in text. Furthermore, the research paper provided evidence that the model is acceptable for the analysis of informalisation by identifying the frequency of subjectivity elements in Dutch conversations compared to Dutch newspapers (Vis et al., 2009). The results of the study showed that all elements listed appeared more frequently in conversations than in newspapers. Thus, the established list of subjectivity indicators is equipped for future research to signalise diversity in subjectivity (Vis et al., 2009).

The study objective of Vis, Sanders & Spooren (2012) was to evaluate the concept of informalisation for Dutch media using the list of subjectivity elements provided by Vis et al. (2009). Therefore, the presence of all elements listed as indicators of subjectivity in Dutch newspapers had been studied. Vis et al. (2012) compared Dutch newspapers from two different years of publishing (1950/1 and 2002) and analysed the presence of subjectivity elements with three hypotheses. The researchers tested for the increase in the use of subjectivity elements, an increase of quotations, and subjectivity elements within these quotations. Results showed that subjectivity in journalism has been expanding throughout the years, which led to the confirmation of all three hypotheses. However, the results also suggested that this phenomenon is based on the increasing amount of quotations from other speakers utilized by journalists to write a story (Vis et al., 2012). Nevertheless, personal pronouns (1<sup>st</sup> and 2<sup>nd</sup> person pronouns) were one of the few indicators of subjectivity that showed an increase in usage throughout all three analyses. Thus, personal pronouns are more likely to occur in news text and therefore form a good component when investigating the topic of subjectivity (Vis et al., 2012). Vis et al. (2012) state that for future research, looking at different newspapers might observe further interesting results, since other previous research indicated that “changes might be different for different newspapers”.

Haim et al. (2021) conducted research focussing on the difference in subjective language use in news articles and news-Facebook posts from Scandinavian newspapers. The researchers examined elements of grammar, such as personal pronouns and exclamation marks, and social

media features, such as hashtags and emoticons, in news text and Facebook posts. To conduct this analysis, an extensive dataset containing headlines, leads, and sentences of Facebook posts from news articles was utilized (Haim et al., 2021). Among other things, results showed that Facebook posts and articles are equally subjective according to the use of personal pronouns. Yet, the analysis found a significant difference in the number of exclamation marks being used. Haim et al. (2021) concluded that Facebook posts utilize exclamation marks more than articles. A possible cause of this result may be the urge of journalists to attract the attention of social media users and try to start some sort of interaction (Haim et al., 2021).

Based on the findings of the research papers by Haim et al. (2021) and Vis et al. (2012), new aspects regarding the topic of subjectivity in journalism may raise some questions about this topic. As mentioned before, both studies focused on the use of subjectivity in newspapers and Facebook posts from Dutch and Scandinavian news outlets. Yet, little is known so far about this specific language use in English newspapers and Facebook posts. Moreover, Vis et al. (2012) recommended that an investigation containing newspapers from another country is needed, to examine whether the same findings might also be observed. Furthermore, both studies used headlines, leads, and sentences from Facebook posts with the link to the referring news articles to conduct their analyses. An interesting investigation might be, whether an analysis using sentences of the body part of news articles and Facebook posts show equal results, considering sentences from news articles might have a higher word count. To examine the frequency of subjectivity elements in these two media, exclamation marks, as applied by Haim et al. (2021), and personal pronouns (1<sup>st</sup> and 2<sup>nd</sup> person pronouns), as applied by Vis et al. (2012), might be utilized as indicators of subjectivity. These two indicators are most likely to be observed according to Haim et al. (2021) and Vis et al. (2012). Lastly, according to previous research (Haim et al., 2021; Stieglitz & Dang-Xuan, 2014) sentences from social media posts tend to be more subjective to attract the attention of social media users and try to start some sort of interaction. Therefore, an examination of whether Facebook posts from English newspapers indeed tend to be more subjective than articles from English newspapers as expressed by the indicators of personal pronouns and exclamation marks may be interesting. This research could contribute to widening the knowledge and deepening the understanding of the use of subjective language in journalism. Additionally, the results might form a base for future studies on this topic. Moreover, the findings could also be useful for the practical world. It could provide journalists with insights into how to use social media platforms in the most efficient way for sharing their stories. According to this paragraph, the following research question will be formulated:

*RQ: “To what extent are Facebook posts from English newspapers more subjective than articles from English newspapers as expressed by exclamation marks and first- and second-person pronouns?”*

Within the general focus of this study, more specific hypotheses may be formulated. As previously mentioned, the study by Haim et al. (2021) showed that Facebook posts utilize exclamation marks more often than news articles. An earlier study by Welbers and Opgenhaffen (2019) made a similar discovery when investigating the complex assignment of journalists, to find a good estimate between the formal standards of journalism and the more informal communication used on social media. By using Facebook status messages, the researchers wanted to address the hypotheses that Facebook messages carry more subjective and positive language in comparison with headlines and leads of news articles (Welbers & Opgenhaffen, 2019). The results of the analysis showed, among other things, that social media messages use a distinctive amount of exclamation and question marks (e.g. !, !!, ?, ??). Based on the findings of the research by Haim et al. (2021) and Welbers and Opgenhaffen (2019), the use of a distinctive amount of exclamation marks in Facebook posts from newspapers may also be observed in this study. Therefore, the following hypothesis will be formulated:

*H1: “Facebook posts from English newspapers use more exclamation marks than news articles from English newspapers.”*

This paper will also focus on the use of personal pronouns in news messages. A study by Chen, Hsieh, Mahmud and Nichols (2014) provides more detailed insight and a possible explanation for the use of personal pronouns in news text. Chen et al. (2014) argued that the usage of words, especially personal pronouns, may be due to the possible influence of personal values. To verify their statement, the researchers conducted a survey using the platform Reddit as a medium. One of the results showed that the attention-focus process is one possible factor in the usage of personal pronouns. This process indicates that a person’s focus of attention can be determined by the use of certain pronouns. Furthermore, Chen et al. (2014) concluded that persons with a high level of self-transcendence utilize the personal pronoun ‘we’ distinctively more often. This finding might be explained by the high attention focus, of these persons, on the well-being of other people. Therefore, an interpretation of the findings might be that people are in general

focused on the well-being of the persons around them, which could be a reason for the distinctive use of personal pronouns (Chen et al., 2014). Moreover, social media platforms provide their users with certain freedoms of voicing their own opinions and concerns, which newspaper organisations do not have for their journalists. This freedom could lead to people using more subjective language on social media. Therefore, the interpretation may be made that Facebook posts from English newspapers use more personal pronouns than news articles, because of the high attention focus and the provided freedom by the platform. The following hypothesis will be formulated:

*H2: “Facebook posts from English newspapers use more first- and second-person pronouns than news articles from English newspapers.”*

## Methodology

### Materials

The present study made use of the existing corpus of English news articles and social media posts (Savinova & Moscoso del Prado Martin, in prep.). This corpus contained Facebook posts and some of the corresponding online articles produced by two major quality UK news sources (BBC, Sky News) and two popular news sources (Daily Mail, Metro). The corpus only included news on the topics of ‘crime’ and ‘COVID-19’ to ensure comparability between the texts of different sources. All the news items in the corpus were split by sentence with the total size of the corpus reaching 7751 sentence entries, including headlines. The articles and Facebook posts subparts were roughly matched in the number of words. According to Savinova and Moscoso del Prado Martin (in prep.), for 400 sentences quasi-randomly selected from the corpus (controlled for equal distribution of topics, sources and media channels), annotations of subjectivity from 20 native speakers of English were collected via Prolific, in such a way that every speaker received 100 sentences for labelling and every sentence was labelled by 5 different speakers. The participants of the Prolific experiment were asked to rate the subjectivity of the sentences on a 7-point scale, where “subjective” was broadly defined as expressing personal opinions, emotions, feelings and tastes, hopes and wishes, self-made conclusions, whereas “objective” was defined as reporting facts, events, conclusions supported by data. Subsequently, the RoBERTa-base transformer model (Liu et al., 2019) was fine-tuned on the unlabeled part of the corpus and then trained on the subset of experimentally labelled sentences to classify them for subjectivity on the converted scale from 0 to 1. Model evaluation on the test set consisting of 50 human-labelled sentences showed that the model highly correlated with the average human ratings ( $r = 0.79$ ). The model was then used to annotate the whole corpus for subjectivity. Thus, each sentence in the corpus is assigned a subjectivity score approximating the judgement that an average English speaker would make about the subjectivity of that sentence.

From this established corpus a sample was selected and annotated. To answer the research question and to confirm or deny the hypotheses of this specific research paper, the following steps were conducted. Firstly, the corpus was filtered from most to least subjective sentences. Since the research question and hypotheses are aimed at differences between media, a division was made by firstly filtering most subjective sentences from the medium article. Thereafter, the corpus was filtered for each source type (BBC News, Sky News, Daily Mail and Metro) separately. Subsequently, a continuous sample of the first 200 sentences from each

source type was chosen. To ensure an equal division, every sample of 200 sentences per source was divided into 100 sentences with the topic ‘crime’ and 100 sentences with the topic ‘COVID-19’. The same procedure was conducted for the medium Facebook post. The sentences from the medium Facebook post were filtered from most to least subjective. The sample of 800 sentences selected, had an equal division of sources (200 sentences per source (BBC news, Sky News, Daily Mail and Metro)) and an equal division of topics within each source (100 sentences per topic (‘crime’ and ‘COVID-19’)). In this analysis, headlines were excluded, because of the probability of not containing a sizable portion of words. To ensure the reliability of coding, 20 per cent of the stratified random sample was provided to a second coder. The remaining corpus was annotated for subjectivity elements ‘exclamation mark’ and ‘personal pronoun’ by the first coder. The subjectivity elements were chosen from the subjectivity element list established by Vis et al. (2009).

## **Procedure**

To the established corpus by Savinova and Moscoso del Prado Martin (in prep.), additional variables were created to test the research question and hypotheses of this research paper. The variable ‘number\_of\_words’ was created. The measurement level for ‘number\_of\_words’ was counting the number of words in a sentence. The variable ‘exclamation\_mark’ was created. The measurement level for ‘exclamation\_mark’ was ‘no exclamation mark’ and ‘yes exclamation mark’ (nominal measurement level). If no exclamation mark (!) was observed, then the variable ‘exclamation\_mark’ was assigned to the code ‘0’. If an exclamation mark was observed, then the variable was assigned to the code ‘1’. The variable ‘number\_exclamation\_mark’ was created. The measurement level for ‘number\_exclamation\_mark’ was counting the number of exclamation marks found within the sentence. The variable ‘personal\_pronoun’ was created. The measurement level for ‘personal\_pronoun’ was ‘no personal pronoun’ and ‘first- and/or second-person pronoun’ (nominal measurement level). If no personal pronoun (I, me, my, mine, we, us, our, ours, you, your, and yours) was observed, then the variable ‘personal\_pronoun’ was assigned to the code ‘0’. If a personal pronoun was observed, then the variable was assigned to the code ‘1’. The variable ‘number\_pronoun’ was created. The measurement level for ‘number\_pronoun’ was counting the number of personal pronouns found within the sentence. The variable ‘subjectivity\_element’ was created. The measurement level for ‘subjectivity\_element’ was ‘no’ and ‘yes’ (nominal measurement level). If no subjectivity element, 1<sup>st</sup> and/or 2<sup>nd</sup> person pronoun (I, me, my, mine, we, us, our, ours, you, your, and yours)

and/or exclamation mark (!), was observed, then the variable 'subjectivity\_element' was assigned to the code '0'. If a subjectivity element was observed, then the variable was assigned to the code '1'.

To ensure inter-rater reliability, 20 per cent of the stratified random sample was provided to a second coder. The inter-rater reliability of the variable 'number\_of\_words' was perfect:  $\kappa = 1.00, p = .000$ . The inter-rater reliability of the variable 'exclamation\_mark' was perfect:  $\kappa = 1.00, p < .001$ . The inter-rater reliability of the variable 'number\_of\_exclamation\_mark' was perfect:  $\kappa = 1.00, p < .001$ . The inter-rater reliability of the variable 'personal\_pronoun' was very good:  $\kappa = .95, p < .001$ . The inter-rater reliability of the variable 'number\_of\_personal\_pronoun' was very good:  $\kappa = .93, p < .001$ . The inter-rater reliability of the variable 'subjectivity\_element' was very good:  $\kappa = .95, p < .001$ .

### **Statistical treatment**

To answer the research question a chi-square test was conducted to compare the frequency of the two subjectivity indicators between the two media (Facebook posts and articles from English newspapers). To confirm or deny H1 a Chi-square test was conducted to compare the frequency of exclamation marks between the two media (Facebook posts and articles from English newspapers). To confirm or deny H2 a Chi-square test was conducted to compare the frequency of personal pronouns between the two media (Facebook posts and articles from English newspapers). A Log-likelihood test was conducted to test the frequency of personal pronouns among the total amount of words in articles and Facebook posts.

## Results

The formulated research question stated to what extent Facebook posts from English newspapers were more subjective than articles from English newspapers as expressed by exclamation marks and first- and second-person pronouns. To answer the research question, a Chi-square test was conducted. The Chi-square test showed a significant relation between the medium and subjectivity element ( $\chi^2 (1) = 6.54, p = .011$ ). The presence of subjectivity elements was significantly higher in the medium article (38.8%) than in the medium Facebook post (32.6%). Table 1 presents the results of the crosstabulation of the medium and the presence and absence of subjectivity elements.

**Table 1.** Crosstabulation of medium and the presence and absence of subjectivity elements

Medium	Presence subjectivity elements	Absence subjectivity elements
Article	310 (39%)	490 (61%)
Facebook post	261 (33%)	539 (67%)

Hypothesis 1 predicted that Facebook posts from English newspapers use more exclamation marks than news articles from English newspapers. To test the hypothesis a Chi-square test was conducted. The Chi-square test showed a significant relation between the medium and exclamation mark ( $\chi^2 (1) = 20.23, p < .001$ ). The presence of exclamation marks was significantly higher in Facebook posts (5.0%) than in articles (1.1%). Table 2 presents the results of the crosstabulation of the medium and the presence and absence of exclamation marks.

**Table 2.** Crosstabulation of medium and the presence and absence of exclamation marks

Medium	Presence exclamation marks	Absence exclamation marks
Article	9 (1%)	791 (99%)
Facebook post	40 (5%)	760 (95%)

Hypothesis 2 predicted that Facebook posts from English newspapers use more first- and second-person pronouns than news articles from English newspapers. To test the hypothesis a Chi-square test was conducted. The Chi-square test showed a significant relation between medium and first- and second-person pronouns ( $\chi^2 (1) = 16.54, p < .001$ ). The presence of first- and second-person pronouns was significantly higher in articles (38.1%) than in Facebook posts (28.5%). Table 3 presents the results of the crosstabulation of medium and the presence and absence of personal pronouns.

**Table 3.** Crosstabulation of medium and the presence and absence of the personal pronouns

Medium	Presence of first- and second-person pronouns	Absence of first- and second-person pronouns
Article	305 (38%)	495 (62%)
Facebook post	228 (29%)	571 (71%)

To compare the frequency of personal pronouns in Facebook posts and articles, a Log-likelihood test was conducted. The Log-likelihood test showed a non-significant difference between the frequency of personal pronouns in Facebook posts and articles ( $G^2 (1) = 1.14$ ). There was no significant difference in the relative frequency of personal pronouns in Facebook posts (2.9%) and articles (3.1%). Table 4 presents the results of the Log-likelihood test.

**Table 4.** Log-likelihood test between the frequency of personal pronouns in Facebook posts and personal pronouns in articles

Medium	Frequency of personal pronouns	Total word count per medium
Article	481 (3%)	15482
Facebook post	333 (3%)	11565

### Conclusion

The research question of this study is whether Facebook posts from English newspapers are more subjective than articles from English newspapers as expressed by exclamation marks and first- and second-person pronouns. To formulate an answer to this research question, two underlying hypotheses are tested. Hypothesis 1 predicts that Facebook posts from English newspapers use more exclamation marks than news articles from English newspapers. The Chi-square analysis of the variables medium and exclamation mark shows a significant relation as a result. The result of the analysis indicates that Facebook posts use more exclamation marks than articles from English newspapers. Therefore, hypothesis 1 is confirmed. Thus, the conclusion may be made that Facebook posts from English newspapers are more subjective than articles from English newspapers as expressed by the use of exclamation marks.

Hypothesis 2 predicts that Facebook posts from English newspapers use more personal pronouns than news articles from English newspapers. The Chi-square analysis of the variables medium and personal pronoun shows a significant relation as a result. The result of the analysis indicates that articles use more personal pronouns than Facebook posts from English newspapers. Therefore, hypothesis 2 is denied. Thus, the conclusion may be made that Facebook posts from English newspapers are not more subjective than articles from English newspapers as expressed by the use of personal pronouns.

A Log-likelihood test is used to compare the frequencies of personal pronouns in Facebook posts and articles. The result of the Log-likelihood test provides a more detailed explanation for the denial of Hypothesis 2. The results show that there is no significant difference in the frequency of personal pronouns used between the two media. Thus, the

conclusion may be made that articles and Facebook posts use an equal amount of personal pronouns.

To formulate an answer to the research question of this paper, a Chi-square analysis of the variables medium and subjectivity element is conducted. The Chi-square analysis shows a significant relation as a result. Thus, the number of subjectivity elements present shows a significant difference between the two media. The result of the analysis indicates that articles are more subjective than Facebook posts from English newspapers as expressed by exclamation marks and first- and second-person pronouns.

### **Discussion**

The main research interest of this study was to investigate whether Facebook posts from English newspapers are more subjective than articles from English newspapers as expressed by two indicators of subjectivity. As mentioned before, the general analysis showed that articles are more subjective than Facebook posts from English newspapers. However, the individual analyses of each indicator of subjectivity, lead to different results and therefore to different conclusions. The chi-square analysis for the subjectivity element exclamation mark confirmed the formulated hypothesis that this subjectivity element would be significantly more present in the Facebook posts. Thus, exclamation marks contribute to subjectivity in this study. Yet, the analysis for the first- and second-person pronouns gave an opposite result than expected. The results showed that the presence of first- and second-person pronouns was significantly higher in the medium articles than in the medium Facebook post. However, a conducted Log-Likelihood test revealed that the percentages of the relative frequency of personal pronouns were rather comparable for both media. A reason for the significant result of the chi-square analysis of the presence of personal pronouns in articles might be due to the length of the sentences used. Using sentences of the body part of articles and Facebook posts for comparison, excluding titles, might explain the results of this research paper, since sentences of the body part of articles can entail a higher word count, therefore creating more chance to include a personal pronoun, than the body part sentences used from Facebook posts, which tend to be shorter in nature. Having concluded two analyses that showed two opposite results, further interpretation of the general analysis would be implausible. Nonetheless, the results of the two hypotheses will be discussed in more detail.

Hypothesis 1 predicted that Facebook posts use more exclamation marks than news articles from English newspapers. This claim was formulated based on findings of previous research (Haim et al., 2021; Welbers & Opgenhaffen, 2019). Both studies observed a distinctive amount of exclamation marks used by Facebook posts, which appeared to be higher than for articles from newspapers. The outcome of this research confirms Haim et al.'s (2021) and Welbers and Opgenhaffen's (2019) findings. The format of social media may be a reason for the shift towards social media logic (van Dijck & Poell, 2013). Facebook is a different platform which also entails reaching a different type of audience. Besides, on a social media platform, people tend to express their own emotions (Berger & Milkman, 2013). Exclamation marks form a good component to underline these expressed emotions (Welbers & Opgenhaffen, 2019). Therefore, the assumption may be made that using more exclamation marks in Facebook posts, as a marker for expressing emotions, could be seen as a reason for the difference between the two media, since journalists will have to stay professional when writing a news article. For that reason, journalists cannot show or implement their own emotions in the stories that they write.

A further reason for the significantly higher usage of exclamation marks in Facebook posts might be the attempt to attract the reader's attention on social media. Social media, moreover apps, are mostly used to watch funny videos or share your own daily life with your friends. Reading the news on a social media platform is not very often the case. Moreover, the news-loaded posts get simply overlooked in between all the other social media posts. Therefore, journalists might use a distinctive amount of exclamation marks in their posts, while competing against the other "casual posts", to attract their readers' attention. Thus, the use of exclamation marks might not only be a marker for expressing your own emotions but also for attracting the attention of others.

Hypothesis 2 predicts that Facebook posts from English newspapers use more first- and second-person pronouns than news articles from English newspapers. However, analysis shows that articles use more personal pronouns than Facebook posts. At first look, this result seems to contradict a finding, which was observed in previous research by Haim et al. (2021). The researcher observed that articles and Facebook posts utilized an equal amount of personal pronouns. Yet, the study of Haim et al. (2021) investigated subjectivity between the two media using leads of articles and sentences of Facebook posts. In this study, sentences of the body part of the articles, as well as of Facebook posts, were used for comparison. Therefore, using different types of sentences might be a reason for the different results. Furthermore, most sentences from articles used in this study have a distinctively higher word count than the sentences of the Facebook posts, which tend to be shorter in nature. The difference in word

count could have been an explanation for articles appearing to be more subjective as expressed by first- and second-person pronouns. Yet, this interpretation was not confirmed by a Log-likelihood test that was conducted, which compared the frequency of personal pronouns in Facebook posts and articles. The Log-likelihood test indicated that the frequency of personal pronouns in Facebook posts and articles was equal. Even though it seemed that articles are more subjective when investigating the use of personal pronouns at first, the more detailed analysis of the Log-likelihood-test revealed that both media have an equal frequency of personal pronouns, despite the distinct difference in word count. Thus, after a more detailed analysis of the relative frequency of personal pronouns, the result of this study actually confirms the previous finding made by Haim et al. (2021). This result indicates that personal pronouns do not contribute to subjectivity in this research paper.

As for the study of Vis et al. (2012), this indication was not the case. Moreover, Vis et al. (2012) explicitly stated that the use of personal pronouns in news articles increased over the years. A reason for the dissimilar findings could be the use of third-person quotations in the study of Vis et al. (2012), meanwhile, this study used sentences of body parts with not necessarily embodying third-person quotations. Therefore, the implication might be made that the increase in subjectivity may be depending on the type of sentences that are being used while writing a story but also for analysis of the subjectivity topic.

A further reason for the dissimilar results of this research paper and the study conducted by Vis et al. (2012) might be the focus on different media. Vis et al. (2012) utilized sentences extracted from articles only, whereas this study analysed and compared sentences from articles and Facebook posts. Comparing two different media for the presence of first- and second-person pronouns might have resulted in the contradicting finding with the Vis et al. (2012) research outcome. Therefore, the implication that this research paper might be making is that first- and second-person pronouns may not be good indicators of subjectivity when comparing two different types of media on the topic of subjectivity in journalism.

As previously mentioned, the result of this conducted study provided an insight that articles and Facebook posts seem to occur equally subjective, yet this interpretation cannot be generalised. The outcomes of this particular research paper may be different from the previous study by Vis et al. (2012) due to the focus on different nationalities. As Vis et al. (2012) stated before, outcomes might be different for different cultures. The use of a smaller or bigger amount of first- and second-person pronouns in news articles, might be due to the style of writing in a certain country. The situation may occur that Dutch journalists tend to be more subjective in writing than English journalists. The style of writing might result from personal circumstances

but could also relate to circumstances in the journalistic organisation itself. Journalists are the portrayers of the organisation therefore, they might be entitled to write stories in a certain way that reflects the organisation's house style and the image they want to portray to their readers. Hence, this study underlines the previous implication made by Vis et al. (2012) that outcomes of analysis on subjectivity might differ when using journalistic sources from other countries.

A limitation of this conducted research is the chosen subjectivity elements personal pronouns and exclamation marks. Using these two indicators of subjectivity resulted in confirming the findings of previous studies. Therefore, for future research, the suggestion could be made to compare one, two, more, or other indicators of subjectivity (e.g. direct speech and emoticons) to potentially gather new and or more insight into the topic of subjectivity. Additionally, the indicators chosen might not represent the most dominant elements of subjectivity known to be observed within the specific media chosen. The coding of less prominent subjectivity elements might lead to new interesting findings.

The focus on sources from only one country could be seen as another limitation of this study. Comparing quality and popular media from English newspapers provided new insight into the English journalistic culture. Yet, the focus on comparing two cultures' or countries' journalistic sources about the topic of subjectivity, in research, has been sparse. Therefore, the suggestion may be to choose two journalistic sources from two countries (e.g. France and Russia) for comparison. The comparison of two different countries could lead to new interesting findings about subjectivity in journalism, especially when comparing a Western and an Eastern country. Because of the different political structures, additionally diverse opinions about freedom of speech, the comparison of a Western and an Eastern country could lead to new insights into the topic of subjectivity in journalism. Therefore, this comparison might be a point of focus for future research purposes.

The last limitation of this study is the focus on the variable medium. The two chosen media in this study were articles and Facebook posts, which tend to be a broad perspective to investigate. Yet, minimal research has been focussing on different types of sources, which provides a more detailed look when focusing, for example, on the medium article. Newspapers can be divided into four different types of newspapers (popular, quality, regional, and financial). An interesting discovery may be, to see whether the focus on popular, quality, regional and/or financial newspapers, might lead to similar or different subjectivity scores. Therefore, future investigation into different source types might observe valuable information that could contribute to a deeper understanding of the use of subjective language in the journalistic culture.

In sum, this research has confirmed previously formulated theories and findings of other

research (Haim et al., 2021; Vis et al., 2012; Welbers & Opgenhaffen, 2019). Therefore, this study underlined the results of the previous research and gave it more weight in meaning. Lastly, this paper provided some new insights into the English journalistic culture and proposed focus points for future research purposes.

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