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Emotions on Social Media: A Sentiment Analysis Approach Based on Twitter (X) Data on the Russian–Ukraine War

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Abstract

Twitter (X) is an important tool that reflects the feelings and attitudes of the public. For this reason, in this study, especially when it comes to events that concern society, Twitter provides an opportunity to both follow the agenda and understand the reactions through instant sharing. Twitter is a social media platform that allows the public to convey their feelings, thoughts, and attitudes to the masses. Twitter provides the opportunity to stay up–to–date and understand reactions through instant posts, especially for social events. In this research, Twitter posts made with the Ukraine hashtag between March 1 and April 30, 2022, during the Russia–Ukraine War, were eliminated with the "war" filter, and the expressions were analyzed using the sentiment analysis method. Various URLs were eliminated, and research was carried out on ten thousand tweets. The tweets obtained were categorized as positive, negative, and neutral. Accordingly, the expressions containing positive, negative, and neutral emotions were analyzed by determining the emotional inferences of the words in the tweets with an artificial intelligence algorithm and then detailed by the researchers with content analysis. In this sense, this study becomes important in understanding how the masses express their reactions through emotional social media platforms and what their emotions are in this process. Therefore, this research can be a clue for the consequences of international war on the masses.

Keywords: social media, Twitter, emotion, war, sentiment analysis.

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1. Introduction

Social media platforms are internet–based applications that offer unique and personal media environments where users can create original content, develop and change existing information however they want, and establish community dialogues (Kaplan & Haenlein, 2010). One of these social media platforms, Twitter, currently called "X," is mentioned in the text with its name at the time this research was conducted. Twitter offers an exceptional opportunity for individuals in this sense to express their thoughts and feelings (Sabatovych, 2019). Expressions and thoughts about a certain subject (in the form of tweets) may have an impact on creating a general sensation in a social or political sense (Weeks et al., 2017).

Social media usually consists of trust–based networks among acquaintances (friends, family members, etc.) (Reich, 2010). Therefore, the information coming from these individuals or groups is considered safe. This trust may lead to certain impacts. It becomes crucial to achieving desired perceptions and behaviors in interpersonal communication (Lange–Ionatamishvili & Svetoka, 2015). At this point, this study analyzed the posts regarding the feelings of individuals throughout this war. Within this context, the sentiment analysis method was used to analyze online expressions of feelings. Within the context of sentiment analysis, sentiment may be explained as any feeling, emotion, attitude, or opinion (Hyvärinen & Beck, 2018). Traditionally, sentiment analysis categorizes web comments as positive, neutral, and negative. It enables us to analyze affected knowledge and detect emotions. Positive or negative opinions among topics are analyzed, and these topics are categorized (Cambria et al., 2013). In addition, sentiment analysis enables us to find "how people feel about things more readily available to the masses." (Appel et al., 2015).

2. Literature Review

Social media is defined as "a structure that constructs a public or semi–public profile within a bounded system, articulates a list of other users with whom they share a connection, and views and traverses their list of connections and those made by others within the system" (Boyd & Ellison, 2007, p. 211). Within this context, the real–time messages on these platforms are explained in various ways in everyday life, such as current issues, complaints, and the expression of positive emotions about the use of a product (Chen, 2021).

Twitter, among other social media platforms, motivates use with its social interactions and information–seeking features (Johnson & Yang, 2009). In addition, the tweets on Twitter are listed chronologically according to the interests of the users. Comment, retweet, like, and share counts are shown under each tweet. The users can also repost a recently–posted or popular tweet on their own pages (Chen, 2021). The posts mainly focus on emotions. In this sense, "emotions are also a key factor in knowledge Exchange" (Levin & Cross, 2004). While emotions can be defined as an inner response to anything that occurs in the environment (Panger, 2017), they can also be defined as tightly–coordinated psychological, physiological, and behavioral responses (Ekman, 1992, 1999). According to neuroscientific approaches, emotions are defined as innate and universal. According to this approach, there are six main emotions: fear, anger, disgust, sadness, happiness, and surprise (Ekman, 1992). Furthermore, individuals can feel various emotions simultaneously or consecutively in their daily lives (Plutchik, 2001). Meanwhile, Twitter is internationally accepted among social networking sites as an area where

political discourse and activities are expressed. (Kasmani et al., 2014; Webster & Albertson, 2022). However, Twitter is pointed out as having an important role in people expressing themselves regarding war and violence (Orehek & Human, 2016).

On February 24, 2022, Russia initiated a military operation, which they refer to as "Special Operations." This operation, which the international community called "War" (Aslan, 2023), was considered as a continuation of the 2014 war (Öztürk, 2023) and has become the focus of social media since its beginning. Although there are many analyses and comments on the causes of the Russia–Ukraine war, it is generally seen that the focus is on "Russia's near circle doctrine, Russian nationalism, and Russian expansionism" (Çelikaslan, 2022). Ukraine's geostrategic location is historically, politically, socially, and economically important for Russia, especially in the West–Russia conflict (Öztürk, 2023). In this context, the factors that caused the war include challenging the West and sending them away, making the Russian identity superior to the Slavic people through the unity of ancestry, and showing Russian power (Aslan, 2022). "Ukraine's strategic importance has increased even more with the start of transferring energy resources from the former Soviet geography to the West." (Sönmez et al., 2015). On the other hand, as a nation that lived under Russian rule for centuries, the independence of Ukrainians is Russia's biggest loss in terms of geopolitics, so it is obvious that the next process will be painful (Davutoğlu, 2010). In addition, the negative effects of Russia's attack on Ukraine were not limited to Ukraine alone but caused great fear among the people in all Baltic countries, especially Poland, who saw themselves in danger (Çelikaslan, 2022). Ukraine's resistance to this war is actually a very important indicator of the changing Russian perception and behavior patterns, and most importantly, their feelings, with the occupation of Crimea and the Donbas region in 2014 (Aydıngün, 2022). Besides, all the people of the world empathized with Ukrainians against Russia and reported high levels of anger, anxiety, and threat perceptions (Moshagen & Hilbig, 2022).

In their study at Åbo Academy University conducted in the spring of 2013 on "Mixed Emotions in Active Social Media Use," Widén et al. (2015) worked on qualitative diary studies. This study found that one–fourth of the informants (24%) reported frequent social media use in positive terms. The participants stated that they use social media actively and that life would be unbearable without social media. The participants stated that they read the news, learn new things, discuss with others, and become motivated through social media. A study by Yu and John–Baptiste (2016) in the UK found that young people use social media more to communicate with their family and friends and share things. It was observed that the posts by young people on social media are more about repressing their negative feelings than communicating with their families and friends in the real world. Young people share more positive messages on social media than negative ones. When the results of the studies regarding expressing feelings on social media were analyzed it was found that these feelings are generally discussed as positive and negative. Burke and Develin (2016) found the following in their study regarding examining contemporary practices of one–to–many broadcasts in social media. When individuals have smaller or more compact networks, they tend to share their positive and negative emotions, and their friends mostly respond to their negative emotions.

In their study, Waterloo et al. (2018) found that individuals expressing their feelings on various social media platforms aim to reveal prevailing injunctive norms. Chen (2021), on the other hand, analyzed the effect of users' emotions on social media product design in his study "Research on the Functions of Users' Emotions in Social Media Product Design". The users usually prefer visible like and comment sections on the homepage, the use of symbols, and

more space for expressing emotions on social media. They stated they wanted to see more categorizing hashtags by emotions, anger, and disgust. Robertson et al. (2013) found more negative messages on social media than positive ones. This result is the exact opposite of the results found by Thelwall et al. (2010). They found that in Myspace messages, two–thirds of messages have a positive tone, and only one–third were Negative.

In their study, Brady et al. (2017) found that Twitter, among all social networks, plays a significant role in expressing real moral ideas and emotions. Using a large sample of tweets concerning three polarizing issues (n = 563,312), the presence of moral–emotional words in messages increased their transmission by approximately 20% per word. The effect of using moral–emotional language is that it increases the use of online messages. Sentiment analysis is used to analyze posts on social media platforms regarding how individuals feel/their emotions. Sentiment can be described as a feeling, emotion, attitude, or opinion (Hyvärinen & Beck, 2018). Wang et al. (2012) performed an analysis on Twitter to reveal public sentiment in the 2021 US presidential elections. Twitter is a central website where individuals express their opinions and ideas about political parties and candidates. Therefore, emerging events or news can be followed on Twitter, providing a suitable environment for expressing public sentiment and electoral events. As a result of "sentiment analysis, nearly 17.000 tweets (16% positive, 56% negative, 18% neutral, 10% unsure), including nearly 2.000 that were multiply annotated to calculate inter–annotator agreement." Around 800 Turkers participated in the researcher's annotation (Wang et al., 2012, pp. 117-118).

Emotions play a central role in times of war. The soldiers may express their emotional reactions, or the individuals may raise their voices about the current condition of the security forces. These emotions may be positive or negative, such as fear, panic, anger, rage, shame, etc. Wars lead to changes in people's emotions (Malešević, 2021). The most common emotions seen on soldiers' faces are fear and boredom. "Wars consist of `5% horror and 95% boredom' (or waiting)" (Mæland et al., 2009, p. 2). Since the soldiers have long been waiting for a battle, an overall feeling of boredom prevails (Malešević, 2021). The most intense emotions of the soldiers are attachment and obligation. In addition, they burn with dread, panic, or horror on battlefields (Malešević, 2010).

In order to understand how social media was used during the war and how this war was presented, it was aimed to reveal how the use of armed forces affected the audience emotionally. For this purpose, a three–phase analysis was performed, and the content of the media and the responses of the audience were reviewed. First, it was aimed to analyze the responses to presentations regarding the war within the social media environment, which was determined during the Syrian Conflict, and the news about the conflict and to understand the dynamics. The first analysis was about how RT legitimized the actions of Russia, and the second analysis was about the comments and reactions of the audience to these posts. RT's YouTube videos gained, on average, 66.000 views and 1015 responses. The data obtained from all analyses were coded as positive, negative, and neutral or unclear emotions. When the emotions of the audience were analyzed, it was found that loaded language and judgments, excessively derogatory statements, emojis, acronyms, and swearwords were found (Chatterje–Doody & Crilley, 2019).

According to Sabatovych's (2019) Twitter sentiment analysis regarding the Russian–Ukrainian war, social media provides an opportunity to gather crowds and participate in political processes since social media provides an opportunity to primarily increase interpersonal interactions. In addition to this, sentiment analysis reveals how social media enhances people's emotions and ideas.

3. Methodology

This study aims to discover people's opinions and emotional reactions regarding the Russian–Ukrainian war and to reveal how they expressed their emotions. Accordingly, the research questions were constituted as follows:

- What were the emotional reactions of the people from all over the World regarding the Russian–Ukrainian war?
- How did the people from all over the World express their emotions regarding the Russian–Ukrainian war?
- What did the people from all over the World think about regarding the Russian–Ukrainian war?

The methodology of the research should be designed in a way that is compatible with the subject and content to be researched and can actually present the data desired to be obtained. For this purpose, sentiment analysis and content analysis were performed. Therefore, it is useful to mention the methods used in this study. Sentiment analysis means "the use of natural language processing, text analysis, computational linguistics, and biometrics to systematically identify, extract, quantify, and study affective states and subjective information" (Comito, 2023, p. 111). Sentiment analysis is a result of artificial intelligence. Artificial intelligence (AI) is a way to make machines think and act intelligently. These machines are controlled by the software inside. So artificial intelligence has a lot to do with the intelligent software programs that control these machines (Joshi, 2017).

Usually, "sentiment analysis' purpose is to determine the attitude of a speaker, writer, or other subjects concerning the overall contextual emotional reaction to a document or event" (Almohaimeed, 2017, p. 17). Sentiment analysis is a method that process text to quantify subjective states of the author of the text. Sentiment analysis is widely used for assessing social media content (Gonçalves et al., 2013). In order to analyze the emotions of people all over the world, using sentiment analysis seems appropriate in this research.

There are two main methodological approaches. One of them is the Lexicon–based method. To designate a sentiment score, it utilizes a dictionary of words and their sentiment values (positive–negative–neutral) (Esuli & Sebastiani, 2007). The other one is sentiment classification using machine learning techniques. This method classifies documents into sentiment categories based on training data (Pang et al., 2002). Twitter application stages are as follows: data ingestion phase, data analytics phase, sentiment classification phase, feature selection, and removing the polarity and subjectivity of it (Kharde & Sonawane, 2016; Adwan et al., 2020). "Twitter Sentiment Analysis (TSA) tackles the problem of analyzing tweets based on their opinion. Therefore, a large number of tweets on various topics are automatically detected, and it provides sentiment opinions within a huge amount of data" (Giachanou & Crestani, 2016, p. 28). According to Kayıkçı (2022, p. 11350), "each entry contains tweet id, tweet text, tweet creation date, a topic used for sentiment, and sentiment label." Therefore, obtaining the emotional reactions of people all over the world via Twitter is possible with sentiment analysis.

In addition, analyzing the content of the words selected in tweets and revealing whether they have positive, negative or neutral expressions offers a more explanatory perspective for the research. Content analysis is a method that can be used qualitatively or quantitatively for systematically analyzing written, verbal, or visual documentation (White & Marsh, 2006). The content analyst views data as texts, images, and expressions that are created to be seen, read, interpreted, and acted on for their meanings, and must therefore be analyzed with such uses in mind (Krippendorff, 2018). There are two content analysis methods: Qualitative and

Quantitative. The qualitative analysis develops the categories as the analysis takes place. The results are used to make inferences about the messages in the text. The quantitative analysis starts with a hypothesis and a predetermined coding scheme designed to test the hypothesis. The results are described using statistics (Wilson, 2011). In addition, a clear interpretation of the expressions in the content of the obtained tweets was carried out through content analysis. Considering all the methodological information explained above, the most appropriate methods within the scope of the research are sentiment analysis and content analysis.

3.1 Sample Selection

In this study, the samples were selected through the purposive sampling method. Unlike any other random sampling method, the purposive sampling method is designed to make certain case types, which may potentially be included, a part of the expected samples in the research study (Campbell et al., 2020).

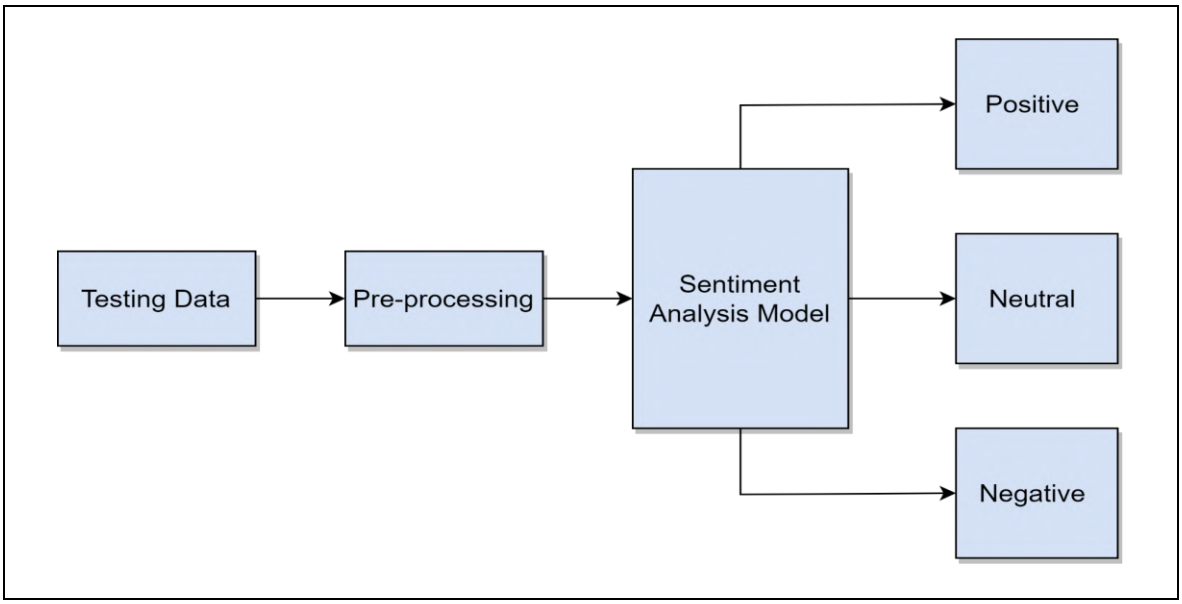
In line with the purposeful sampling method, all tweets determined through the Ukraine hashtag were found for the determined date range. First, the "War" filter was applied through the "Ukraine" hashtag. Next, the tweets were cleaned and cropped. First, the tweets with URLs were eliminated. Then the ones including unnecessary punctuation marks were eliminated. Thirdly, if someone else was tagged, that person was removed from the text. Finally, if the text repeats itself or contains random and meaningless words if it has other hashtags or words, these were also eliminated by writing the relevant scripts with the help of Python.

3.2 Research Data

The system architecture was designed as seen in Figure 1. Accordingly, Pandas and NumPy libraries of Python programming language were used in this study. Another tool used in this process was Google Servers (Google has a software named Collapse Research that allocates a free server, which can be used for studies related to data science). Finally, the data were retrieved from the Developer APIs of Twitter. The data were retrieved through API keys.

Figure 1

System Architecture



The retrieved data were obtained according to the Hashtag. For example, the word "War" was filtered from the data retrieved according to the "Ukraine" hashtag (see Table 1). This study encompasses tweets between May 9 and 22, 2022. 100 tweets randomly selected from 10.000 tweets were analyzed.

Table 1

Percentage of Sentiment Analysis

Hashtag	#Ukraine filtered: "war"
Positive	39.5%
Negative	15.5%
Neutral	45.0%
Tweet Count	10.000

After the URLs were cleaned from the data, it became a clean task. A plus and minus rating as subjectivity and polarity was revealed, which were among the main topics of sentiment analysis. Ideas and emotions can have varying degrees of (1) subjectivity and (2) polarity. Subjectivity changes from objective to subjective. An objective sentence expresses true information about the world, while a subjective sentence expresses some personal feeling or belief. Polarity (i.e., tone or orientation) indicates whether an opinion is positive, neutral, or negative. Table 2 shows the sentiment analysis of tweets that include the Ukraine hashtag.

Table 2

Ukraine Hashtag Sentiment Analysis

	Words of Sample Tweets with Ukraine Hashtag	Subjectivity	Polarity	Analysis
1	The Dog	0.30	1.00	Positive
2	Died, forcing, deports.	0.75	−0.25	Negative
3	Horrible, War, injured.	0.34	−0.04	Negative
4	kiitos, Suomi	0.00	0.00	Neutral
5	kiitos suomalaiset ystavat	0.00	0.00	Neutral
6	Dear friends	0.75	0.80	Positive
7	Hearts, friends, Eurovision, World love support, brave, freedom, defenders.	0.80	0.65	Positive
8	UA, US	0.00	0.00	Neutral
9	Not sure.	0.88	−0.25	Negative
10	Thanks, support.	0.53	0.50	Positive
11	The right	0.53	0.28	Positive
12	Victory parody	0.00	0.00	Neutral
13	The night, stands.	0.00	0.00	Neutral
14	Thanks, video art.	0.20	0.20	Positive
15	Tractor, way.	0.00	0.00	Neutral
16	Happy, partners, friends, support, Ukraine difficult times.	1.00	0.15	Positive
17	Soviet, lies, Chernobyl disaster, nuclear catastrophe, brutality, threaten, World ArmUkraineNow, defeat.	0.81	−0.50	Negative
18	Ruscism.	0.00	0.00	Neutral
19	Sincere, apologies, no intention, to offend, friendly, people, UAJP.	0.34	0.16	Positive
20	Sincere, apologies, mistake, friendly, people, Japan UAJP, correct, post.	0.48	0.33	Positive
21	Fight ruscism, here, now, UA.	0.00	0.00	Neutral
22	Happy, Easter, everyone, celebrate, light, prevail, darkness, life, death. Ukraine , Amen.	0.85	0.60	Positive

Table 3 shows sentiment analysis of the data obtained by applying the "War" filter on tweets retrieved with the "Ukraine" hashtag. Also, it can be seen the sample words of the Tweets. These words show people's not only feelings but also ideas. Depending on the historical background, it can be said that people who tweets know about the reasons of the war.

Table 3

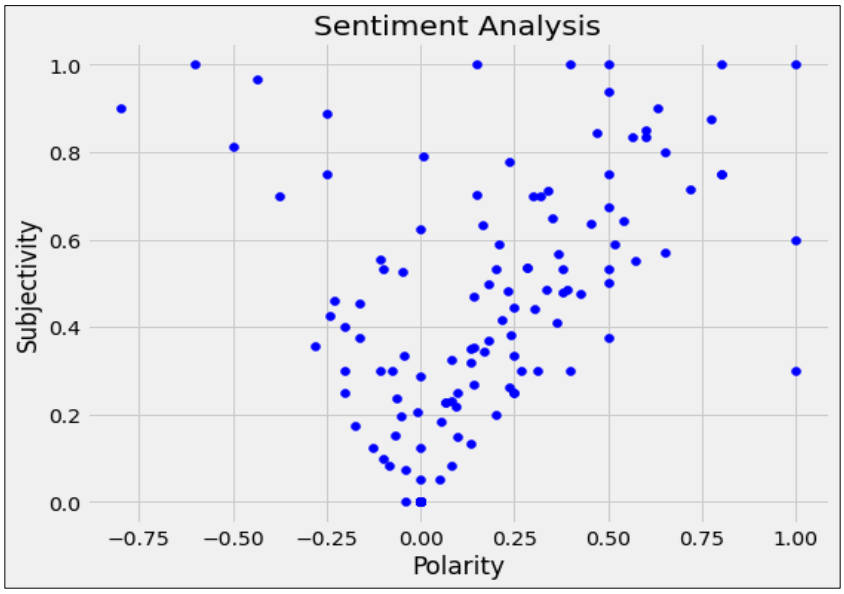
Words of Tweets with War filtered in Ukraine Hashtag Sentiment Analysis

Index	Words of Tweets with War filtered in Ukraine Hashtag	Subjectivity	Polarity	Analysis
1	President call, action, ArmUkraineNow, government, provide, heavy weapons, Ukraine, friends join, tools, stop, Russia, war crimes.	0.300	−0.075	Negative
2	Russian, warship, dedicate, famous, postal stamp, historic, author.	0.250	0.099	Positive
3	Russian, warship, sinking.	0.000	0.000	Neutral
4	Hard, word, killing, civilians help, stop, Russia, governments, act.	0.554	−0.106	Negative
5	Warriors, no, lazy, inert, cause, right, stand, independence, tough, fight.	0.789	0.007	Positive
6	Years, modern, history, Russia, nothing, death, chance, stop, Russian war, help, Ukraine, World. StopRussia, StandWithUkraine.	0.150	0.100	Positive
7	Intercepted, calls, Russian soldiers, Ukraine, Looting, war, crime, World, know, truth, homes, people.	0.325	0.081	Positive
8	Ukrainians, war, affects, everything, live, love, care people, help, save lives, demand, governments, together, stop, UAStandWithUkraine Close TheSky.	0.533	0.378	Positive
9	Airdrop, Snapshot, Kyiv follow, news. Ukraine's crypto donation, campaign.	0.350	0.133	Positive
10	Russia, war, Ukraine, social media, trends, Russian disinformation.	0.453	−0.160	Negative

Polarity is a measure to know whether a piece of text is positive or negative (Ramirez–Sayago, 2020). Figure 2 shows that the posts mostly centered around the neutral point toward positive in the sentiment analysis performed within the scope of this study. In this perspective, tweets of people have more neutral and converging towards positive sentiments during the Russian–Ukraine War.

Figure 2

Sentiment Analysis of Ukraine Hashtag When Filtered with War



The first column of Table 4 below shows the positive emotions and expressions according to the content analysis results. For example, along with statements that reflect emotions, such as love, happy, sincere, etc., other statements, which evoke positive feelings, such as support and donation, tweeted by individuals, who would like to make a financial contribution to the situation, are also determined.

Table 4

Themes and Codes

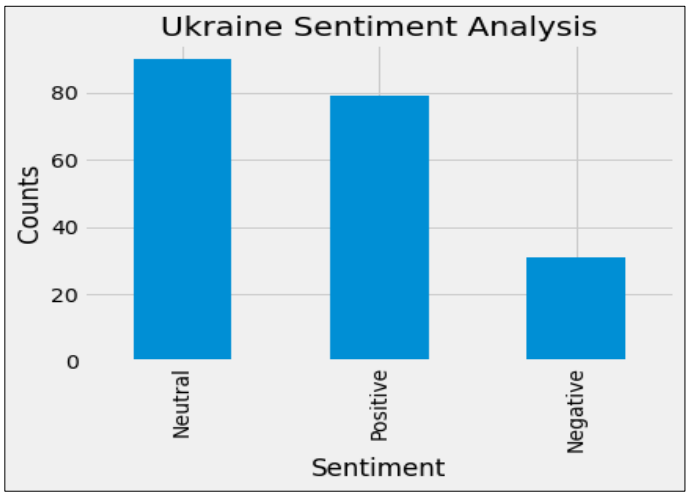
Positive Words	Neutral Words	Negative Words
Hearts	Way	Disinformation
Friends, Friendly	Ruscism	Killing
Love	Tractor	War
Happy	Sinking	Crime
Sincere		Catastrophe
Donation		Horrible
Support		Injured

When the neutral words in the second column were analyzed, it was found that there were some words written together with Ukraine hashtag, such as tractor, way, sinking, etc., which did not evoke any positive or negative feelings. Therefore, at this point, it can be seen that there were no emotional indicators among these neutral words.

Negative words, such as info pollution, war, crime, and catastrophe, were found in negative statements. These negative statements evoke negative feelings among individuals.

Figure 3

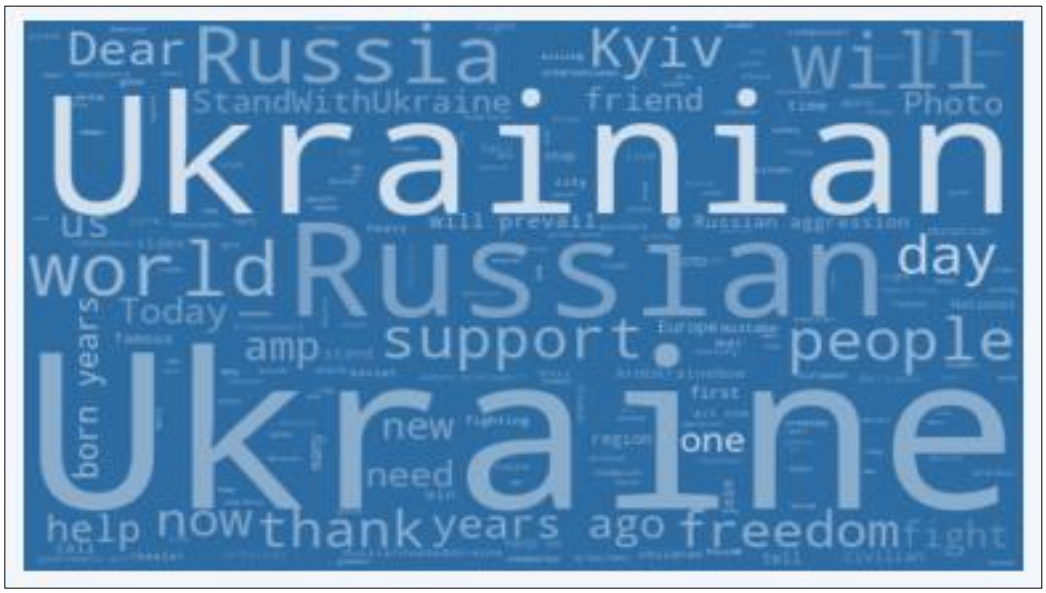
Sentiment Analysis Histogram



According to the histogram in Figure 3, most users neutrally used the Ukraine hashtag. The users gave positive statements and preferred to share supportive posts during this time of war between the two countries. There were fewer negative statements when compared to neutral and positive statements.

Figure 4

Word Cloud of Common Words in the Analyzed Tweets.



The word cloud in Figure 4 was created according to the frequency of words used in tweets about Ukraine and Russia. The font sizes indicate the frequency of repetition of the words. The most frequently used words were written in the largest fonts, and vice versa. The most frequently used words are "Ukrainians," "Ukraine," "Russians," "Russia," "Kyiv," "Will," "World," "Support," and "People," respectively. Following these were encouraging statements such as "Freedom," "Help," and "Stand with Ukraine."

4. Results

Along with enabling interpersonal information exchange, emotions also play a significant role in organizing cognitive activities and turning them into behaviors (Levin & Cross, 2004; Chislova, 2014). Emotions, which emerge as an inner reaction of individuals due to the impact of events that occur in their surroundings (Panger, 2017), are also conveyed through social media with the increasing effect of digitalization (Serrano–Puch, 2016) and reach wider masses. The posts on social media, including positive or negative emotions on any subject, receive more responses than ordinary posts; In contrast, positive emotions receive positive comments, and negative emotions receive longer and more empathetic comments (Burke & Develin, 2016).

While the Russia–Ukraine war has been continued on the field, social media showed its presence almost like a military front and was decisive in turning the war from regional to global (Fidan & Lokmanoğlu, 2023). At this point, Russia, which attaches importance to "information operations," has become a psychological warfare superpower by effectively using social media in order to demoralize the Ukrainian people and provoke violent protests by Ukrainian nationalists. On the other hand, with Ukraine receiving the political and military support of the whole world public opinion and the West, Russia first blocked Facebook and Twitter access on March 4, 2022, on the grounds of monitoring, controlling and censoring mass media within Russian borders (Mallick, 2022). During the war, emotions play a significant role, allowing individuals to convey their reactions; however, they also underwent drastic changes (Malešević, 2021). As a result of the analysis conducted by Yazıcı and Apak (2022) on the Sputnik Turkey Twitter account on Russia–Ukraine War News, the word "negotiation," which was used 42 times in 540 tweets, was the most used word with a rate of 7.77%. This word was followed by the word "operation," used 40 times with a rate of 7.40%, while the third most used word was the word "soldier/army," used 31 times with a rate of 5.74%. These words should actually be considered as reflections of the emotional states that war creates on people. As a result of their research on Twitter texts during the Russia–Ukraine war, Garcia & Cunanan–Yabut (2022) found that the keyword "world" was used in 85% of war situations, they stated that this finding points to the growing fear that the Russia–Ukraine war could trigger or be the beginning of World War III. As a result of their research examining mental health status through Tweet analysis during the Ukrainian–Russian War, Fujii et al. (2023) determined that "psychological distress," "anxiety" and "depression" categories emerged.

As a result of the sentiment analysis of 10.000 Twitter messages posted during the Russian–Ukrainian war, it was found that 39.5% positive, 15.5% negative and 45% neutral emotional expressions were used. In this sense, there were more neutral tweets than positive and negative ones. In this sense, it was observed that positive and neutral emotions were expressed more than negative ones. When the positive expressions were analyzed, it was found that statements that reflect emotions, such as love, happy, sincere, etc., and evoke positive feelings, such as support and donation, were used. It was stated that the expression of positive emotions is usually accepted as more appropriate in all social media platforms than the expression of negative emotions (Waterloo et al., 2018). In this sense, it may be concluded that the individuals who want to express their reactions use statements that involve positive emotions. Instead of looking at tweets only as positive or negative emotional states (Bağcan et al., 2021), it is necessary to examine how these emotions were expressed during which period of the war, through words. In this context when the negative expressions were analyzed, it was found that expressions that evoke negativity, such as info pollution, war, crime, and catastrophe, were used. It was observed that expressions containing direct and excessive negative emotions were

not used much throughout the Ukrainian–Russian war during the time of this study. On the contrary, excessively negative expressions, such as loaded language and judgments, emojis, and swearwords, may also be found, just as in the process of the Syrian conflict (Chatterje–Doody & Crilley, 2019). In addition, the neutral expressions, which have been used the most, do not convey any emotions; however, they reveal the words that were frequently used regarding the situation. These words were found as tractor, way, and sinking. At this point, it may be concluded that social media assumes the role of gathering people and social media revolution through social interaction. It was found that the most intense emotions felt during the war were dread, panic, or horror (Malešević, 2010). According to the word clouds prepared by using the frequency of the words used for Ukraine and Russia, it may be concluded that "Ukrainians," "Ukraine," "Russians," "Russia," "Kyiv," "Will," "World," "Support," and "People" were the most frequently used expressions. In this sense, it can be seen that the expressions that mostly include nationalities, locations, and statements, such as supporting people, because of the impact of the war were used, but statements related to fear or violence were not used much.

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The authors declare that this article complies with ethical standards and rules.

AUTHOR CONTRIBUTION
Ayşen Temel Eğinli | Concept/idea; Literature review; Design; Drafting; Data collection/analysis; Interpretation of data/findings; Supervising; Critical review; Final approval and accountability.
Contribution rate: 50%

Neslihan Özmelek Taş | Concept/idea; Literature review; Design; Drafting; Data collection/analysis; Interpretation of data/findings; Supervising; Critical review; Final approval and accountability.
Contribution rate: 50%

CONFLICT OF INTEREST
The authors declare no conflict of interest.

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