

Examining ISIS's Turkish Sympathizers on Twitter¹

Ahmet Yiğitalp TULGA²

Abstract

Social media platforms have become a part of people's daily lives. However, developing social media technologies have affected not only people but also terrorist organizations such as the Islamic State of Iraq and Syria (ISIS), and social media has become an essential part of ISIS's strategies. ISIS effectively uses many social media platforms, especially Twitter, for propaganda, recruitment, and creating fear among people. ISIS also actively uses Twitter in Turkey. However, the number of academic studies focusing on the behavior, structure, communication, and relationship networks of ISIS sympathizers in Turkey is limited. Therefore, the main purpose of this study is to reveal the structure, behavior, communication, and relationship networks of ISIS's Turkish sympathizers. Accordingly, this study focuses on the structure, behavior, communication, and relationship networks of ISIS's Turkish sympathizers. I will analyze them within four main analytical steps. The basic characteristics, structures, behaviors, and relationship networks of 2079 Turkish ISIS sympathizers are examined with the R computer program, and many remarkable findings are reached as a result of the analysis.

Keywords: ISIS' Turkish Supporters, Twitter Analysis, Network Analysis, Correlation Analysis, Social Media

¹ This study was produced from the unpublished doctoral thesis titled "New Page in Terrorism: An Explanation of the "Soft" Terrorism Concept with ISIS Case in Turkey".

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IŞİD'in Twitter'daki Türk Sempatizanlarının İncelenmesi¹

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Özet

Sosyal medya, son yıllarda günlük hayatın önemli bir parçası haline gelmiş, en başta bireyler olmak üzere, örgütleri, kuruluşları ve cemiyetleri de etkisi altına almıştır. Hal böyle olunca, bu etkileşimden terör örgütleri de kendilerine pay çıkarmış ve örnek olarak, Irak-Şam İslam Devleti (IŞİD)'in stratejilerinin oluşturulmasında ve paylaşılmasında; sosyal medya önemli bir taban oluşturmuştur. IŞİD, daha siyasi bir platform olması nedeniyle, başta Twitter olmak üzere pek çok sosyal medya platformunu; propaganda yapmak, sempatizan kazanmak ve halk arasında korku yaratmak için etkin bir şekilde kullanmaktadır. IŞİD'in Türkiye'de en aktif kullandığı sosyal medya platformu; "Twitter"dır. Ancak Türkiye'de IŞİD sempatizanlarının Twitter'daki davranışları, yapısı, iletişim ve ilişki ağlarına odaklanan akademik çalışmaların sayısı sınırlıdır. Bu nedenle, çalışmada bu noksanlığın giderilmesine odaklanılmıştır. Bu çalışmanın temel amacı IŞİD'in Twitter'daki Türk sempatizanlarının temel özellikleri, yapıları, davranışları ve ilişki ağlarını detaylı olarak incelemektir. Çalışma, dört ana analitik adımda analiz edilmiştir. R bilgisayar programı ile 2079 Türk IŞİD sempatizanının temel özellikleri, yapıları, davranışları ve ilişki ağları incelenmiş, analiz sonucunda dikkat çekici birçok tespite ulaşılmıştır.

Anahtar Kelimeler: IŞİD'in Türk Sempatizanları, Twitter Analizi, Network Analizi, Korelasyon Analizi, Sosyal Medya

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INTRODUCTION

After the cold war, the world underwent a radical transformation with developments in areas such as mass communication, artificial intelligence, the internet, and social media. In particular, the developing internet and social media technologies have increased people's information and communication speeds, becoming an essential part of their daily lives. Today, people easily express their thoughts, feelings, and opinions on social media. These views and feelings briefly reach thousands of people living in various parts of the world (Abd-Elaal, Badr & Mahdi, 2020: 516-522). Twitter is one of the most frequently used social media platforms. According to 2020 data, more than 330 million people use Twitter worldwide, and more than 500 million tweets are sent daily (Newman et al., 2022: 1-12; Abd-Elaal, Badr & Mahdi, 2020: 516-522; Ashcroft et al., 2015: 161-164).

However, not only people but also terrorist organizations use the developing social media technologies and Twitter effectively. Social media platforms, especially Twitter, have become an essential part of the strategies of terrorist organizations in recent years. Many terrorist organizations actively use Twitter to convey their "ideologies," propaganda, and brutal actions to others due to the rapid spread of social media platforms and Twitter worldwide (Abd-Elaal, Badr, & Mehdi, 2020: 516-522). Terrorist organizations such as the Islamic State of Iraq and Syria (ISIS) use Twitter effectively worldwide and have developed well-designed Twitter strategies to recruit people worldwide (Abd-Elaal, Badr & Mehdi, 2020: 516-522; Ashcroft et al., 2015: 161-164). However, ISIS also uses social media and Twitter to create an atmosphere of fear among people in different parts of the world. For example, ISIS posted a video recording of the execution of American journalist James Foley on Twitter in 2014, and this brutal video harmed many people (Republic of Turkey Ministry of Internal Affairs, 2017: 20; see also Teltik, 2019: 72; Ashcroft et al., 2015:161-164).

ISIS's active use of Twitter and other social media platforms has also attracted the attention of academia, and many academic studies have approached ISIS's Twitter activities from many different perspectives (i.e., Lee & Colautti, 2022: 1347-1370; Leite et al., 2019: 316). Accordingly, some studies focus on detecting ISIS sympathizers on Twitter (i.e., Ashcroft et al., 2015: 161-164; Bodine-Baron et al., 2016: 5). Other studies try to find the main actors among ISIS sympathizers on Twitter and focus on the characteristics of their tweets (Fernandez, Asif & Alani, 2018: 1-10; Chatfield, Reddick & Brajawidagda, 2016: 257). Some of the studies focus on the topics that ISIS sympathizers often talk about on Twitter; the most used words in tweets; and the difference between the tweets of ISIS sympathizers and the tweets of ordinary people (Gomes et al., 2017: 457-460; Berger & Perez, 2016: 3; Bodine-Barone et al., 2016: 7; Newton, 2022: 1-8). The remaining studies focus on the number of followers and tweets of ISIS sympathizers on Twitter (Abd-Elaal, Badr & Mahdi, 2020: 516-522; Berger & Perez, 2016: 4). Similar studies also focus on the Turkey case, specifically on the ISIS' Turkish supporters (i.e., Yalçınkaya, 2016: 27-44; Özeren et al., 2018: 105-121; Dede & Tansü, 2020: 106-124). However, while all these studies provide different information about the characteristics of ISIS sympathizers on Twitter, studies focusing on the structure, behaviors, relationships, and communication networks of ISIS sympathizers on Twitter are limited. Few studies focus on sympathizers' social media or Twitter activities, especially in Turkey, one of the countries that play an essential role in the war against ISIS geographically. ISIS effectively uses Twitter in Turkey for recruitment and to create fear among the public. The reason for this is that the relatively widespread use of Twitter among the general population of Turkey causes ISIS to use it effectively in Turkey (Yalçınkaya, 2016: 27-44). For this reason, the inability to understand the structures and behaviors of ISIS sympathizers on Twitter causes the Twitter activities of ISIS to be prevented, and no in-depth information is given about ISIS supporters' Twitter activities. Therefore, the Twitter analysis allows us to understand the social media activities of ISIS and its supporters.

The study's primary purpose is to explain the structure, behavior, and communication network of ISIS Turkish sympathizers on Twitter rather than the content of their tweets. In this direction, this study will focus on the structure, behavior, communication, and relationship networks of Turkish sympathizers of ISIS on Twitter. The research will attempt to present a synthesis of all topics focused on in the literature. In this study, 261059 tweets sent by 2079 ISIS sympathizers between 2014 and 2022 will be analyzed with the R computer program, and I will try to fill, to some extent, the gap in the literature.

The findings of various studies in the current literature will be presented in the next part of the study. The research method will be stated, as well as the methods used in the analysis. The findings obtained

as a result of the examination will be shown in the results section, and then in the discussion section, the critical findings will be stated. Their similarities and differences from the existing literature will be expressed. The article will end with the conclusion section.

Literature Review

The advance of ISIS in Northern Iraq and Syria in 2014, as well as the inhumane acts and executions it carried out, attracted the attention not only of the world public opinion but also of the terrorism literature (i.e., Winter, 2015: 22-27; Ahram, 2015: 57-78). Early studies focus on why ISIS emerged and how it differs from other terrorist organizations. However, these studies have evolved with the active use of social media by ISIS (i.e., Blaker, 2015: 4; Byman, 2016: 76-85; Chan, 2015: 4-9). ISIS's Twitter usage has become one of the top priorities of studies focusing on ISIS (i.e., Ceron, Curini & Iacus, 2019: 1-14; Cohen & Kaati, 2018: 5). Studies prepared in this direction look at the activities of ISIS and its sympathizers on Twitter from different perspectives. One of the most focused topics is the detection of ISIS sympathizers on Twitter.

Conway and colleagues (2019: 141-160) prepared one of the studies in this direction. The authors suggest that before 2017, ISIS sympathizers could be identified by their avatar photos, user handles, and screen names. They argue that ISIS sympathizers use an ISIS flag or a warrior photo as their profile picture (Conway et al., 2019: 141-160). Similarly, Berger and Morgan (2015) argue that ISIS supporters' accounts on Twitter could be found through their Twitter profile descriptions.

On the other hand, Bodine-Baron et al. (2016: 10-11) suggest that ISIS supporters used praising language for referring to the group's members, mimicked phrases from ISIS propaganda, such as the organization's slogan and principles of the group, and posted hashtags on their Twitter accounts in favor of the group. Relatedly, Al-Khateeb and Agarwal (2015: 51-57) argue that ISIS sympathizers mainly use terms that include attacks, war, and hate speech and that these terms will help in finding ISIS sympathizers on Twitter. Finally, Ashcroft and colleagues (2015: 161-164) state that ISIS sympathizers frequently use hashtags such as #IS, #ISLAMICSTATE, #ILoveISIS, and #Islamicstate, and the analysis of these hashtags can contribute to finding ISIS sympathizers on Twitter.

Contrarily, some academic studies focus on the main actors in the datasets containing ISIS sympathizers. In this regard, Abd-Elaal, Badr, and Mahdi (2020) argue that finding the main actors among the followers of ISIS on Twitter is critical in preventing terrorism-related content. Similarly, Carter, Maher, and Neumann (2014: 107) state that there is a small group of influencers who encourage ISIS sympathizers, legitimize it and aim to provide religious legitimacy, and the presence of this group would play an essential role in blocking ISIS's Twitter activities.

In this direction, Berger and Perez's research focuses on finding the most effective sympathizers of ISIS on Twitter. As a result of their analysis, the authors found the 50 most influential users of ISIS on Twitter (Berger & Perez, 2016: 8). The authors argue that these influential users were more active on Twitter in spreading ISIS propaganda than other supporters' accounts, and they tweeted an average of 44,2 times per day (Berger & Perez, 2016: 7). Similarly, Klausen (2015: 1-22) manually found the 55 most influential Twitter users of ISIS and revealed that these users generally talked about "*religious guidance*."

Like Klausen, some academic studies generally focus on the topics that ISIS sympathizers talk about. It is possible to divide the studies prepared in this direction into two groups. The first group focuses on the most frequently used words by ISIS sympathizers in their tweets. The second group, on the other hand, is prepared more comprehensively and presents the topics that sympathizers discuss most frequently with topic modeling or dictionary-based methods.

An example of the studies in the first group is the research of Rehman and colleagues (2021). As a result of their investigation, the authors found that ISIS sympathizers frequently use religious words such as Allah, Muslim, Prophet, and Islam. In addition to these religious words, they are commonly used in terms such as Afghanistan, Kashmir, and the Taliban. Differently, Batra and Kumar (2022: 5611) found that "love," "good," and "great" are frequently used by ISIS sympathizers. Zahrah, Nurse, and Goldsmith (2020: 438-447), on the other hand, found that ISIS supporter Twitter users frequently use death-related words such as kill, bury, and grave, and that hate-based topics are common among ISIS supporters. Last, Ashcroft and his colleagues found that the terms most frequently used by ISIS sympathizers were state, Islamic, kill, support, Abu, and people (Ashcroft et al., 2015: 161-164).

The research of El-Badawy, M. Comerford, and P. Welby (2015) can be shown as examples of the studies in the second group. The authors found that ISIS supporters on Twitter focused on issues to legitimize the attacks of ISIS and that these users benefited from the Qur'an, hadith, and religious scholars to legitimize these attacks or the activities of ISIS (El-Badawy, Comerford & Welby, 2015: 20). Likewise, Vergani and Bliuc (2015: 7-20) examined ISIS's online propaganda, and they found that ISIS uses emotional sentences and religious quotes on social media platforms.

On the other hand, Dillon, Neo, and Freilich (2019: 268-291) analyze the tweets of ISIS supporters worldwide, and they find these tweets have predominantly violent language. Similarly, Tulga (2020) explores the English tweets of ISIS supporters with the dictionary-based method, and he reveals that most of the ISIS sympathizers' tweets have terrorism and violent content dominantly. Likewise, Dede and Tansü (2020: 106–124) analyzed ISIS's Konstantiniyye journal with a qualitative method. The authors argue that violent concepts such as Jihad and martyrdom are frequently used in ISIS's Konstantiniyye magazine (Dede & Tansü, 2020: 106–124). Moreover, Al-Rawi and Groshek (2018: 1-15) discover that ISIS supporters' tweets involve brutality, celebrating ISIS's military successes, battle reports, and warnings against Western countries. Furthermore, Karakaş (2017: 33–46) analyzed ISIS's Konstantiniyye magazine qualitatively, and he found that the magazine mainly talked about the activities carried out in the occupied lands by ISIS, sections from popular videos posted online every month, religious information, political issues, and anti-Europeanism (see also, Teltik, 2019: 68).

Other academic studies focus on the general characteristics of ISIS sympathizers on Twitter rather than the topics that ISIS sympathizers talk about on Twitter. In this context, these studies focus on the number of followers or tweets of ISIS sympathizers. Bruno Guilherme Gomes and his colleagues wrote one of the studies in this direction. The authors found that 60% of ISIS sympathizers tweeted less than 100 tweets, and 90% used less than 100 hashtags and mentions (Gomes et al., 2017: 457-460). In addition, the authors found that sympathizers generally prefer to tweet in the middle of the week and at night (Gomes et al., 2017: 457-460). Another study reveals that ISIS sympathizers are followed by an average of 327 to 480 users, and this number of followers decreased to an average of 260 to 350 over time (Berger & Perez, 2016: 9).

Finally, few studies focus on the behavior of ISIS sympathizers in Turkey on similar issues. One of the studies in this direction was prepared by Yalçinkaya (2017: 23-44). He concludes that ISIS' Turkish supporters actively use Twitter, take action on Twitter before and after the attacks, and make more violent propaganda than religious propaganda (Sputnik, 2016). On the other hand, Özeren and his colleagues (2018: 105-121) analyze the social media activities of ISIS in Turkey within the scope of recruitment. As a result of their studies, the authors find that ISIS targeted Turkey for recruitment purposes since Turkey's population is predominantly Muslim. They conclude that ISIS calls Muslims in Turkey to migrate to the lands controlled by ISIS via Twitter (Özeren et al., 2018: 105-121). According to the research, ISIS has attempted to win support and increase its base among Turkish people (Özeren et al., 2018: 105-121). Narin and Ayaz (2016: 12-13) state that among the 509 tweets they examined, one of the most used hashtags was "#Islamic Front." Besides, the authors support that ISIS' Turkish sympathizers quote the Qur'an and hadiths on Twitter. This strategy has two purposes. First, it tries to legitimize violence against groups it considers enemies. Second, it invites all Muslims in Turkey to join ISIS to support the so-called holy "Jihad" (Narin & Ayaz, 2016: 12-13).

However, despite all these studies, comprehensive studies focusing on the structure, behaviors, communication, and relationship networks of ISIS sympathizers on Twitter are insufficient. This study will try to close this limitation in the literature and examine the Twitter structure and behavior of ISIS's Turkish sympathizers from a broad perspective.

Research Design

The structure, behaviors, communication, and relationship networks of the ISIS Turkish sympathizers on Twitter are examined in this study. In other words, I give descriptive information about the Twitter activities of ISIS' Turkish sympathizers. In recent years, Twitter has become essential for people, terrorist organizations, and social sciences. Twitter is a social media platform that provides users an online area to discuss and share opinions on various subjects (Sriram, Fuhry & Demirbaş, 2010: 841-842; Zahrah, Nurse & Goldsmith, 2020: 437-447). Millions of people worldwide utilize it to exchange information about their everyday lives and sentiments (Ficamos & Liu, 2016: 201-205). Also, many terrorist organizations have used Twitter to spread violent propaganda videos and support their ideology

(Bodine-Baron et al., 2016: 16). Examining the large pool of Twitter activities of people and terrorist organizations as researchers are essential in contributing to social sciences.

Twitter is also important for Turkey and the Turkish people, as it is in the world. 34% of Turkish people actively use Twitter to get news and information (Newman et al., 2022: 1-12). On the other hand, ISIS also effectively uses Twitter in Turkey to recruit and create fear among the public. The reason for this is that the relatively widespread use of Twitter among the general population of Turkey causes ISIS to use it effectively in Turkey (Tulga, 2022: 75).

For this reason, it is crucial to examine the structure of Turkish sympathizers of ISIS on Twitter. However, the most critical step before starting the investigation is to find the tweets of ISIS' Turkish sympathizers. The selected tweets were tweeted between 2014 and 2022. This date range was chosen because 2014 was the year when ISIS rose, and it came to the fore again with the prison attack in Hasakah in 2022 and, finally, the murder of its leader Al-Qurayshi in February 2022. I examine 261059 Turkish tweets from 2079 different users.

To analyze tweets, I must first apply the Twitter API. This API gives the researcher the tools to reach the tweets and retweets. The R computer program also has the feature of using this API and analyzing it. One of these packages is the "twitter" package, which I use for tweets collection (Gentry, 2016).

I first benefited from hashtags, such as "#ISIS," "#Raqqa (Raqqa)", "#Dawlah (state)", "#Haseke", "#Holkampı (Holcamp)", "#haçlıkoalsiyonunahayır (notocrusadercoalition)", "#fridayinaleppo," "#islamicstate," "#caliphatefollow," "#totheislamicstate," and "#mohammedyoussefthelion", to find Turkish sympathizers of ISIS. However, these are not only hashtags that ISIS sympathizers tweeted about but also those tweeted by anti-ISIS users. Conway and colleagues (2019: 148) stated that ISIS sympathizers could be identified by their profile photos, avatar photos, user handles, and screen names. Besides, ISIS supporters in Turkey used praising language for referring to the group's members, mimicked phrases from ISIS propaganda, such as the organization's slogan and principles of the group and posted hashtags on their Twitter accounts in favor of the group (Bodine-Baron et al., 2016: 5; see also Özeren, Çubukçu & Cash, 2021: 1-21). For this reason, I separated the ISIS Turkish sympathizers from other users with an algorithm. I included profile photos, avatar photos, user handles, mimicked phrases from ISIS propaganda, and screen names in the algorithm.

Conway and his colleagues (2019: 141-160) state that at least for geotagged tweets, it is also feasible to categorize ISIS Turkish supporters depending on their location. Likewise, during my review, I also noticed that some of the ISIS sympathizers wrote about their location as "Islamic State" and included it in the algorithm.

In addition to the algorithm, I benefit from the annually updated report of the Anonymous activist group targeting ISIS sympathizers on Twitter. I found about 100 active users through this report. Finally, I randomly selected the tweets obtained by the algorithm and report and double-checked whether the tweets were in support of ISIS.

The dataset I obtained from data collection comprises 90 variables such as username, account number, location, number of followers, the tool from which the tweets are sent (i.e., mobile twitter or website), retweets, and original tweets (Bodine-Baron et al., 2016: 15). However, since I will not use all of the variables in the dataset, I will focus on nine variables. These variables are user identification, users' screen name, time of tweets, tweet, location of users, number of retweets, number of favorites, the tool or source from which the tweets are, and number of followers. The unit of analysis for Twitter examination is tweet.

After the tweets of ISIS Turkish sympathizers were found, the analysis started. The Turkish sympathizers of ISIS are examined in four main stages. First, the number of followers, tweets, retweets, and favorites of ISIS sympathizers is examined. In this analysis, the "rtweet" package of the R computer program is used. The "rtweet" package is a paging application designed to organize Twitter data (Kearney et al., 2022). As a result of this analysis, the most influential users among the Turkish sympathizers of ISIS were found.

In the next step, the sources of the tweet by the sympathizers and their locations were analyzed. The tool from which the tweets variable was used to analyze the source tweeted by the sympathizers. The "location of users" variable was used to analyze the locations of the sympathizers. However, as a result of the analysis, it was found that some of the users who specified the location wrote random information rather than their location. For this reason, I collected such users in the other group.

In the third step of the study, I first found the most frequently used words by sympathizers. Finding the most commonly used words could provide information about the topics sympathizers usually discuss. Cleaning tweets is vital at this stage. I cleaned stopwords, punctuations, numbers, and emojis from tweets in this direction. In the cleaning step, I remove duplicate tweets from the datasets to reduce "noise" levels (Zahrah, Nurse & Goldsmith, 2020: 438-447). At the end of the cleaning step, the sentences are split into tokens, and this step is called tokenization (Harbi & Kamsin, 2021: 19-29). Usually, tokens are words because these are the most common semantically meaningful components of texts (Welbers, Atteveldt & Benoit, 2017: 245-265). When processing data, "letter" and "letters" could be treated as distinct features. This stage effectively allows the removal of plurals and inflections (Ficamos & Liu, 2016: 201-205), and this stage is called stemming (Omer, 2015: 48). As a result, the unigrams (one word) feature can be lemmatized to help in the process of reduction (Mitts, Phillips & Walter, 2022: 100-116). After cleaning, my dataset containing tweets from ISIS sympathizers became ideal for finding the most frequently used words.

After the most frequently used words were found, the mentions in the tweets were analyzed. In this direction, the most mentioned users in the tweets were found. Then, I use network analysis to provide metrics that show critical nodes and structure features in the relational connection among Twitter accounts (Omer, 2015: 45; Grandjean, 2016: 117-145). Besides, I built a mention network, a directed, weighted network with each node representing a Twitter user and each link representing the number of mentions across ISIS supporters (Bodine-Baron et al., 2016: 15). I designed a mention network to focus on the dialogue among ISIS' Turkish supporters on Twitter.

Besides, I examine hashtags and Uniform Resource Locator (URL) in my Twitter dataset. Many users use hashtags and URLs in their tweets. Using "trending" hashtags, even if unrelated to their action, is another way to distribute misinformation on Twitter (Omer, 2015: 45; VanDam & Tan, 2016: 307-317; Alfifi et al., 2018: 58). With this analysis, I find the most used hashtags. In addition, since there is a 280-word limit on Twitter, ISIS supporters share videos or propaganda texts with URLs in their tweets (Khelghat-Doost, 2017: 17-25). The analysis of these URLs reveals the channels ISIS focuses on while sharing its propaganda and information.

In the fourth and final step of the study, I analyze which year, month, and day are the most tweeted by ISIS' Turkish supporters (see also Ashcroft et al., 2015: 161-164). This step aims to observe whether the number of tweets increases during the period of ISIS terrorist attacks or ISIS-related events in Turkey and the World (i.e., Fernandez, Asif & Alani, 2018; Winter, 2017: 103-121; Parkin & Green, 2016: 668-686).

As a result of these four main steps, a general framework has been drawn about the structure, behavior, and focus of ISIS's Turkish sympathizers. I will partially try to fill the literature gap with this general framework.

RESULTS

I will indicate the main characteristics of the 2079 ISIS Turkish sympathizers inside the 261059 tweets. 2079 ISIS sympathizers will be examined in four main stages. In this direction, in the first step, I will give information about the number of followers of the sympathizers, the number of tweets, and the users who receive the most retweets and favorites, and then find the most influential users among these accounts.

First, I analyze the supporters' number of tweets and followers. Accordingly, most of ISIS's Turkish sympathizers are followed by between 0 and 99 users. ISIS sympathizers are followed by 59.76% of 0 to 99 users, 31.09% of 100 to 999 users, 6.92% of 1000 to 4999 users, and 2.07% of 5000 to 390061 users.

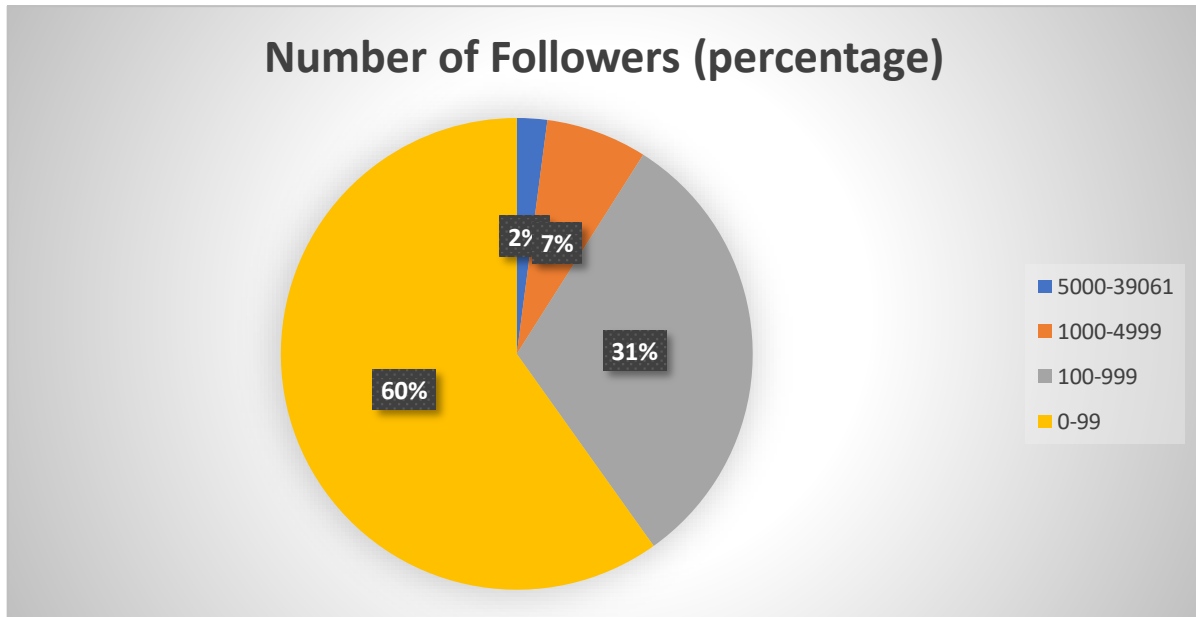


Figure 1: Number of Followers

Specifically, when the top 5 users with the most followers were examined, it was found that 390061 users followed "@hasemierol." Other supporters with the most followers are "@ubeyd53" (65857), "@ensarcalisikan" (30985), "@sukutu_vuslat" (22933), and "@darul_islam" (22857).

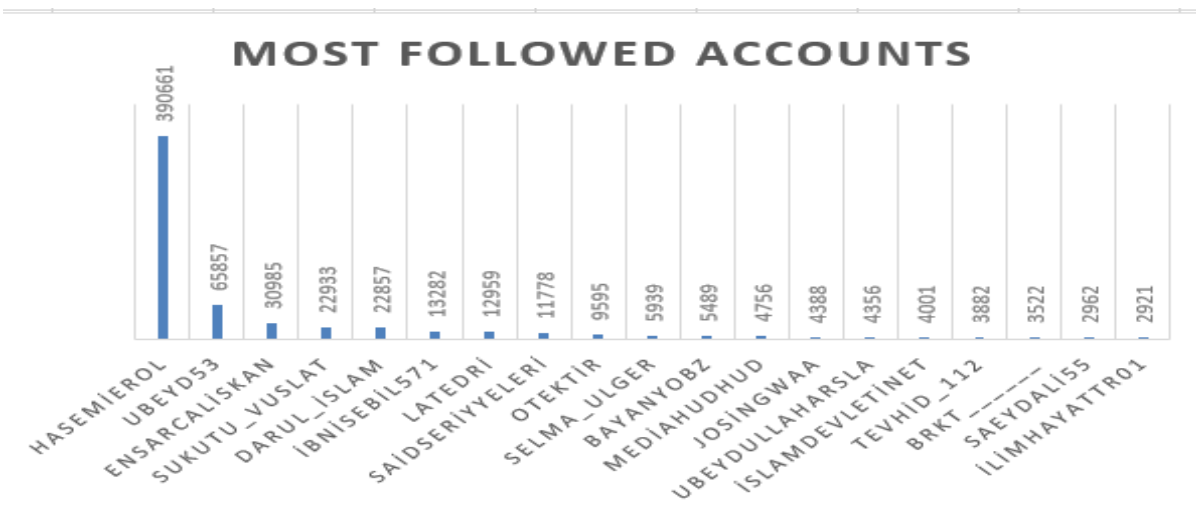


Figure 2: Most Followed Accounts

Then, when we look at the number of tweets of ISIS supporters, it is seen that most of the users tweet from 0 to 99. It is seen that 61.48% of users have 0 to 99 tweets, 26.78% have 100 to 499 tweets, 6.26% have 500 to 999 tweets, and 5.47% have 1000 to 8125 tweets.

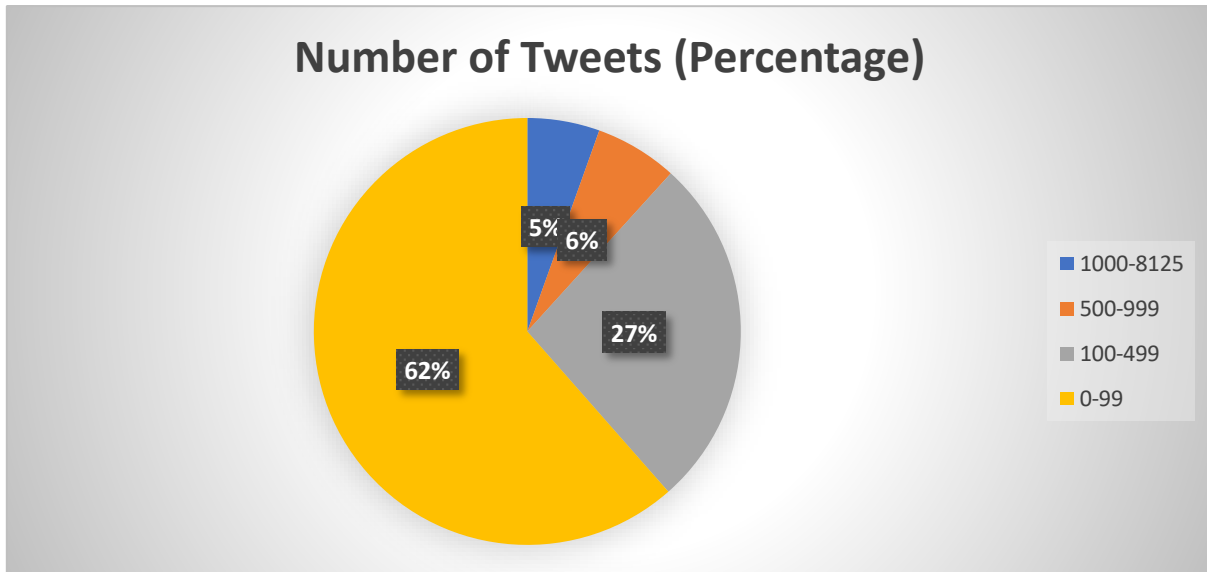


Figure 3: Number of Tweets

The user who tweeted the most between 2014 and 2022 was "@belangaxx." The user tweeted 8125 tweets. This user is followed by "@kartal_efe42" (7365), "@ubeydullaharsla" (6400), "@hhhhhhhhhhj9nvn" (5389) and "@85_birumut" (4600).

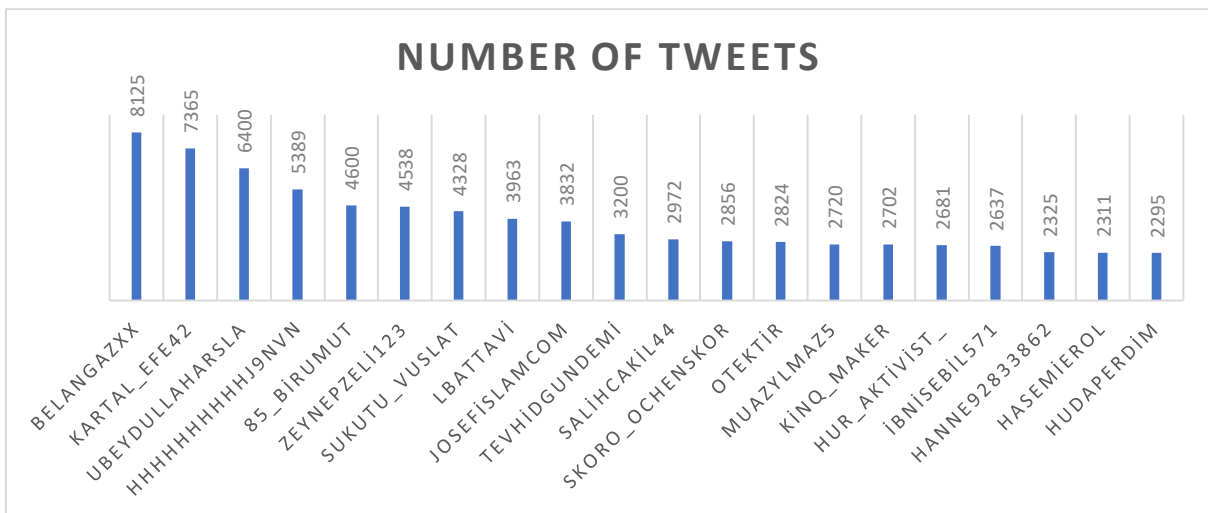


Figure 4: Number of Tweets-Users Name

Users whose tweets are retweeted the most are "@hasemierol", "@josefislamcom", "@tevhidgundemi", "@saidseriyyeleri" and "@ibnisebil571". The users whose tweets are most favorited are "@hasemierol", "@josefislamcom", "@tevhidgundemi", "@ibnisebil571" and "@malcolm_islami".

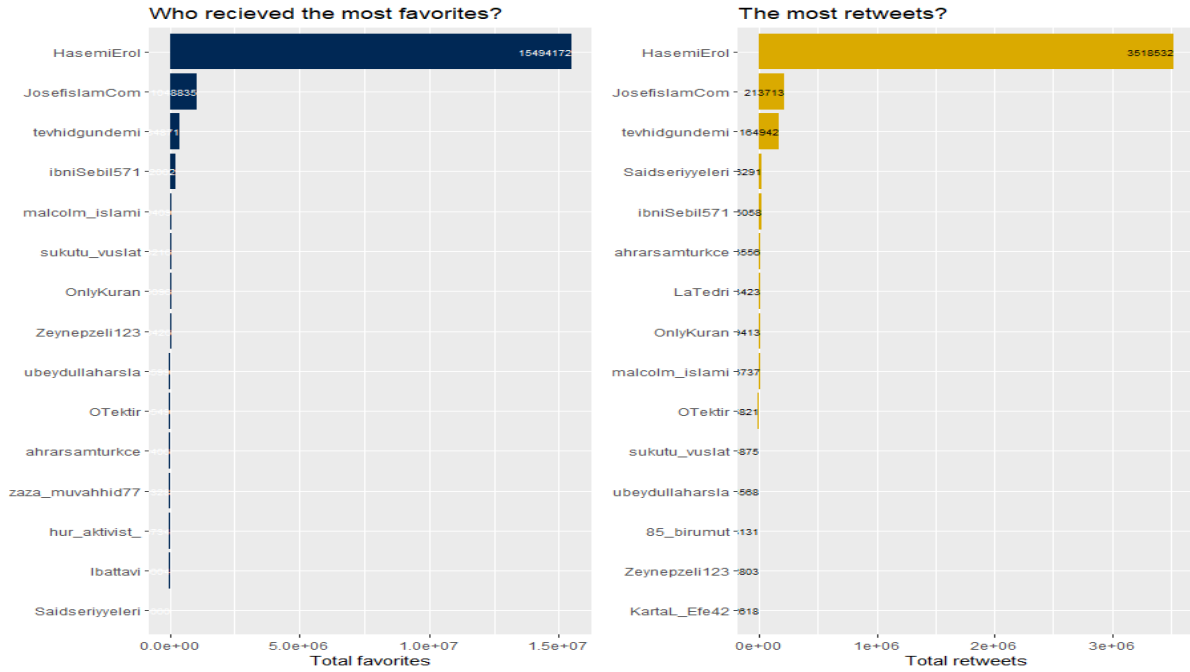


Figure 5: Most Favorite and Retweet Accounts

In the light of the number of tweets, number of followers, number of retweets, and favorites, it has been found that "@hasemierol," "@ibnisebil571", "@josefislamcom," "@tevhidgundemi" and "@sukutu_vuslat" are the most influential users. As Fernandez, Asif, and Alani (2018) said, finding the most influential users is essential to discover in spreading propaganda. In other words, these five users play a crucial role in spreading the news, views, and thoughts about ISIS and Salafi thought to a particular part of society.

Examining the sources tweeted by the Turkish sympathizers of ISIS and the locations they specified is the second step of the research. When we look at the sources tweeted by the sympathizers, it is seen that the sympathizers tweeted mostly from android-supported devices. This is followed by tweets from computers and tweets from iPhones.

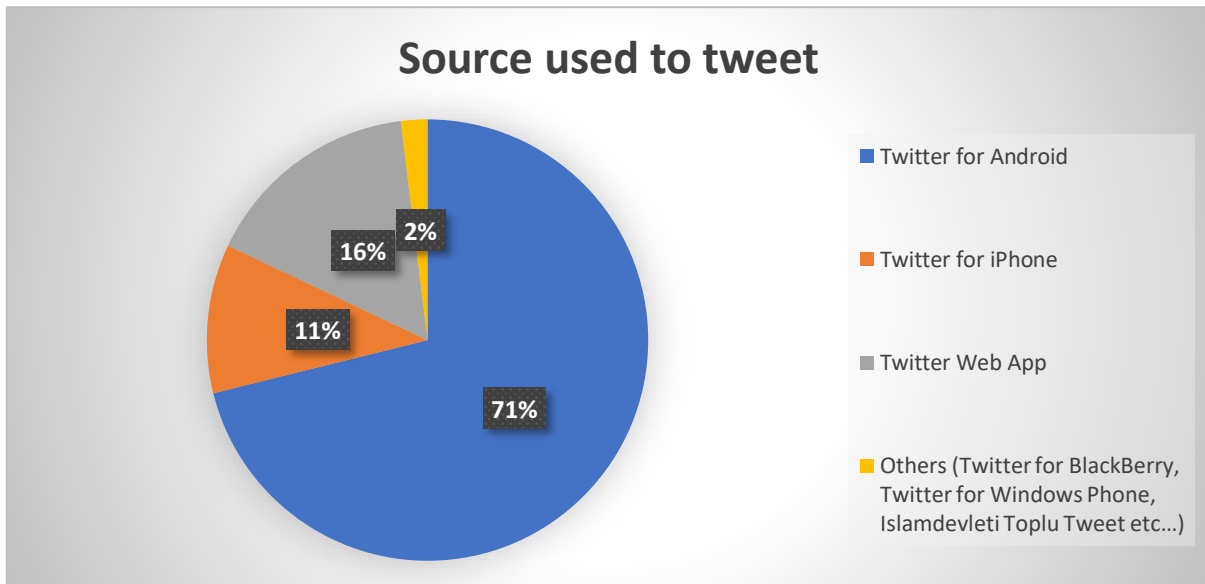


Figure 6: Sources of Tweets

Finally, in the second step, the locations of the Turkish sympathizers of ISIS were examined. 40,93% or 851 users do not specify a location in their Twitter profile. 14,43% or 300 of the users defined Turkey as their location. Ninety-five users stated their location as Islamic State. Finally, 47 users chose Syria as

their location. In addition to these, some users stated non-specific locations such as "baqiyeeh! Inshaallah", "desert," or "mountains." Users specifying such a location are included in the other section. Users in the other group are 775 people, and their rate is 37.27%.

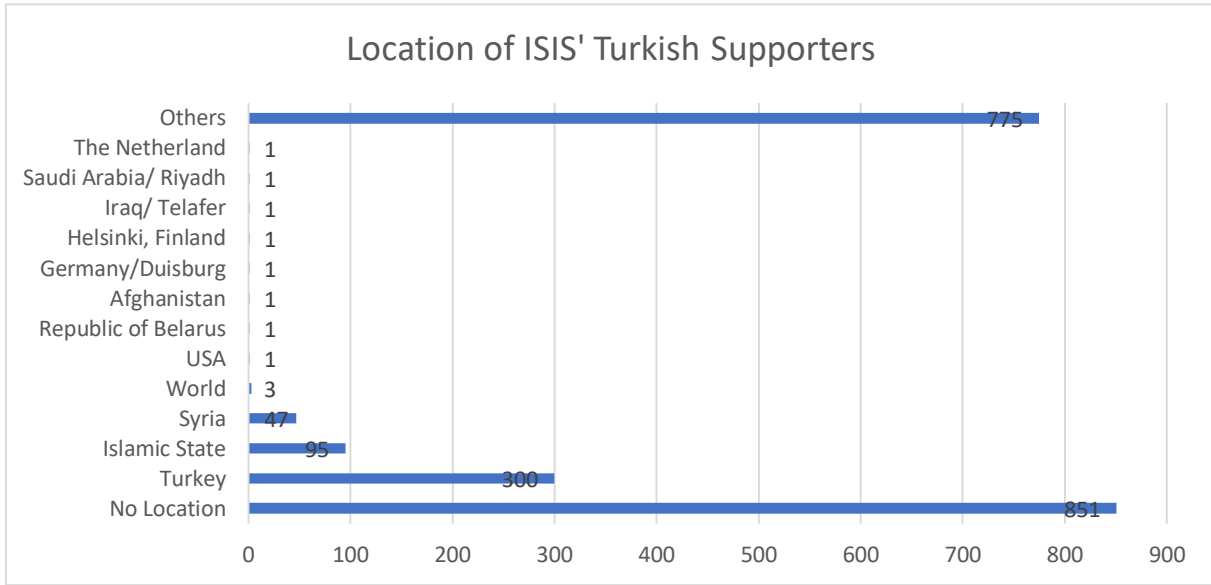


Figure 7: Location of ISIS' Turkish Supporters

Users who selected Turkey as their location among these 300 users, 107 chose Istanbul, 28 chose Adana, and 24 chose Ankara as their location. Seventeen users specified Konya, and 14 users selected Bingöl as their location.

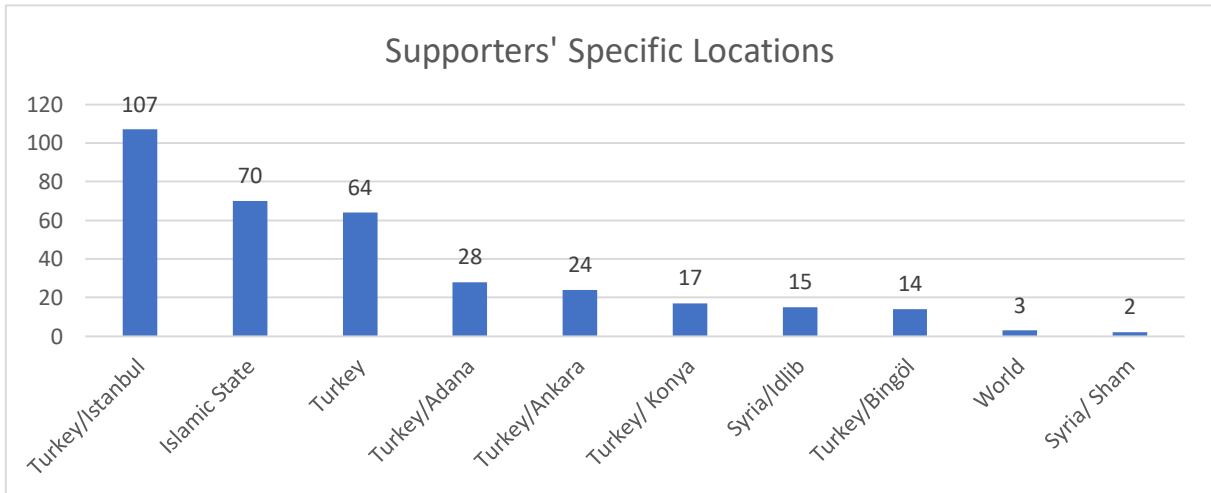


Figure 8: Location of ISIS' Turkish Supporters

In the third step of the study, the words most frequently used by Turkish sympathizers of ISIS in their tweets, mentions in tweets, hashtags, and URLs were examined. The most used words could give partial information about the topics that sympathizers focus on. It is seen that the most used words are "Allah," "Islam," and "Amen." It is seen that religious terms are in the majority among the most used words. Still, in addition to religious words, supporters used other words such as "conquest," "war," "Assad," and "Damascus."

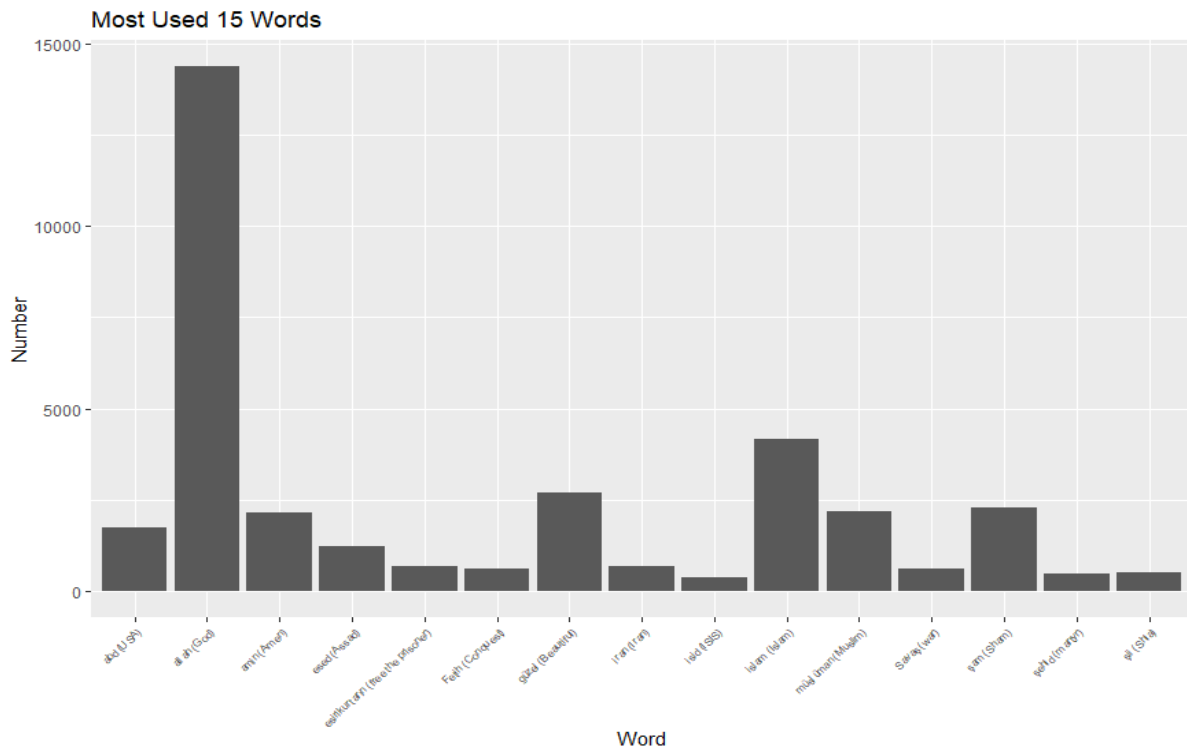


Figure 9: Most Used Words

When the most used mentions in the tweets were examined, it was found that "@kingmaker," "@69LoneWolf69", "@btn7", "@haciiiiiiiiiiiii," and "@salihcakil44" were the most mentioned users.

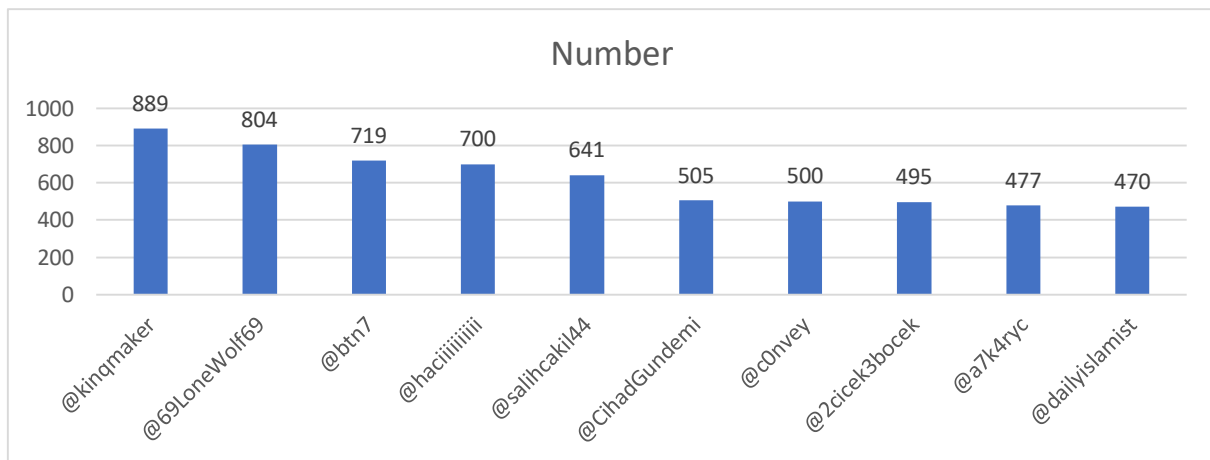


Figure 10: Most Mentioned Users

Examining the tweets' mentions will help us understand the communication and relationship networks of the Turkish sympathizers of ISIS. When we look at the network analysis of these mentions, it is seen that there is one leading communication network and two small interaction networks in addition to this main communication network. It is seen that ISIS's supporters on Twitter do not have a homogenous structure. Other groups and individuals are included in the communication network between ISIS sympathizers from time to time.

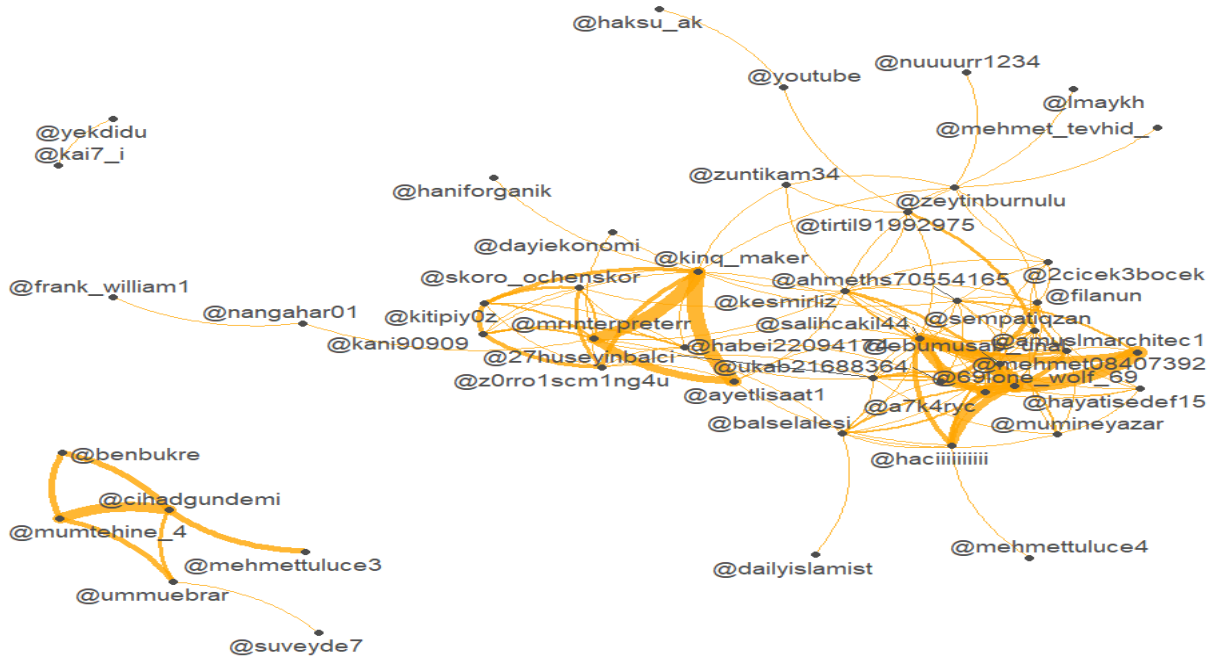


Figure 11: Mentions Network

A result supporting this finding was also reached from the network analysis of the hashtags used in the tweets. As a result of the hashtag network analysis, it is seen that there is the main hashtag network, and there are two smaller hashtag networks. "#ThereispersecutioninBingöl" hashtag, one of the two small relationship groups reached as a consequence of the hashtag network analysis, supports this argument. In 2021, the Turkish police launched an operation against the Bingöl branch of "Tawhid magazine" (Anadolu Agency, 2021), a Salafist group whose members were arrested for supporting organizations such as ISIS and Al-Qaeda (Eroğlu, 2018). After the group members resisted the security forces, the police detained some group members (Veryansıntv, 2021). As a result of these detentions, the group members started the "#There is persecution in Bingöl" hashtag on Twitter. The "Tawhid magazine" supports Salafist ideas like ISIS, and some members of the group joined ISIS, but the group does not fully support ISIS. Many members of the group also support ISIS on Twitter. For this reason, this hashtag is included in the network analysis, and this hashtag shows that ISIS sympathizers do not have a homogeneous structure.

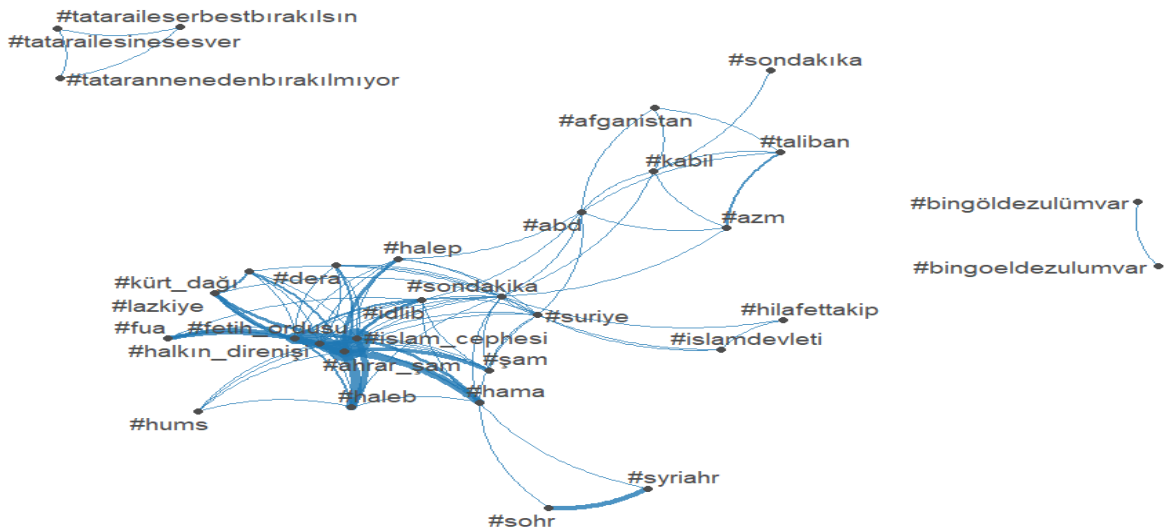


Figure 12: Hashtag Network

When we examine the most used hashtags, it is seen that hashtags related to ISIS are in the majority. Still, hashtags are also used for groups that support Salafist ideas. Aside from these, it is seen in hashtags such as "# hifayanesol" and "# breakingnews," which are unrelated to ISIS or other Salafist groups.

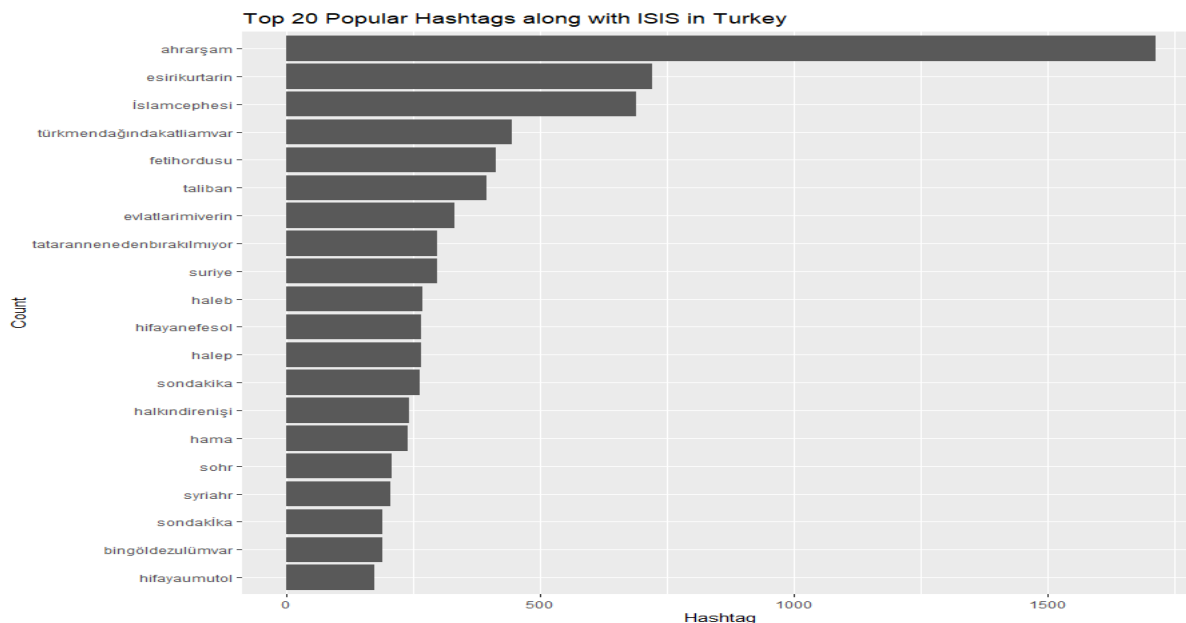


Figure 13: Most Used Hashtags

The third step concludes with analyzing the URLs used in the tweets. Based on the URL analysis, it is seen that the most used URLs belong to Twitter. There are two reasons behind this. First, the shared URLs are the URLs of another ISIS sympathizer's Twitter address and are intended for other sympathizers to follow these users. The second reason is that sympathizers aim to spread the news contained within these tweets by sharing the URLs of specific tweets or news items.

The most tweeted URLs after the Twitter URL are news content. News URLs belong to news sites such as "enfalmedya", "incanews", "islamdevleti.net", and "yonelishaber". It has been seen that 90% of these news are related to ISIS and the attacks of ISIS.

The YouTube-related URL is the third most used URL. There are six YouTube-related URLs. One of the URLs is a link to a YouTube channel called "ahid" magazine. The other two YouTube URLs are links to news about ISIS. The other two URLs were removed due to violent content. The rest of the URLs belong to sites such as Facebook, justpaste, Google Drive, and "tevhidgundemi.com."

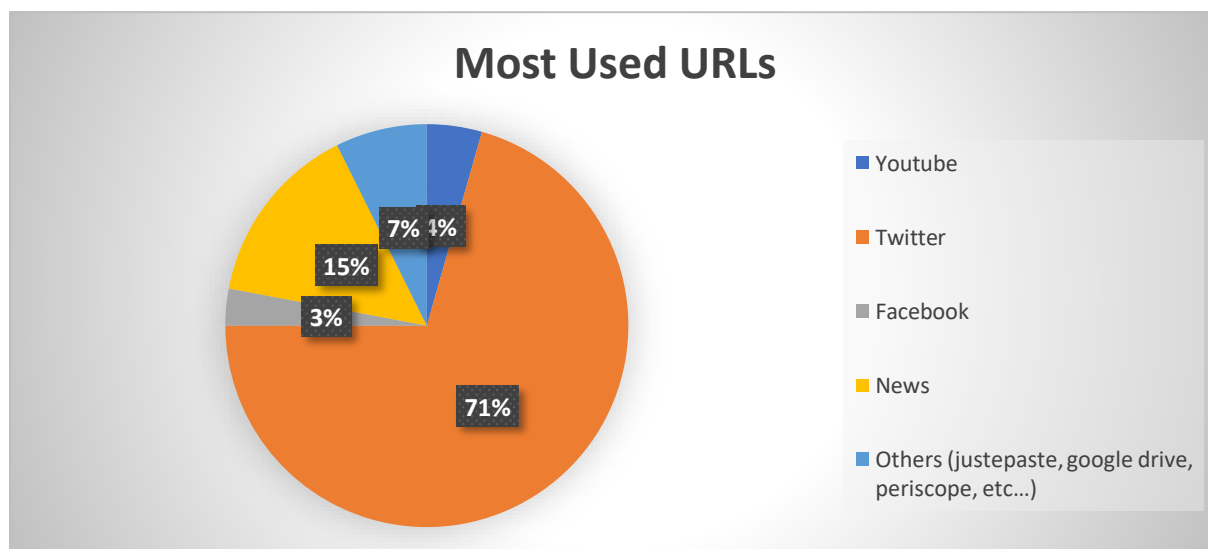


Figure 14: Most Used URLs

In the fourth step, which is the last stage of the study, the date of tweets by the Turkish sympathizers of ISIS were examined. In this direction, the correlation between the days when Turkish sympathizers of ISIS tweeted and the terrorist attacks by ISIS in Turkey and worldwide was also analyzed. In this context, the years when sympathizers tweeted most were explored first. It was seen that the year in which sympathizers tweeted the most was 2022. It was seen that 2022 was followed by 2016 and 2021. The most important reason there are the most tweets in 2022 and 2021 is that the collection of tweets started in 2021, and the tweets of some users could not be reached due to the deactivation of some of the supporters' Twitter accounts.

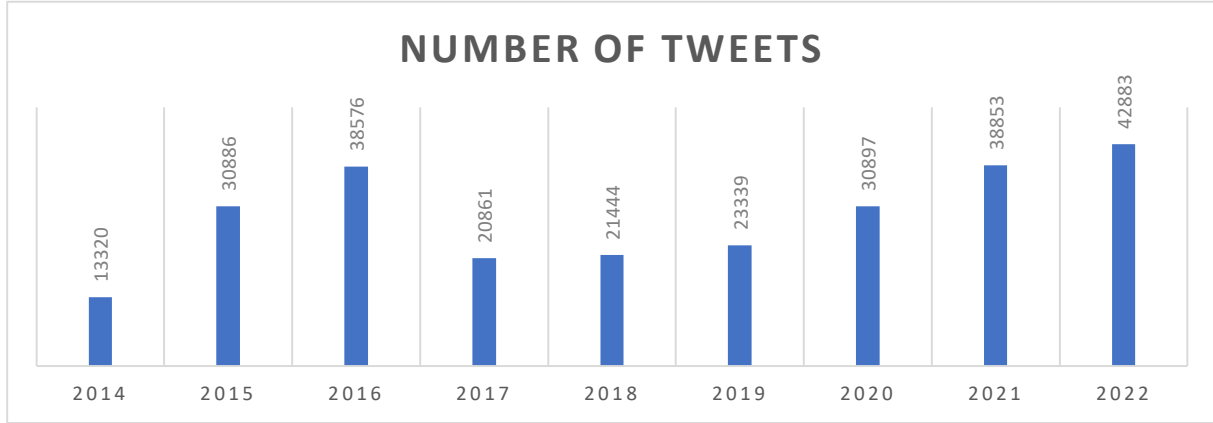


Figure 15: Date of Tweets

When the most tweeted day was analyzed, it was found that the most tweeted days were Monday, Tuesday, and Sunday. The most tweeted month is January 2022. January is followed by December 2021 and February 2022.

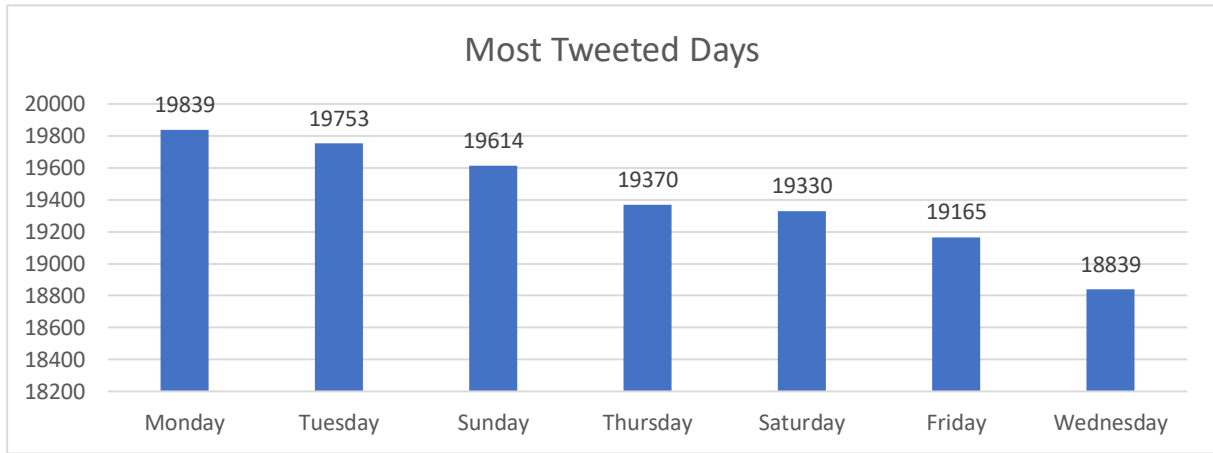


Figure 16: Day of Tweets

Some studies reveal a statistical relationship between the sympathizers' tweets and ISIS attacks (i.e., Yalçınkaya, 2016: 27-44). For this reason, I focused on the statistical relationship between the tweets of ISIS's Turkish sympathizers and ISIS's attacks in the world and Turkey. I used the Pearson correlation method in this correlation analysis.

$$r = \frac{Cov(X, Y)}{\sqrt{Sx^2 Sy^2}}$$

As a result of Pearson correlation analysis, I found a positive but relatively low correlation of 0.16 between attacks in Turkey and tweets. With a similar method, I found a positive and moderate correlation of 0.36 between the ISIS attacks in the world and the tweets. However, the correlation between worldwide attacks and tweets is statistically significant because the p-value is less than 0,0001. In other words, although there is a moderate correlation, there is a positive association between ISIS terrorist attacks around the world and tweets by sympathizers.

As a result of these findings, a general framework was drawn about the Turkish sympathizers of ISIS on Twitter. In this direction, firstly, general information about sympathizers is given. The most influential users were found within my dataset. In addition, information was provided about the sympathizers' behaviors, relationships, and communication directions. Finally, the correlations between the tweets of the sympathizers and the ISIS attacks were analyzed.

DISCUSSION

I found many essential and valuable findings about the Turkish sympathizers of ISIS on Twitter. Although the study differs from many studies in terms of the analysis steps it follows in general, the results show consistency or differences from some studies. Although the literature on the Turkish sympathizers of ISIS is limited, similar or different findings have been reached with studies focusing on Turkey. However, many additional analyses were added to these studies, which differed from other studies.

The first finding is that most Turkish sympathizers of ISIS are followed by 0 to 99 users. This finding differs from the results of Berger and Perez's (2016) research. The authors found that ISIS sympathizers were followed by an average of 327 to 480 users (Berger & Perez, 2016). However, as a result of my study, I found that only 31.09% of Turkish sympathizers are followed by 100 to 999 users.

Similarly, Berger and Perez (2016) found that ISIS sympathizers tweeted an average of 200 tweets. Likewise, Yalçınkaya (2016: 32) found that the Turkish sympathizers of ISIS tweeted an average of 5.3 per day and more than 150 per month (see also Dede, 2018: 121). However, my analysis shows that 61.48% of Turkish sympathizers of ISIS have between 0 and 99 tweets. Although this result is not consistent with the study of Berger and Perez (2016) and Yalçınkaya (2016: 32), it is compatible with the research of Bruno Guilherme Gomes and colleagues (2017: 457-460). The authors found that most of the ISIS sympathizers have fewer than 100 tweets (Gomes et al., 2017: 457-460).

One of the study's critical results was finding the most influential users among the sympathizers in my dataset. Accordingly, the five most influential users in my dataset were found. The number of tweets, followers, retweets, and favorites of these most influential users is consistent with the literature. Berger and Perez (2016) found that the most influential users are more active than other sympathizers in many respects. Similarly, my analysis found that the most influential users are more active than others regarding the number of tweets, followers, retweets, and favorites.

I found that most Turkish sympathizers of ISIS tweeted from Android-supported devices. In addition, another critical finding emerged as a result of the location analysis of the users. It was found that most users did not specify any location. This result is consistent with the literature. Yalçınkaya (2016: 27-44) found that most sympathizers did not select the location. However, compared to Yalçınkaya (2016: 27-44), I reached a more detailed finding about the location. A study by Aaron Stein (2016: 20), based on official documents, finds that ISIS has well-established networks in Turkey in cities such as Istanbul, Ankara, Konya, and Adana. My location analysis findings support this argument. The cities with the most users specifying their location are Istanbul, Ankara, and Adana.

As a result of the analysis of the most frequently used words by ISIS sympathizers, I found one of the study's significant findings. When the most used words in tweets are examined, it is seen that religious words such as "Allah," "Islam," and "Amen" are among the most used words. In addition to such religious words, terms such as "USA (United States of America)," "Assad," "ISIS," and "Fatah/conquest" are frequently used in tweets. This finding is relatively different from some studies in the literature. Yalçınkaya (2016: 27-44) finds that the most frequently used words in the tweets of the Turkish sympathizers of ISIS were words such as bomb, Partiya Karkeren Kurdistane (PKK), and Yekineyen Parastina Gel (YPG), and religious terms were not used often. Similarly, ORSAM (2017: 34) found that Turkish supporters of ISIS frequently use words related to violence or war, such as Jihad, martyrdom, and Kuffar, on Twitter (see also, Dede, 2018: 121; Dede & Tansü, 2020: 106-124). Likewise, Narin and Ayaz (2016: 12-13) analyzed the 509 tweets of ISIS sympathizers and found that the USA (United States of America) was not used much in the tweets.

However, there are similarities between the findings of some studies in the literature and my results. Ashcroft and colleagues (2015: 161-164) analyzed the tweets of ISIS sympathizers in English and found that the words "Allah" and "Islam" were frequently used among the most common words in the tweets. Similarly, Gomes and colleagues (2017) found that ISIS sympathizers frequently use the word "Allah" in relation to religion. My findings are consistent with their results.

Another of the study's most important findings emerged from mention and hashtag network analysis. As a result of mention and hashtag Network analysis, it was found that the Turkish sympathizers of ISIS do not have a homogeneous structure, and sometimes other groups support ISIS. As a result of hashtag and mention network analysis, I found that there are one main and two small networks. This result is consistent with the literature. Barceló and Labzina (2020: 1539-1559) found that ISIS sympathizers on Twitter were not homogeneous and consisted of different statuses and groups.

Similarly, Yalçınkaya (2016: 27-44) analyzed the tweets of ISIS sympathizers in Turkey and found that Turkish sympathizers acted under different groups. Likewise, ORSAM (2017: 34) discovered that ISIS Turkish sympathizers do not have a homogeneous structure on Twitter. According to ORSAM's report (2017: 32), there are 21 core ISIS sympathizer accounts, and other users not related to ISIS also support ISIS from time to time (see also Dede, 2018: 121).

When the URLs inside tweets are examined, the most frequently used link is the Twitter URL. These URLs are divided into either the URL of a Twitter user or the URL of a specific tweet. Turkish sympathizers of ISIS use Twitter to communicate with supporters and for other purposes, such as recruitment. For this purpose, posting the newly opened sympathizer accounts creates supporter networking between old and new sympathizers (i.e., Tulga, 2022: 109; Narin & Ayaz, 2016: 12-13). My URL analysis results are relatively different from some studies in the literature. Conway et al. (2019: 145) found that the most popular URL shared was YouTube among tweets of ISIS supporters. However, I reveal that YouTube links are the third most shared link in Turkish tweets. On the other hand, I find that Facebook links were shared very little, consistent with the results of Conway et al. (2019: 147).

Finally, in the analysis focusing on the date of the tweets, significant results were obtained. The most tweeted years were 2022, 2016, and 2021. I reached a relatively different finding from the studies in which English tweets were analyzed. Conway et al. (2019: 148) found that 2014 was the most tweeted year among English tweets, and they named 2014 the "golden year" of ISIS sympathizers on Twitter. On the other hand, I find that the most-tweeted day is Monday. My findings on the most tweeted day reach different results from studies examining English tweets. Ashcroft and colleagues (2015: 161-164) found that Friday is the most tweeted day. Finally, I analyze the correlation between the tweets' date and ISIS's terrorist attacks in Turkey and the world. As a result of the correlation analysis, while there is no statistically significant correlation between the tweet dates and the attacks in Turkey by ISIS, I found a moderate and positive correlation between the attacks in the world and the tweet dates. This result shows that ISIS's attacks worldwide affect tweets, but the most significant effect is not the attacks worldwide. Other variables are more effective in mobilizing ISIS sympathizers.

As a result of these analyses, general, detailed, and meaningful results were obtained regarding the Twitter activities of the Turkish sympathizers of ISIS. While some marks are consistent with the literature, others are inconsistent.

However, despite all these results, the study has some limitations. The most important of these limitations is that Twitter deactivated the accounts of many ISIS sympathizers, and these deactivated accounts cannot be accessed. Another limitation of the study is that the tweets and information of users whose accounts are private cannot be accessed. For this reason, some of the accounts reached could not be included in the analysis because they are private accounts. Besides, the inability to access the private messages of ISIS sympathizers on Twitter and the inability to follow these private messages are among the study's limitations. Considering these two critical limitations, future studies may examine the Twitter behavior of Turkish sympathizers of ISIS in more detail. In addition, analyzing the content of the tweets of Turkish sympathizers of ISIS in future studies can make significant contributions to the literature.

CONCLUSION

Dramatic developments in the internet and social media technologies have caused people to use these technologies more frequently and effectively. These technologies allow people to discuss many topics and share their views on many issues. Millions of people living in many parts of the world exchange view on various issues daily and express their feelings about many different issues or topics. However, these technologies are frequently used not only by people but also by terrorist organizations. Many terrorist organizations have used social media and the internet to spread violent propaganda videos and support their religious ideology and state-building efforts. They also establish one-on-one connections with prospective members via social media (Bodine-Baron et al., 2016: 15).

In particular, ISIS is the terrorist organization that uses social media most effectively. It uses Twitter effectively and actively rather than specific social media platforms such as Facebook or Instagram. ISIS' official media outlets, fighters, and sympathizers act as ambassadors of the organization on Twitter (Chan, 2015: 4-9). Its active use of Twitter was further encouraged by a "Twitter Guide" posted on the "Shumukh al-Islam" forum for ISIS supporters to use Twitter effectively (Ashcroft & General, 2015: 38; Shehabat, Mitew & Alzoubi, 2017: 27-53). Videos and images of violent mass murders, beheadings, and torture by ISIS on Twitter are used to intimidate its enemies, recruit sympathizers or members, and train recruits from around the World (Harbi & Kamsin, 2021: 19-29). Besides, ISIS effectively uses Twitter in Turkey to recruit and create fear among the public. The reason for this is that the relatively widespread use of Twitter among the general population of Turkey causes ISIS to use it effectively in Turkey (Tulga, 2022: 109-132).

However, although many academic studies have demonstrated that ISIS uses Twitter quite effectively and actively, studies focusing on the behaviors, relationships, and communication networks of ISIS sympathizers on Twitter are limited (i.e., Windsor, 2020: 506-538; Vergani & Bliuc, 2015: 7-20; Tulga, 2020). Studies focusing on the behavior, relationships, and communications of Turkish sympathizers of ISIS on Twitter are even more limited. Therefore, this study focuses on the Twitter behavior of ISIS's Turkish sympathizers and their communication relations.

As a result of this study, essential and contributing findings to the literature were reached. Firstly, it was found that the Turkish sympathizers of ISIS were mostly followed by 0 to 99 users, while most tweeted from 0 to 99. Secondly, as a result of the mention and hashtag network analysis, which show the communication and interaction between users, it has been concluded that the Turkish sympathizers of ISIS do not have a homogeneous structure on Twitter, and some small groups support ISIS on Twitter. Third, users connect new and old users with the Twitter URLs they share, and in addition, they share news about ISIS. Finally, ISIS Turkish sympathizers take action as a result of ISIS attacks in the world rather than in Turkey. However, the correlation between ISIS attacks worldwide and tweet dates shows that attacks worldwide are not the only factors motivating sympathizers.

Despite all these critical findings, accounts that could not be reached and deactivated accounts are the most important limitations of this study. In addition, the inability to reach the private messages of Turkish sympathizers of ISIS due to company policy is one of the limitations of this study. Eliminating these limitations in future studies will help add more detailed and comprehensive studies to the literature. Also, future studies focusing on the content of tweets of Turkish sympathizers of ISIS can make an essential contribution to the literature related to ISIS.

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