The informative use of Twitter during the Covid-19 Pandemia in Turkey

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ABSTRACT

Twitter, a microblogging and social networking platform, has become a center of information and communication that allows us to stay connected in times of crisis. Twitter is a social media tool that can be used for educational purposes, especially in a crisis. Twitter allows users to share ideas and information via text messages called tweets, limited to 280 characters. This research is designed to reveal which authorities more widely inform areas of the public as part of the COVID-19 pandemia process. Snowball sampling method was used and tweets sent between March 11 and May 4 2020 by real and legal accounts in Turkey in health, education and utilities related to COVID-19 were analysed for this study. 4042 tweets sent from 800 different real and legal accounts, and content analyses were carried out. Information tweets sent by experts in health, education, and public fields were categorized in 10 different topics: science-health, vigilante activities, education, isolation, protection, economics, aid, hygiene, psychology, and culture & arts activities. As a result of the analysis, information tweets made in the areas of protection and isolation were found to be the most informed areas and the least informed areas in cultural arts and illegal activities.

Keywords: *Twitter, social network, COVID-19, content analysis,*

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INTRODUCTION

Coronavirus Disease named COVID-19 by the World Health Organization (WHO) on February 11, 2020, is a rapidly spreading disease caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV2). (Lopez, Vasu&Gallemore, 2020). The first disease cases were reported in Wuhan, China in late December 2019, and the Chinese government imposed a quarantine on the city of Wuhan on January 23, 2020 due to the rapid increase inthe disease and high mortality rate. As the disease, cases became visible in other countries, WHO declared Public Health Emergency of International Importance (Chen, Lerman, &Ferrara, 2020). Upon reporting that the disease was spreading rapidly in some parts of the world, including South Korea, Iran and Italy, WHO has recognized COVID-19 as an epidemic that affects countries in all settled continents (Chen et al., 2020; Lopez et. Al., 2020). The first case in Turkey was seen on March 11, 2020.

COVID 19 case numbers and the rate of spread have significantly risen since the first cases reported in Wuhan, China on December 19, 2019. To limit the morbidity and mortality of this disease, an international effort has been launched and governments have implemented a wide variety of policies, such as quarantine, declaration of emergency and social distance measurements. (Kwon, Grady, Feliciano & Fodeh, 2020; Lopez et al. 2020). Preventive precautions implemented by national, state and local governments now affect the

daily routines of millions of people worldwide. The most widely used of such precautions is "Social Distancing", is aimed at reducing the rate of disease spread by reducing physical contact between people (Chen,et al.,2020). Social distancing measures have resulted in the closure of sports events and conferences, schools and colleges, reduction or closure of businesses, and many employees working from home or being unemployed (Chen, et al., 2020; Lopez, et al., 2020). To prevent the spread of the disease in Turkey, schools were closed on March 16, 2020 and distance education started on March 23, 2020. In addition to these measures, public places such as shopping malls and cafes were closed and the working population was encouraged to work from home. The measures taken, such as social distancing rules, have led to individuals being locked in their homes, and social networks, especially Twitter, have become a center of information and communication that allows us to stay in touch during the crisis (Chen,et al., 2020). Twitter is a microblog platform where the users socialize via their tweets (Kwon, et al., 2020). Users on Twitter can tweet ideas, news and other tweets and cotribute to the original content. They can also interact with the existing content via their replies, adding to their favorites or retweeting (Kwon, et al., 2020). Twitter focuses on sharing ideas and information rather than mutual social interaction (Huberman, Romero & Wu, 2009; Kwak, Lee,Changyun & Moon, 2010). Twitter, unlike Facebook, provides the opportunity of anonymity needed in online communication (Huberman et al., 2009). Users do not need to submit personal information to search for friends; thus the site focuses more on what you want to say rather than who you are (Huberman et al., 2009). Twitter allows the users to follow the people who have similar interests and gain knowledge and to reach the information first hand. Due to the attractive features of Twitter, it captures the attention of both users and educators. So it has been often used for educational purposes. Twitter has been shown to enhance active and informal learning, promoting engagement both in and beyond the classroom (Kassens-Noor, 2012).

Microblog platforms like Twitter are among the first places that individuals refer to as an online source of information (Barbe&Pennington-Gray, 2018). Twitter has the most news-oriented users (Hughes&Wojcik, 2019). In 2018, Twitter was preferred more than written press articles as a news source in America (Mitchell, 2018). Twitter provides links to headlines and other media tools, allowing people to access the information they want (Barbe & Pennington-Gray, 2018). Thanks to Twitter with its 340 million subscribers, information is dispersed faster than ever before. In times of disaster, social media platforms such as Twitter are generally one of the first and most frequently checked sources of information. (Lindsay, 2011; Austin et al., 2012). Due to this fact, Twitter is used for early precautions against emergencies (Chatfield & Brajawigada, 2012), during emergencies (Wei, Qingpu, Wei & Lei, 2012) and after disasters to help (Jaen-Cortés, RiverAragon, Reidl-Martinez & Garcia-Mendez, 2017) public.

Social Media, especially Twitter, became a vital tool in crisis communications (Barbe & Pennington-Gray, 2018). Millions of people use social media in natural and man-made disasters in an increasing amount, providing effective opportunities for the public to produce and disseminate information (Castillo, 2016). Social media provides real-time communication between information producers and information seekers (Sigala, 2011). Social media has significantly changed crisis communication (Schroeder et al., 2013). The defining feature of social media is the direct interaction between users and content (Xu, 2020), as users can actively chat by replying and sharing the content (Guo et. al, 2016). The interactive function of social media platforms is especially valuable in emergencies (Xu, 2020). Penington-Gray (2016) stated that avoiding communication during the crisis made the target audience more sensitive to the effects of the crisis. In times of crisis, strategic reactions lessen negative effects and contribute to healing (Coombs, 2014). Hence, Cahyanto, Pennington-Gray, Thapa, Srinivasan, Villegas,Matyas & Kiousis (2016) claimed that providing useful information helps to reduce stress in times of crisis and increase the level of optimism in times of uncertainty. As stated by Jin, Liu,and Austin (2014), citizens expect governments to properly manage emergencies, provide necessary information, and use social networks in times of crisis. Hernández-Hernández, de la Roca Chiapas & Barragán (2017) point to three areas where social networks are useful for emergencies in local communities. These areas can be said to provide information, convey information, and respond to emotions. According to the authors, social networks and Twitter can play an important role in these three areas. In addition, timely information provided by official institutions can create a sufficient sense of perception and confidence in citizens that these institutions adequately address the emergency (Henríquez-Coronel, García, & Herrera-Tapia, 2019). In a crisis, people experience a high degree of

uncertainty and want to seek timely and accurate information to reduce this uncertainty (Reynolds & Seeger, 2005). Therefore, officials and experts must immediately and clearly convey scientific information in a language that the public understands (Besley, 2015). It is recommended that organizations stay in contact with the masses starting from the early days of the crisis and maintain this communication throughout the crisis (Reynolds & Seeger, 2005). Thus the use of social networks by both government and non-governmental organizations to address different stages of emergency and extraordinary events has increased in recent years (Chatfield, Scholl & Brajawidagda, 2013; Li, Caragea, Caragea & Herndon, 2018). As time is important in emergency care, Twitter's quickness and access are two features that make it the most used social network in disaster situations (Chatfield, Scholl & Brajawidagda, 2013).

Social media plays an important role in information dissemination and consumption during the COVID-19 pandemic. (Godfrey, 2020). The spread of the disease has created an environment of threat, risk, and uncertainty globally. This can be measured from the extremely high number of tweets corresponding to the epidemic in as little as 2-3 months (Rajput, Grover & Rathi, 2020). Social media has both positive and negative social effects on individuals with increased social distance and confidence in online communication (Sharma, Seo, Meng, Rambhatla & Liu, 2020). For example, safety tips such as "wash your hands" and "stay home" are widely shared to gain community support in tackling with the COVID-19 pandemic (Godfrey, 2020). However, false information and true information are spread from media like Twitter. Misinformation about the COVID-19 pandemic is particularly harmful, as any false step can lead to exponential spread of the disease and pose a severe public health risk, leading to accidental death by individuals taking self-medication without consenting to a doctor (Vigdor, 2020). The risk of misinformation surrounding the pandemic led the World Health Organization (WHO) to create a "Mythbuster" page. Still, this countermeasure encountered some problems as a result of the rapid spread of news and false information on social media (Sharma, Seo, Meng, Rambhatla & Liu, 2020). For these reasons, it is extremely important for institutions, organizations, and leading individuals to share accurate and clear information on social media to reduce the fear and panic of people and spread the right information in the direction of combating pandemic. In this context, this research was conducted for informative sharing of Twitter users during the COVID-19 pandemic process. Starting from December 2019 in China and in January 2020 the whole World, Covid 19 pandemic was first detected in March 2020 with cases of death in Turkey. In the following days, restrictions and sanctions were imposed by the government and this process affected the lives of individuals in our country as well as in the whole world. With the establishment of the Scientific Committee from January in our country and the announcement of COVID -19 as PANDEMIC by the World Health Organization on March 11, 2020, people have entered a process that differentiates their lives in social and economic terms. After the announcement of the pandemic on March 11, 2020, the restrictions in our country have triggered curiosity and hunger for knowledge in society.Twitter usage has increased with the pandemic process since the end of 2019, and the number of daily active users, which was 152 million at the end of 2019, reached 186 million by mid-2020. As of March, the shares on the subject grew immensely and caused intense information pollution in informing.

Twitter, a microblogging and social networking platform, allows its users to share short messages limited to 280 characters and called tweets. Since last year, with an increase of 24%, Twitter has become a platform of the global problem confronted and one where solutions about the case are disseminated. With the COVID-19 pandemic, false and dangerous information on the subject emerged in all social media. This research aims to show how the public is informed by experts in their field in the context of COVID -19 and in which topics the tweets are most informed as a social media platform for this purpose. In this context, this research aims to find out on which topics the experts informed the society via COVID -19 via Twitter during the pandemic period (During the pandemic period, the public informed the society on which topics with tweets about COVID -19 sent by experts in their field).Research Method

This study employed a qualitative approach in order to present a clear understanding of the study focus. Based on a case design, tweets from various fields were gathered using the snowball sampling analyzed via pattern coding.

Tweet Dataset

COVID 19 Pandemia has brought social, economic, and political problems that affect every aspect of people's lives (OECD, 2020). Sharma et al, (2020) pointed out the importance of the problems caused by the spread of false information in social media. Hence, this study covers the tweets posted by real and legal persons who are competent in their fields between March 11, 2020 and the beginning of the bans and blocking start of May, 2020. Because it is important that tweets sent for informational purposes come from real people, the study focused on three main areas that affect most people's lives. These areas were determined to be health, education, and public services that most affect our lives during the epidemic COVID 19.'In this study, a snowball sample was used to compile the tweets posted by experts in their fields. Snowball sampling method is used to determine which cases are related to the subject and protect this structure (Marshall & Rossman, 1999). This sampling method tries to ensure that the obtained data comes from sources suitable for fiction. In particular, the Minister of Health and the members of the Scientific Committee on Coronavirus working in the field of health, the Minister of National Education working in the field of education, especially in universities and educational institutions, politicians and politicians, governors and governors, municipalities, especially legal entities and tweets sent by real people about working for society were gathered. When manually collected tweets were examined in terms of content, those related to COVID -19 were included in the tweet data set. This data set consisting of 4042 tweets sent from 800 different accounts was analyzed.

Coding Schema

A two-person coding team was formed to analyse 100 tweets and the team was informed about what to pay attention to. First of all, attention was given to the tweeters provided information about their areas of expertise in their posts. Tweets containing any speculative situation, even with their domains, were excluded from the analysis. Another element was that the chosen tweets did not contain multiple judgments and did not touch more than two categories of elements. Tweets containing two categories were encoded over the more dense point of tweet integrity. After this training, each coder was asked to encode and analyze 400 tweets. Later, coders came together and worked on the suitability and coding of these analyzed tweets. As a result of this process, a code and category list consisting of 10 categories prepared for coding. Although each coder was bound to the list in his possession, they were asked to examine the new situations faced and inform the team.

Content Analysis

Content analysis was done on a data set consisting of 4042 tweets. Each tweet was parsed and grouped by giving the specified codes. Each tweet was processed as single input and took its place in the specified codes - evaluated under only one code. Because a tweet expresses a singular situation while creating the data set, coding was made according to the highlighted element in case some tweets reveal dual orientation. In order to determine the consistency of the coding process, each coder analyzes the same 20% data set, and whether the coders use similar codes for the same tweets (Miles & Huberman, 1994). As a result of the analysis performed by the coders, where the number of matched tweets was divided by the total number of matched and unmatched tweets, it was found that the inter-coder reliability values ranged from 0.78 to 0.95. According to Miles and Huberman, these values are sufficient to reach 70% and above. Table 1 shows the codes assigned in the analysis process, the sample tweets for each code, and the categories to which these codes belong. There are also consistency and reliability coefficients between coders.

Table 1: *Content Analysis Result Categories and Codes*

Codes	Samples	Inter-rater reliability	f	%
Science-Health (N=584)		0.88		
Vaccine development	"Coronavirus vaccination studies progress on 8 different platforms."		45	1,11
Integration of Science-Technology	"The pandemic tracking drone can track and identify people with corona virus symptoms such as body temperature, heartbeat, cough in the crowd with sensitive sensors and surveillance cameras equipped with it."		46	1,14
Device	"The first prototype of the domestic breathing apparatus prepared for mass production was successfully produced."		44	1,09
Medicine	"Researchers from different countries evaluated 10 thousand different compounds against coronavirus and found 6 potential drug candidates out of them."		14	0,35
Gene map	"With the evolutionary analysis of gene sequences, the origin of the virus and its biological changes can be determined and predictions about its spread can be developed."		28	0,69
Diagnosis	"The most common symptoms are fever, cough and shortness of breath. In severe cases, pneumonia, severe respiratory failure, kidney failure and loss of life may develop."		85	2,10
Diagnosis kits	"Our scientists developed one of the first diagnostic kits. Working with our 26-person science of Turkey's established universities are giving direction to the Board."		21	0,52
Protective equipment	"Production of 100,000 cloth masks per day is started."		196	4,85
Treatment Method	"Covid19immune plasma and cure is approved."		81	2,00
Treatment Facility	"Triage areas were created in our hospital to prevent the spread of the virus epidemic."		24	0,59
Illegal Activity (N=176)		0.83		
Fraud.	"We warn our citizens against people who call citizens using the name of the Metropolitan Municipality and direct them to fake accounts by requesting donations."		46	1,14
Illegal production	"Operations were arranged for persons who were found to have made fake disinfectants."		21	0,52
False information	"Don't accredit the news circulating on social channels during the pandemic process and whose source is unknown."		13	0,32
Control	"Inspections have been carried out in markets to ensure that customers can shop according to their social distance."		96	2,38
Education (N=247)		0.94		
Suspension in education	"All trainings being given have been postponed to a later date. The schedule for the trainings will be determined according to the developments and announced to the parties. It is announced with respect to all our stakeholders."		44	1,09
Distance Education	"We provide distance education to over 18 million students through the Education Information Network (EBA)."		95	2,35

EBA	“Parents among us” starts at 20.00 every weekday on TRT EBA Primary and Secondary School channels. “		23	0,57
Educational resources	“We offered the Higher Education Council Courses Platform to your open access.”		51	1,26
Exams	“Within the scope of the coronavirus epidemic measures of our state: University Enterance Exam Schedule was updated and published on osym.gov.tr.”		23	0,57
Internship	“We have also made new decisions regarding the internship practice training of our students who are graduating from the Dentistry and Pharmacy programs in our higher education institutions.”		11	0,27
Isolation (N=523)		0.78		
Quarantine	“The woman from abroad was taken to the hospital when the coronavirus test was positive; the site with 2 blocks was quarantined.”		57	1,41
Isolation	“Let's give importance to social isolation for our own health and public health. The short duration of the process depends entirely on the sensitivity of citizens.”		200	4,95
Curfew	“There is information that a curfew has been declared for 2 days in 31 provinces.”		92	2,28
Restriction of transportation	“With the circular issued by the Ministry of Interior, more than 50 percent of the capacity in public transportation vehicles cannot be transported.”		95	2,35
Transportation barrier	“30 metropolitans including Istanbul were closed to vehicle mobility.”		79	1,95
Protection (N=828)		0.81		
Precautions	“In order to prevent the corona virus epidemic, fresh vegetables and fruits sold in markets, greengrocers and markets will be sold in bags.”		98	2,42
Healthy life	“People with a compromised or malfunctioning immune system are more likely to have a severe coronavirus infection.”		58	1,43
Personal Hygiene	“Washing hands frequently for 20 seconds . Not touching mouth with hands. Social distance of 1,5meters prevents Coronavirus spread.”		199	4,92
Use of masks	“Masks and gloves were distributed to bakeries operating in our district.”		150	3,71
Mask- E-Government	“A service that allows all citizens between the ages of 20-65 to make their free mask applications via e-Government Gateway has been opened.”		34	0,84
Social Distancing	“It is important for our health to maintain social distance in the community and to leave at least one meter distance between every two people.”		135	3,34
Measurement of the Temperature	“We control the body temperature of the passengers and take immediate measures against risky situations.”		27	0,67
Closing the public places	“As part of the precautions against coronavirus, walking and bicycle paths and picnic areas have been closed for a while.”		127	3,14
Economy(N=305)		0.88		
Financial Support	“With payments of 1000 TL per household, distribution was made to a total of 4,869 people in their homes over a two-day period via our district governorships.”		181	4,48
Economic support	“We have prepared our 3-month economic precaution package to protect the economy of our citizens against the corona virus epidemic.”		56	1,39

Financial recession	"Takingthe widespread spread of the epidemic to many countries, cross-border economic links and activities, and the massive confidence effects affecting the financial and commodity markets into account, a coordinated, international response is required."		68	1,68
Assistance (N=416)		0.88		
Fidelity(Vefa)	"Our Vefa Social Support Groups continue to meet the needs of citizens over the age of 65 or with chronic illnesses due to coronavirus."		224	5,54
Provisions	"Breakfast packages and hot meals are delivered to 517 households in total."		168	4,16
International Aid	"Our humanitarian aid to combat the epidemic continues with Serbia, Macedonia, Montenegro, Bosnia and Herzegovina and Kosovo."		24	0,59
Sanitation (N=499)		0.95		
Disinfection	"We work with great effort until there is no place left to be disinfected."		499	12,35
Psychology (N=355)		0.86		
Motivation	"Join us today with your applause, your voice or your instrument to our musicians on our bus from balconies, windows."		214	5,29
Psychologic support	"In such days of difficulty, our Psychological Support Line is always with you to get away from your mood and to get rid of feelings such as fear and anxiety."		56	1,39
Psychologic prevention	"Suggestion: It is important not to watch the coronavirus news until the children sleep, and not to talk with them if possible."		32	0,79
Lament	"Dear scientist Prof. Dr. Cemil Taşçıoğlu's death has deeply saddened all, accept my condolences."		25	0,62
Discharge	"A 65-year-old patient with coronavirus was treated in intensive care for 8 days and was discharged yesterday."		28	0,69
Culture &Arts (N=109)		0.83		
1. Culture and art sports activities	"Do not neglect sports during your stay at home. Stay home but don't keep sedentary."		81	2,00
Prevention of cultural, arts and sports activities	"We have postponed international mobility projects as a two-way measure."		28	0,69
		Total = 4042		100

FINDINGS

Tweet accounts

The data set included 4042 tweets posted by 800 real and legal persons. Within this sample, a frequency calculation was made to reveal in which areas the real and legal persons are represented by the 800 different Twitter accounts, which were obtained starting from education, health and public areas (Table2). In the field of education, a total of 406 tweets were sent from 76 accounts of the Ministry of National Education, Council of Higher Education and educational institutions. The accounts that made the most frequent notification in this category were the accounts belonging to the Ministry of National Education, the Minister of National Education and the Presidency of the Higher Education Institution, respectively. It was determined that 113 people in the field of health (doctor, pharmacist, biologist, psychologist, etc.) sent 539 tweets. The accounts that made the most frequent notification in this category were the accounts of the Minister of Health, the Ministry of Health and the member of the scientific board, respectively. Posts in the public domain are made from 163 accounts and 780 tweets.

Accounts that report most frequently are governorships, governors and ministries, respectively.

Municipalities have sent 1660 tweets from 239 accounts. The most frequent tweets were from the accounts of Metropolitan municipalities. 238 tweets were made from 61 accounts of politics, and politicians who took part in the management of political formations were identified in the first three places. NGOs have 419 tweets from 146 accouts.

Table 2: *Distribution of Twitter Accounts by Fields*

	Account nr f	%	Tweet nr f	%
Education	76	9,50	406	10,04
Health	115	14,38	539	13,33
The Public	163	20,38	780	19,30
Municipalities	239	29,88	1660	41,07
Politicians	61	7,63	238	5,89
NGO	146	18,25	419	10,37
Total	800	100	4042	100

Categories

In the analysis made for the current study, the tweets sent for informative purposes were collected under 10 basic categories (Table 1). These categories were determined as Science-Health, Illegal-Activity, Education, Isolation, Protection, Economy, Assistance, Sanitation, Psychology and Culture-Art-Sports.

Science-Health

The area of science & health may be stated as the most speculated one in the current course. 584 tweets posted in this field constitute 14.45% of total tweets. These tweets represent ten subfields in this category: Vaccine development, Integration of Science-Technology, Device Manufacturing, Medicine, Gene map, Diagnosis, Diagnostic kit, Protective equipment, Treatment method, Treatment facility.

In the explanations, the importance of "*Isolation and gene mapping of circulating virus vaccine development studies and advanced research" was highlighted and ….there are promising candidate vaccinations that "were expected to be developed since the start of the pandemic*". This may be a long process. The importance of identifying risk groups and introducing new treatment options is emphasized. Along with the vaccination studies, it is announced that those with" *symptoms like throat aches, persistent fever*" should consult to health institutions for diagnosis. After the diagnosis made using the Diagnostic Kit, information was given about both the "*immune plasma and its therapy*" and the innovations made in the infrastructure arrangements of the facilities where additional treatment will be applied. Another information shared through the Twitter was that the initiation of mass production of domestic respirators. With Covid 19, respirators became the most needed medical device around the worldworldwide. With the use of protective equipment, especially the mask to protect against the COVID 19 epidemic, which is fought against around the world, the public, municipalities and NGOs recognize the need encountered in the first days of the epidemic. The employment of volunteers and institution employees as workforce and the announcement of this made more initiatives to work in this field apparent. Tweets about the studies conducted in educational institutions were spread to the public. The tweet of "*The protectors produced by our academicians and students shield our healthcare professionals*" may be given as an example. Alongside with the educational institutions, local authorities and NGOs have announced that they have shifted their scholarships towards the issue at hand and declared, "*We support our healthcare professionals who struggle with COVID 19 with our artistic vocational training courses with our protective clothing production*" in their tweets. Also, they have called the public for help "*About producing medical masks in their workshops to get help from those who can work with sewing machines*" in the tough process.

Illegal – Activity

Another important factor encountered in the Covid-19 process is the activities carried out to the detriment of society. Informative tweets about this factor are categorized as illegal activity (N=176) under the titles of audit, fraud, illegal production and fake information. In tweets against people who try to defraud people by taking advantage of this process, "*They drew attention to fraud*" by saying "*Dear fellow*

countrymen, this issue is vital. Unfortunately, malicious people are looking to profit by taking advantage of the sensitive process we are in. Let us not allow them and be sensitive to possible situations." In addition to these illegal activities carried out directly, they also gave the message that they track the products offered to the public, sharing the information "raid on the illegal mask factory" with the shares that draw attention to the illegal production under the counter." One of the most important difficulties encountered during the pandemic was the public's access to accurate and reliable information. The public was informed about the fake news via tweets like "*Let's follow the official statements for accurate, fast, understandable and reliable information during the pandemic*."

Both public bodies and municipalities carried out inspection procedures in order to eliminate all these problems. The public was made aware of fraudsters and fake information sharing, by frequent sharing of information about audit activities through tweets like "*Tradesmen were controlled for cash and shelf prices, unlabeled product sales, compliance with hygiene rules and prevention of excess price increases*."

Education

The pandemic caused a digital shift in education community**.** Analyses revealed that tweets posted in this category counted 247(6.11%). The first thing confronted in the pandemic was the suspension of education. To prevent the spread of the epidemic, all institutions engaged in education and training had to suspend education. This was announced via the tweet of "*The decision to extend the interval given to formal education until April 30, covers all official and private education and training institutions under the Ministry of National Education*." And higher education institutions informed students with tweets such as "Dear Students, Like all associate and undergraduate students continuing formal education programs, associate and undergraduate students completing internships and applied education from health, teaching, science, and engineering fields have been suspended"." Following the given information about suspension, higher education institutions initiated their preparations about proceedings and for the period after the suspension of education an information tweet about the probabilities was given as "*Our educational institution will be on holiday for 3 weeks. If the epidemic continues at the end of 3 weeks, we will continue with the distance education model. If the epidemic subsides, we will continue where we left* off."

The distance education system was adopted in our country and the rest of the world due to confrontation with a new case in the world history. In Turkey, the Information Network in Education System (EBA) has been used for about a decade to provide educational materials for students in K12. Since Turkey has such a system, during the pandemia it is used as online educational platforms along with the educational TV channel named EBA TV. Primary and secondary school students and parents were informed about the case with tweets like "*Let's make use of the Distance Education application in the most efficient way under the guidance of your teachers*." Similarly, higher education institutions have tweeted about the process with tweets like "*Education continues remotely throughout the spring semester following the decision taken by Council of Higher Education*."

EBA (information network in education) was the first remedy recruited for primary and secondary education activities within the scope of distance education. With rapid preparations and arrangements, all students are informed about the process via the tweet of "*Dear students, lessons start on Monday. You can follow your lessons on EBA TV*."
Several NGOs and private education instutitions have given access to their *educational resources*. These resources are announced via the tweets like "*You can benefit from our TYT, LGS and AYT courses on the application free of charge and consolidate your knowledge*." Apart from the educational resources, digital platforms are introduced to the public via tweets like "*You can watch our Guess What videos prepared for you on our Youtube channel from the link below*."

Although the distance education process supported the interruption of education and training, another problem encountered was how to conduct exams and internships within the scope of the courses. Informative tweets about the case were made by specifying the people involved to indicate that both the summary and the information were accurate and reliable. For example, this tweet about exams also refers to the statement of the minister of national education. *2020 YKS will not cover the second term topics.*

Minister Selçuk: Students getting prepared for YKS should be comfortable. *We are taking all necessary precautions with the Higher Education Council and The Measuring, Selection and Placement Center (OSYM)*. For another important element of education; the internship issue is clarified by this tweet "*We informed our universities about the decision we made to compensate for the deficiencies in implementation studies with the course, homework and file preparation.*"

Isolation

Individual isolation came to the foreground among the precautions against pandemic and primarily, sick individuals and these areas are quarantined and healthy individuals are encouraged to stay at their homes. In this category, it is seen that the 523 (12.94%) informative tweets made are about quarantine of sick individuals, encouragement of healthy individuals to stay in their homes, and curfews, as well as efforts to reduce the disease transmission rate to the least by restricting transportation. Information on quarantine, especially for people coming from abroad." People coming from Umrah were quarantined in dormitories in Konya and Ankara" was shared. "*Further precautions will not be needed if each citizen keeps themselves in quarantine voluntarily*" was another tweet as anincentive to prevent contact of the individuals reminding them to stay home. As these precautions did not suffice, Ministry of interior tweeted to the public about a temporary curfew as follows: "*The Ministry of Interior imposed a curfew within the provincial borders in 30 Metropolitan and Zonguldak from this night until Sunday, April 12, 24:00."*

Another step taken was to prevent intercity transportation by limiting urban transportation. About the restriction of transportation was announced both in terms of time "The urban public transport services of private public buses are provided only between 07.00 and 21.00." and in terms of number of people "The circular about 50 percent of passengers and sitting at a safe distance in public transport began to be implemented against the Corona virus epidemic." Notices to prevent inter-city travel, intended as another way to restrict the mobility of citizens, were tweeted: "As part of the measures against the outbreak of corona virus, no vehicle leaves the bus station without an inter-city travel permit.

Protection

Despite the fact that isolation is the most effective protection against the virus, information on how to protect yourself from it with some precautions has been shared frequently. They account for 20% of the total number of tweets in the 828 shared tweets listed. The tweets focused on the importance of avoiding confrontation with the virus, as well as tweets such as "If we follow the precautions, we can control the spread of the disease. We need to reset the possibility of contact with the virus" were some of the tweets included in the dataset in this category. In addition to precautions, emphasis was placed on healthy living: "Eat a balanced diet, be active, do not smoke, follow hygiene rules." Personal hygiene rules are emphasised by tweets such as "Our personal hygiene is very important in our fight against coronavirus! Please wash your hands frequently with soap." Information about the use of masks, which is one of the most important methods of protection, is promoted with the following tweets. *"In the last three days, based on the obligation to use masks in public transportation in order to be protected from the epidemic; We distributed 25 thousand masks."* Obligatory use of the masks lead way to the opening of aid channels and information were shared through the tweets like *"A service was opened for all citizens between the ages of 20 and 65 to apply for their free mask via the E-State Gate."* Another study of keeping the social distance was the placement of *"Signs that determine the 2 meters of social distance in front of the ATMs located in the city center."* Another precaution was the measurement of temperature in public places."*Our Municipality Police teams, which applied temperature measurement to those who came to the market, distributed disposable masks and gloves to the sellers"* tweet was among the tweets of protection measures. Information about the restrictions made under the protection was announced through tweets, "Theater, cinema, show center, concert hall, engagement hall, music restaurant, café, casino, pub, tavern, coffee house, cafeteria, hookah café, internet hall were temporarily suspended." The information covered by the scope of protection was determined as those related to healthy living and personal hygiene." Apart from these, use of masks and measurement of temperature for protecting the social distance were the most prominent subjects.

Economy

Global pandemic has also lead to a worldwide economic chaos. Informations made in this area appear with 305 tweets (7.55%) and they cover topics of financial support, economic support and economic recession. Tweet of *"In line with the Economic Stabilization Package Shield determining the scope of the measures against Coronavirus 2 million needy families across Turkey started receiving subsidy payments of ₺1,000 beginning from April 1."* Tweets were announcing the financial support of the government to the public as well as the tweet *"Enterprises that have started short-time work began to benefit from Short Term Work Allowance"* about the workplaces and their workers. As an example of the economic downturn that was the main cause of these aids the tweet, *"It has been reported that we have an economic loss of approximately 300 million dollars after the Customs Gate was closed"* was published. During the pandemic, financial support was given to the needy like economic aid to businesses. Moreover, the public was informed about the economic recession.

Aid

Economic fluctuation required more need for aid. Twitter was the platform to announce the aids to the public. 416 tweets were shared about aid provided by public agencies and organizations, local governments, non-governmental organizations, and individual donors (10.29%). VEFA groups - which are government-selected officials formed to help the public during the pandemic - and municipalities in almost every community informed the public about their actions through tweets such as "VEFA is meeting the needs of our citizens over 65 or with chronic illnesses due to the coronavirus." Also, "Delivering breakfast packages and hot meals to a total of 517 households over the age of 65 and with chronic illnesses" were tweets that informed the public of the support. Twitter was the platform for announcing humanitarian aid deliveries to other countries affected by the pandemic.

Cleaning

Since the spread of the virus, which is the cause of the Covid-19 pandemic, passes from person to person through airway and surface-contact, cleaning has started to be emphasized worldwide. Cleaning of common areas for the virus, which was removed with water and soap, was done by public institutions, organizations, and municipalities. The number of informative tweets about disinfection required to reduce the spread was determined as 499 (12.4%). Information about cleaning of the streets was shared in the tweets as *"Washing-up and disinfection works have been carried out in 58 streets and avenues today." The information that both the vehicles driving on the roads and the roads will be disinfected was reported in the tweets as follows: "All vehicles driving on the road to Ankara will continue to be disinfected in our district."*Disinfection processes in hospitals were stated as *"Disinfection process has been carried out in the Emergency Service, Ground Floor and various areas that are frequently used."*

Psychology

Psychology was one of the most emphasized factors during the pandemic. Three hundred fifty-five tweets (8.78%) were about public support. The most important ones were about motivation increasing tweets. The tweets announced "*Street concerts*" and "*Applause for the health workers*."

Announcements were made especially about “Children’s not watching the news about Coronavirus.” another activity on the same area was about “Psychologic support lines” for the public to get help from the experts. The joy shared with discharged patients was shared with the tweet of *“11 citizens were discharged from the hospital with applause.”* Alongside joy, mourning tweets were published too.

The tweet of *“Death of dear scientist Prof. Dr. Cemil Taşçıoğlu has deeply upset us all.”* Was among those reflecting human emotions. In a period when we were happy with the psychological support and precautionary information provided to prevent the society from falling into complacency and with the discharges, keeping the mood of the public up meant touching the lives of many people.

Cultural and Artistic Activities

Pandemic of Covid 19 Pandemic has affected our social and economic lives as well as our health. 109 tweets (2.70%) were posted to declare the delay or lead people to alternative activities to Culture-Arts and Sports. Restrictions were placen on cultural, artistic and sports activities. Information about the subject was with the tweet of *"As a measure against Corona Virus, all courses , culture- Arts activities and library services are given a break from March 16 to April 1."* Meanwhile, alternative activity timetables are shared instead of postponed activities. *" How about discovering museums and historical points of interest? Today's stop is the Museum of War of Independence; living memory of the War of Independence"* was another tweet shared.

DISCUSSION AND CONCLUSION

Main purpose of this study is to show how to use the social media tools to inform the public. Social media tools, especially Twitter, are used both for specific purposes such as communication, sharing ideas, pursuing specific interests, and for more general purposes such as marketing, politics, media, and education to engage or influence a larger audience.Some measures are taken against the spread of Covid 19 that started in December 2019 in Wuhan, China and decreasing the death toll related to the mentioned disease (Kwon et al., 2020; Lopez,Vasu & Gallemore, 2020). Among many, Isolation is the first precaution. In order to prevent the spread of the virus, and creating a social distance, schools have been vacationed and Distance-Online education is started. Afterwards, cafes, malls, restaurants, amusement , and crowded activities like weddings and ceremonies are blocked. In such a crisis, social media, especially twitter, became the medium for communication (Chen, Lerman & Ferrara, 2020). As Seeger (2005) stated, individuals need accurate and timely information in the time of crisis. Accordingly, authorities and public servants need to announce the scientific facts clearly (Besley, 2015). Twitter is a widely used social platform as it enables the society to reach a wide audience and accordingly, widely used in times of risk and crisis (Huberman, Romero & Wu, 2009; Kwak et al., 2010). Research indicated that public servants and experts have widely used the twitter in time of crisis in our country. In this respect, this study aims to show what kind of information the public servants and experts use to share during the Covid 19 pandemic. Analysis of the tweets on Covid 19 reveal how the experts informed the public about the topic.

The analyses revealed that public servants and experts had informed the public about various topics. These topics are collected under ten main titles. The titles are named Science-Health, Illegal activity, Education, Isolation, Economy, Aid, Support,Cleaning, Psychology, Culture-Arts-Sports. Among the total 4042 tweets examined, the protection section was examined under the heading How to minimize the risk of transmission.With 828 tweets, it represented the category with the most information. Subsequently, comes the category in which the highly anticipated developments in the field of science and health and the measures taken for isolation are presented.

It was determined that the most informed areas were protection (N = 828), science-health (N = 584) isolation (N = 523) and cleaning (N = 499). This shows that the process is taken seriously in our country and that the correct information about the pandemic is being conveyed to people by informing the public on various issues. It is seen that it is aimed to control the spread of the pandemic by providing necessary information to individuals, who are the most important factor in preventing the spread of the pandemic. Also, we see that the number of information provided in education and culture and art activities is less. Instead of discussing the scarcity of sharing in the specified areas, it should be taken into consideration that the applications made in the related issues are subject to general regulations. The research was conducted on tweets sent between March and May when the pandemic broke out. In this situation, at the beginning of the process and due to being in an intense panic atmosphere, the subjects directed to can be considered the first situations in which panic is felt. In future studies, the role of Twitter in sharing information can be aimed

to reveal both the effect of the pandemic on the specified areas and how it has changed over the period by analyzing the pandemic process by dividing it into quarters.

The main purpose of this study was on how Twitter is used as an information tool. While selecting the sample, our study used the snowball sampling, and with this sampling, it was aimed to collect data suitable for the study. This sampling method is limited to the available accounts. In future studies, the ratio of informative tweets to others can be determined by making cross-sectional tweets, and social the usage purpose ratios of social networks can be determined. At the same time, for the development of false and incomplete information detection algorithms in social networks used as information platforms, in other words, speech processing algorithms are used to detect false tweets that negatively affect society, and the predictive ability of the developed algorithm can be determined by using this verified data set.

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