

COVID-19 INFORMATION SHARING ON SOCIAL MEDIA:
CHANNELS AND MOTIVES
FROM THE KAZAKHSTANI PEOPLE'S PERSPECTIVE

By

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ABSTRACT

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COVID-19 pandemic news has become popular and topical content for the last couple of years. And the wide usage of social media across the globe makes it easy to share information, including misinformation, about COVID-19. Although sharing news on social media has been actively studied in most western countries, little attempt has been made to look into the issue from the perspectives of developing countries where the amount of social media use has been increasing enormously over the last years. Besides, almost nothing is known about the social media users' choice of a particular platform when they decide to share information and misinformation, especially within the context of the COVID-19 pandemic. Therefore, this master's thesis explored how motivation factors Kazakhstani people follow when sharing COVID-19 news shape their decision to share COVID-19 news on specific social media platforms and their COVID-19 misinformation sharing patterns.

The study used a quantitative research method approach, surveying 288 people from Kazakhstan over 18 years old.

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This thesis is dedicated to my two families – the one I was born into,
and the one my husband and I have built.
Thank you for your support and for always having confidence in me.

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INTRODUCTION

Social media has expanded its usage area from being only a space allowing people to interact with their families, friends, and strangers (Tandoc et al., 2019) to serve as a primary source of information. For instance, in the U.S., three-quarters of Twitter users and every seventh user on Facebook reads the news on these social media platforms (Shearer & Gottfried, 2017). Moreover, in a survey conducted by Newman and colleagues in 2017, where 36 countries across five continents over the world were studied, social media were the primary source of news for a third of respondents. Social media surpassed online news websites as a tool people use to stay updated about the latest events (Newman et al., 2017).

One of the most popular and topical content in the last couple of years is around the COVID-19 pandemic. And the wide usage of social media across the globe makes it easy to share information about it. No one would argue that information now is diffused more rapidly with strong-growing digitalization leading to extensive use of social media and the Internet (World Health Organization, 2021). However, while the role of social media has been especially significant in informing people during the pandemic, social media also provides the opportunity for people to commit to public discussions about COVID-19 by creating their narratives and sharing others' (Baker et al., 2020). These narratives have been distinguished by uncertainty, controversy, and false and misleading content (Baker et al., 2020) that people share without verifying. Therefore, although social media channels are the most significant source of information, they also serve as a source of misinformation (Gupta et al., 2020). And the COVID-19 pandemic, being one of the essential topics since 2020, has caused widespread misinformation and fake news around it on social media.

Although sharing information and misinformation on social media has been actively studied in most western countries, little attempt has been made to look into the issue from the perspectives of developing countries. Indeed the amount of social media use in developing countries has increased enormously over the past years. Besides, almost nothing is known about the social media users' choice of a particular platform when they decide to share information and misinformation, especially within the context of the COVID-19 pandemic.

With this in mind, this thesis explores sharing information on social media, focusing on content around COVID-19. Mainly, the thesis contributes to knowing information sharing patterns in Central Asian developing countries, focusing on exploring how motivation factors the Kazakhstani population follows when sharing COVID-19 news shape their choice of social media platforms and affect their COVID-19 misinformation sharing patterns. In the context of Kazakhstan, a representative of Central Asian countries with a developing/emerging economy, very little is known about these issues. Therefore, I conducted an online survey of Kazakhstani adults and explored how different motivation factors to share COVID-19 news shape their decision to choose specific social media channels and to share COVID-related misinformation.

LITERATURE REVIEW

Conceptualizing information, misinformation, and disinformation

Information cannot exist in a vacuum and is shaped by different internal and external contexts (Cooke, 2017). Therefore, before going ahead, it would be helpful to conceptualize the concepts of misinformation and disinformation, which are widely used when we talk about information in general. Indeed, misinformation and disinformation are the two sides of a coin – fake news (Cooke, 2017). But the main difference between these two terms is in their intention. For instance, misinformation is incomplete information (Losee 1997; Zhou & Zhang, 2007) that is partly true, but it might be vague and uncertain because of its incompleteness. It does not intend to deceive the recipients and unintentionally publish false or misleading information (Cooke, 2017; Humprecht, 2020). On the contrary, disinformation is designed to deceive people by “dissemination of deliberately false information” (Cooke, 2017) and is strategically shared to maltreat (Humprecht, 2020).

Some studies use also the term ‘fake news’ to address false information created to deceive and mislead purposefully (Tandoc et al., 2019). However, the main difference of fake news from disinformation is its attempts to imitate real news by its structure and content, so fake news looks and feels like real news (Tandoc et al., 2019). Since the current study does not aim to explore whether inaccurate information on COVID-19 is intentional, strategic, and deliberate, but focuses on other aspects of sharing false news, such as motivation factors and social media channels, the term ‘misinformation’ is used for all inaccurate information and false news in this research.

Background theory

From the theoretical perspective, the study relies on Uses and Gratification theory (U&G) (Katz et al., 1974). The theory explores how and why people select particular media types to fulfill their needs and argues that people are aware of their reasons and motivations to explain the choice of a specific media channel (Halpern et al., 2019). U&G notes that the audience's motivation plays a significant role in understanding people's media use (Apuke & Omar, 2021). Although this theory studies the reasons for people's choice and use of certain media, its usage has been extended. Mainly, it is widely used for explaining the selection of a particular social media (Thompson et al., 2019). Therefore existing studies that explored information and misinformation sharing on social media primarily relied on U & G theory (Apuke & Omar, 2021; Chen et al., 2015; Lee & Ma, 2012).

Sharing misinformation on social media

The opportunity to deliver information easily and fast on a social media platform like Facebook or Twitter and messenger apps like WhatsApp create spaces for sharing fabricated information (Tandoc et al., 2019). For example, after an analysis of Facebook users, Nelson and Taneja (2018) found that the more time the users spend on the platform, the higher their use of fake news is. The topic of engagement with fake news on popular social media platforms like Facebook and Twitter was also studied by Mourão and Robertson (2019). The researchers studied fake news content based on four concepts: misinformation, bias, clickbait, and sensationalism. The results showed that politics and partisanship news are mostly affected by the spread of fake news. In contrast, sensationalism and misinformation did not resonate with the audiences and were not rewarded with social media engagement. However, our understanding of

engagement with COVID-19 misinformation news on social media platforms, particularly on other platforms besides Facebook and Twitter, remains limited.

With this in mind, I looked at another study conducted by Talwar and colleagues (2019) on WhatsApp users. Having investigated more than one thousand users of the platform, the study found that online trust, self-disclosure, fear of missing out, and social media fatigue were positively associated with intentionally spreading misinformation, while social comparison did not affect sharing misinformation on social media. The authors found that social media users with high trust in the content shared on social media platforms are likely to share it with others without verification. However, social media users would provide corrections to false information when the issue has strong relevance to them and to people with whom they have a close interpersonal connection like a friend or family member (Tandoc et al., 2019). The three main factors, mentioned by Tandoc and his colleagues (2019), that affect social media users' responses to correct false news are issue relevance, interpersonal relationship, and personal efficacy. If none of them exist, the users do not prefer to correct misinformation to avoid any conflicts and endless conversations with the person who shared. In addition to that, Lobato et al. (2020) found that the willingness of the participants to diffuse misinformation, particularly about COVID-19, over social media is relatively low. However, there is not enough empirical evidence to conclude that this finding holds for economically vibrant communities as well as countries with developing and emerging economies. For instance, Lobato and colleagues (2020) studied the population in the US, a country with a developed economy. And Tandoc and colleagues (2019) did the same; they studied Singapore, an economically vibrant country distinguished by a high level of social media use, well-ordered information ecology, and a controlled media system, and concluded that most users just ignore disinformation and misinformation-containing posts.

This brings us to the thought if the divergence in the economic development of countries can lead to different outcomes in misinformation sharing and social media use patterns.

Perspectives of developed and developing countries

The imbalance between developed and developing countries has always been under the world's focus in many fields. Starting from the Enlightenment and the Industrial Revolution, some countries are wealthier while others stay far behind (Piketty, 2014). And according to some indicators and criteria like GDP, per capita income, Human Development Index, Gross National Income per capita, membership of the Organization of Economic Cooperation and Development (OECD), etc., some countries are considered developed, and others are developing (Udanor et al., 2016). For example, OECD classifies 85% of world countries as developing ones, and only 15% developed (Udanor et al., 2016). We relied on the World Bank classification of the subject of this study.

Despite the differences between developing and developed countries in using the Internet and social media, social media use in emerging and developing countries is growing faster and approaches the levels found in developed countries (Poushter et al., 2020). In a 2017 Pew study on internet use in nineteen developing and emerging countries over five years, it was found that the median percentage of Internet users in developing countries has increased by 50% from 2013 to 2017 and reached the median of 64% of people having access to online. While in the same study, the percentage of Internet users in seventeen countries with developed economies stayed with no changes at the level of 86-87%.

Social media is in demand among Internet users in countries with advanced and emerging economies (Poushter et al., 2020). For example, more than two-thirds of adults use social media in developed countries like the USA, Australia, Canada, Israel, Sweden, and South Korea. And

the number of social media users in developing countries is also high. For instance, in Jordania, the Philippines, Indonesia, Lebanon, and Tunisia, at least nine out of ten Internet users actively use social media (Pew, 2018). However, what is worth noting is that the tendency is different in developed countries. For example, as Pew Research Center reports (2018), only half of all Internet users use social media in Germany and Japan.

As reported by a Pew study, almost every fourth American (23%) shares fabricated news either intentionally or being unaware that the information is fake at the time (Barthel et al., 2020). In contrast, another similar study found that social media users from developing countries are regularly (44%-78% of social media usage time) being exposed to false news (Silver, 2020). Those who face misinformation constantly tend to become heavier social media users utilizing many platforms and keeping up with the political and global news on social media. The high frequency of exposure to misinformation and heavy social media usage in developing countries led me to assume that social media users from developing countries have more risks of sharing misinformation than users from developed countries.

In a few developing countries, social media adoption rose dramatically between 2015 and 2017 (Poushter et al., 2020). For example, only half of the Lebanese adults used social media in 2015, while in 2017, three quarters did (Poushter et al., 2020). Similarly, social media users grew by 26% in Kazakhstan between 2020 and 2021 (Kemp, 2021). Considering a significant increase in the number of social media users in Kazakhstan and the study findings on developing countries, I expect that Kazakhstani users are likely to spread misinformation online at high levels. I hypothesize that:

H1: Social media users in Kazakhstan will report a higher level of misinformation sharing than in the US.

Relationship between motivation factors and sharing misinformation

As Apuke and Omar (2021) argued, “Some gratifications gained while using social media could lead to fake news sharing because of the intrinsic features of social media which permit high interactivity and dissemination of unsupervised content” (p. 4). The researchers studied the issue of misinformation dissemination in Nigeria, one of the countries with a developing economy. They tried to model predictors of sharing misinformation on social media and explored the effect of six motivation factors – entertainment, socialization, passing time, altruism, information sharing, and information seeking to share COVID-19 misinformation. Their findings showed that altruism, information sharing, and socialization were the strongest predictors of COVID-19 misinformation sharing. Besides, information seeking and passing time also had some effect on sharing misinformation about COVID-19 while entertainment did not significantly relate to spreading misinformation about the virus.

However, entertainment was one of the motivation factors that led to COVID-19 misinformation sharing, according to the study of Balakrishnan and her colleagues (2021), who explored the Malaysian population’s engagement with misinformation. But its effect was not as notable as altruism and ignorance. Interestingly, passing time and fear of missing out did not resonate with sharing COVID-19 misinformation.

Even though Nigeria and Malaysia are countries with developing economies, our understanding of the relevance of these studies’ findings to Kazakhstan remains limited because of many other factors (media, political, cultural, social, etc.) aside from economic development. For example, the adult literacy rate in Nigeria was 62% in 2018 (The World Bank, 2021), and only half of the population are internet users (Statista, 2021). Meanwhile, the Kazakhstani adult population literacy rate is 99% (The World Bank, 2021), and the level of digital literacy among

the economically active population (labor force), according to the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan, is 84.1%. As Humprecht et al. (2020) stated, country differences lead to different responses toward online disinformation sharing. The main factors of each environment that limit the resilience to online disinformation are low populist communication, low societal polarization, high trust in news media, strong public service media, high level of shared media use, small-size media markets, and low levels of social media use (Humprecht et al., 2020). These factors make misinformation resilience stronger and the dissemination of and exposure to online disinformation weaker (Humprecht et al., 2020). In addition, individuals with high social dominance and low traditionalism are less willing to share COVID-19 misinformation (Lobato et al., 2020). Besides, political views might have a significant effect. For example, Lobato and colleagues (2020) found that people with more liberal political views are less inclined to share COVID-19 misinformation.

Thinking of liberalism, we cannot underestimate the role of media in building a liberal society. In this regard, a high censorship legacy in Kazakhstan and its 155th position in the 2021 World Press Freedom Index ranking provide more significance to the current research topic. It should be noted that back in 2020, when the first case of COVID-19 in Kazakhstan was officially declared, the Ministry of Information warned citizens to strictly observe the law and not to disseminate disinformation for the sake of stability in the country, informing about the punishment in a form of 3-7 years in prison for dissemination of fake news (Laruelle, 2021). Similar measures were also adopted in other Central Asian Countries like Uzbekistan and Kyrgyzstan (Laruelle, 2021). Therefore, it is important for the topic of information sharing around COVID-19 to be studied from different angles and in different contexts.

Altruism motivation

Altruism can be described as a process of giving and helping others without expecting any return or flavor. However, it provides satisfaction to a person who acts altruistically. When a person shares content online with an altruistic motivation, it is not for reward but for personal satisfaction. Ma and Chan (2014) concluded that altruism significantly affects online knowledge sharing. Besides, in existing previous studies, altruism showed a significant prediction of sharing COVID-19 misinformation among Nigerians (Apuke & Omar, 2021) and Malaysians (Balakrishnan, 2021). Therefore I hypothesize the following:

H2: Participants with high altruism motivation to share COVID-19 news on social media will be more likely to share COVID-19 misinformation.

Socialization motivation

The socialization motivation refers to social interaction for the need for connectedness (Apuke & Omar, 2021). And social media is an effective tool for those who seek socializing. In a virtual space, people feel like they interact with other users in a face-to-face context because they can participate in different social interactions like discussions, sharing ideas, etc. (Lee et al., 2011). From the perspective of social media use, many studies have found that socialization is one of the strongest motivations explaining the reason for people's usage of social media. In other words, socialization motivation is all about sharing news, particularly in this study – COVID-19-related information, for developing and maintaining relationships with acquaintances on social media (Lee & Ma, 2012). Previous research by Lee et al. (2011), Lee and Ma (2012), and Thompson et al. (2019) showed the positive effect of socialization motivation to share news online. That means, by sharing news and interacting with each other, people may feel a connection with a virtual community, concluded Lee and Ma (2012). Moreover, Apuke and

Omar (2021) found that it also has a significant correlation with COVID-19 misinformation sharing. Based on the knowledge from existing literature, the following hypothesis has been made.

H3: Participants with high socialization motivation to share COVID-19 news on social media will be more likely to share COVID-19 misinformation.

Passing time motivation

The motivation of passing time refers to using social media to occupy time and reduce boredom (Kircaburun et al., 2018). Since it is one of the most significant gratifications of social media use, it was also used as one of the determinants in sharing misinformation by Thompson et al. (2019). Interestingly, the study of Australian researchers did not find any significant correlation between passing time and sharing misinformation. However, in a recent study by Apuke and Omar (2021) on the Nigerian population, passing time positively affected COVID-19 misinformation sharing prediction. This led me to assume that the economic development of countries is one of the essential factors to consider. Taking into account Kazakhstan's emerging economy, I hypothesize the following about the effect of passing time motivation on Kazakhstani people's sharing behavior:

H4: Participants with high passing time motivation to share COVID-19 news on social media will be more likely to share COVID-19 misinformation.

Information sharing motivation

Information sharing motivation is related to using social media for sharing knowledge and information to improve other people's knowledge (Thompson et al., 2019). In Thompson and colleagues' study, information sharing motivation positively influenced the intention to share

news online. Besides, this motivation significantly affected the prediction of sharing misinformation about COVID-19 among the Nigerian population (Apuke & Omar, 2021). In the context of sharing news on social media, the information sharing factor refers to the motivation to express personal thoughts, exchange valuable and practical information that might be interesting to others, and get feedback. Since this motivation has had a positive correlation with sharing news and misinformation in existing literature, the following hypothesis can be predicted for the Kazakhstani population.

H5: Participants with high information sharing motivation to share COVID-19 news on social media will be more likely to share COVID-19 misinformation.

Information-seeking motivation

Information-seeking refers to the idea that social media is used to search for information and satisfy future information needs (Lee & Ma, 2012). Once information is shared, it can be retrieved at any time in the future. In a study by Lee and Ma, information-seeking was found to be one of the most significant predictors of sharing news on social media. Furthermore, it positively correlated with sharing COVID-19 misinformation in research conducted by Apuke and Omar (2021). Following this, I assume that information-seeking will be one of the significant motivations for Kazakhstani people to share COVID-19-related news.

H6: Participants with high information-seeking motivation to share COVID-19 news on social media will be more likely to share COVID-19 misinformation.

Entertainment motivation

Entertainment refers to social media's service as an entertaining and leisure tool helping reduce tension and combat boredom. But, surprisingly, entertainment motivation did not have a

significant effect on sharing news on social media. Lee and Ma (2012) suggested that news sharing is not a source for pleasing entertainment needs because social media offers different types of content (games, video, chat, etc.) for social media users to be able to switch between news and entertaining content rather than sharing news. Similar findings were made by Apuke & Omar (2021) – Nigerian population also did not show a notable correlation between entertainment motivation and COVID-19 misinformation spread. However, Islam et al. (2020) who studied the relevance between COVID-19 misinformation sharing and social media fatigue found that entertainment has a positive correlation with sharing unverified COVID-19 misinformation since much humorous-tone content about the pandemic has been widely spread on the web (Islam et al., 2020). Therefore, I assume that entertainment will not be a significant motivating factor for sharing COVID-19-related content in Kazakhstan.

H7: Participants with high entertainment motivation to share COVID-19 news on social media will be less likely to share COVID-19 misinformation.

Although entertainment is predicted not to affect COVID-19 misinformation sharing behavior, we still use it as one of the motivation factors since there is enough previous research that proved social media is used more for entertainment purposes rather than news-seeking (Newman et al., 2017; Humprecht et al., 2020). Explained by this factor, people tend to share any information on social media without verifying it (Shin & Thorson, 2017).

Self-promotion motivation

Self-promotion or status-seeking refers to building a positive reputation on social media. From the perspective of news sharing, it is relevant to create the desired image of an individual by sharing relevant information and impressing other people (Islam et al., 2020). Lee and Ma (2012) found that people driven by status-seeking tend to share news on social media. According

to the findings made by Islam and colleagues, self-promotion also increases sharing of unverified information. However, Thompson et al. (2019) found the significant influence of status-seeking on sharing news online when the information quality is more emphasized. That is not surprising since sharing low-quality content and unverified information can damage the reputation of the sharer. Relying on these findings, I hypothesize the following:

H8: Participants with high self-promotion motivation to share COVID-19 news on social media will be unlikely to share COVID-19 misinformation.

This research aims to explore the effects of motivation factors to share COVID-19 information on sharing misinformation about COVID-19 on social media by the Kazakhstani adult population and explain how the motivations shape their choices of social media platforms to share COVID-related content.

While the existing literature suggests clear relationships between motivations and sharing COVID-19 misinformation, we know much less about sharing patterns across different social media platforms. Therefore, in this research, I aimed to answer the following research question and see how it is relevant to the motivation factors:

RQ1: What social media platforms do Kazakhstani people mostly use to share news about COVID-19? To what extent is platform choice shaped by motivations?

METHOD

Sample

Data for this study were collected by conducting an online survey on Qualtrics between March 4 and 14, 2022. I sampled the adult population of Kazakhstan 18 years old and above. In addition to the age of participants, additional screening questions on Kazakhstani citizenship and the current location in Kazakhstan were added to ensure sampling and response quality. Overall, 367 people were recruited; 288 passed the screening questions and gave consent to participate. The survey was distributed in Kazakh, Russian, and English languages. Three-quarters of the participants took it in Russian, 21.8% in Kazakh, and 3.5% in English. Since the participants were not required to complete all the survey questions and were allowed to skip questions they felt uncomfortable with, some issues of missing data are presented. I deleted missing cases listwise in all the analyses presented below.

The participants were from 14 (out of 17) administrative centers (the capital, two republican cities, and 11 regions) in Kazakhstan; the largest percentage of participants – four out of ten (40.9%) were from the capital city– Nur-Sultan, 20.2% were from Aktobe region, 18.2% – from Almaty city. The remaining participants were distributed across other areas.

In total, 76.3% of participants were female, and males made up 23.2%. Half of the participants (52.4%) were people of the 25-34 age group, and almost every fourth (23.1%) was between 35-44 years old. The remaining quarter of the participants were distributed between the age groups of 18-24 (8%), 45-54 (6.1%), 55-64 (9.9%), and 65+ (0.5%). More than half of the participants had obtained a bachelor's degree or specialist diploma (59%), and almost a third (30.5%) had completed a master's degree. The rest of the participants' educational levels were as

follows: middle school (1%), Ph.D. degree (2.4%), professional college/ vocational school (2.9%), and secondary/high school (4.3%).

The survey respondents are active social media users: almost half (46.7%) spend 1-3 hours per day on social media. Every third respondent spends 3-7 hours, and 5.7% said they commit more than 7 hours on social media daily. The sociodemographic characteristics of the participants are provided in *Table 1*.

Table 1

Sociodemographic Characteristics of Participants

Baseline Characteristic		
	n	%
Gender (<i>N</i> = 211)		
Female	161	76.3
Male	49	23.2
Education (<i>N</i> = 210)		
Middle school	2	1.0
Secondary (or high) school	9	4.3
Professional college, Vocational school	6	2.9
Specialist diploma, Bachelor's	124	59.0
Graduate (Master's)	64	30.5
Graduate (Ph.D., Doctorate)	5	2.4
Age (<i>N</i> = 212)		
18-24	17	8.0
25-34	111	52.4
35-44	49	23.1
45-54	13	6.1

Table 1 (cont'd)

55-64	21	9.9
65 and over	1	0.5
Daily hours on social media use ($N = 212$)		
less than 1 hour	33	15.6
1-3 hours	99	46.7
3-7 hours	68	32.1
more than 7 hours	12	5.7

Recruitment

Survey participants were recruited via social media platforms like Instagram, Facebook, and WhatsApp, widely used in Kazakhstan, through the existing network of followers on personal accounts and contacts. Information in Kazakh and Russian languages (flyers) about the survey with an embedded link to Qualtrics to take the survey was posted on Instagram (650+ followers) stories on March 4, then similar-content stories with a reminder invitation to take part in the survey were posted a week after. The same information in two languages (Kazakh, Russian) was also posted on WhatsApp statuses and was shared among group chats of relatives, friends, colleagues, and neighbors, and asked to participate in or share information about the survey among other group chats.

Identical survey recruiting information was used for posts (in Kazakh and Russian) on Facebook (180+ followers). Also, recruitment went through public Facebook groups popular among the Kazakhstani population. The list of Facebook groups with a short description, number of members, and other relevant information is provided in *Appendix A*. Also, after completing

the survey, the participants were asked to share information about the study with their friends and acquaintances, so convenience and snowball sampling methods were used for recruitment.

Procedure and measurement

Participants were informed that they would be participating in a survey that studies news sharing about COVID-19 on social media by looking into the reasons and motivations that they follow when sharing COVID-19 news online. To begin with, the participants were asked questions about the frequency of usage of social media platforms like Facebook, Instagram, Twitter, WhatsApp, Tiktok, Telegram, and Youtube on a 5-point Likert scale from “never” to “always”. After that, participants were asked how often they share any news (sharing to a feed or as a story, reposting/retweeting, sending to a friend(s) or group chats, etc.) on social media on a 5-point Likert scale from “never” to “always”. Those who replied that they shared news even at some point (rarely, sometimes, often, or always) were given the blocks of questions on motivation factors. The questions included 30 different statements about motivations and reasons for sharing COVID-19 information on social media. Predictor variables (motivation factors) were entertainment, socialization, passing time, altruism, information sharing, information-seeking, and self-promotion. They were adopted from the previous studies of Lee and Ma (2012), Thompson et al. (2019), Islam et al. (2020), and Apuke and Omar (2021) since these variables have theoretical and integrative perspectives and showed their reliability. I revised and modified some statements for each of the motivation factors to fit the specifics of the target population. I split the arguments into three blocks with ten arguments to avoid monotonousness and minimize the risks of incomplete or neglectful responses that the long list of statements could cause. The construct of theorized measurement on motivation factors is presented in *Table 2*.

Table 2*Measurement Constructs*

Variable	Description	Code	Item <i>I share news about COVID-19 on social media...</i>
Socialization	Measures the extent to which news sharing helps to develop and maintain relationships with acquaintances in social media	SCL_1	1. because I can freely talk about issues with others.
		SCL_2	2. because I can effortlessly interact with other members of my network when sharing.
		SCL_3	3. because I can easily exchange views with other members of my network efficiently.
		SCL_4	4. because it helps me keep in contact with other members of my network.
Passing time	Measures the extent to which news sharing helps to occupy time	PST_1	1. because it is a habit just to do something.
		PST_2	2. because I have nothing much to do.
		PST_3	3. because I can pass the time away, especially whenever I am bored.
Altruism	Measures the extent to which individuals share news on social media to help others without expecting any reward in the future	ALT_1	1. because I love assisting others.
		ALT_2	2. because I want to motivate and inspire others to do the same.
		ALT_3	3. because I want to offer useful information to others.
		ALT_4	4. because I want to admonish others.
		ALT_5	5. that might be valuable to others.
Information sharing	Measures the extent to which individuals share news on social media to offer interesting information and improve their knowledge	ISHR_1	1. to get feedback on the information I have found.
		ISHR_2	2. to provide information.
		ISHR_3	3. to express myself easily.
		ISHR_4	4. to disseminate information that might interest others.
		ISHR_5	5. to be the first in my network who find unique news.

Table 2 (cont'd)

Information-seeking	Measures the extent to which news shared on social media can provide users with relevant and timely information	ISK_1 ISK_2 ISK_3 ISK_4	1. to assist me to store valuable information. 2. because it is easy for me to retrieve information when needed. 3. to keep abreast of the current news and events. 4. to check with my network if it is truthful and reliable.
Entertainment	Measures the extent to which sharing news on social media serves as a means for entertainment and leisure purposes	ENTRM_1 ENTRM_2 ENTRM_3 ENTRM_4	1. because I find it entertaining. 2. because it is fun. 3. because it helps me to combat boredom. 4. because it helps me to release tension.
Self-promotion	Measures the extent to which sharing news on social media helps an individual to improve his/her reputation	SPROM_1 SPROM_2 SPROM_3 SPROM_4 SPROM_5	1. because it helps me to impress other people. 2. because it makes me feel important. 3. because it helps me to look good when sharing news. 4. because I first checked its accuracy. 5. only when I am sure it will not hurt my reputation

The respondents were asked to indicate to what extent they find each of the statements (arguments) relevant to themselves using a 7-point scale from “definitely disagree” to “definitely agree”. This thesis aimed to observe the effects of these predictors on two criterion variables: (1) social media platform choice for sharing information related to COVID-19 and (2) sharing misinformation about COVID-19 (2). Therefore, after responding to motivation statements, participants were asked questions about what social media platforms they usually choose for sharing news stories about COVID-19. They were given a 5-point scale from “never” to

“always” to indicate the frequency of using Facebook, Instagram, WhatsApp, Twitter, Youtube, Telegram, Tiktok, and other platforms to share COVID-19 news.

In order to know more about the COVID-19 misinformation sharing patterns, the survey takers were given a close-ended question on whether in the last six months period they shared a news story about COVID-19 they knew at the time or later found out was made up. Those who replied “yes” were subsequently given an open-ended question asking them to describe in a few sentences the time when they shared made-up COVID-19 news. After that, they were given a question about the social media platform choice: using a 5-point scale from “never” to “always” they indicated how often they used each of the platforms on our radar to share made-up news about COVID-19.

The final part of the survey included general questions about social media activity (hours spent on social media per day), age, gender, level of education, and current geographical location in Kazakhstan. The survey questionnaire is provided in *Appendix B*.

The participants’ gender, age, level of education, and daily social media activity were used as control variables. Previous research (Chen et al., 2015) stated that female students on average scored higher than males on the frequency of sharing misinformation themselves and the extent of intention to share misinformation in the future. The research did not support the previous study results by Lim and Kwon (2010), who had concluded that women are more critical of the quality of online information. Also, Chen et al. (2015) found that the likelihood of undergraduates sharing misinformation on social media is higher than graduate students. Moreover, younger age groups are much more likely to get news from social media and digital media and use them as the main news source, while the older population relies on news on TV,

radio, and print (Newman et al., 2017). Therefore, in the current study I observed how these factors affect the diffusion of COVID-19 news and misinformation on social media.

RESULTS

In a research study conducted by Pew Research Center in 2019, 10% of Americans said they shared misinformation knowingly it was made up. However, the number of US people sharing misinformation has declined over time. In comparison, in 2016, the percentage of Americans who had shared misinformation knowingly was 14%. Even though we cannot speak about the direction of the tendency in Kazakhstan because we have only cross-sectional data, the current study's findings revealed that, in the last six months period, 15.1% of the participants ($N=192$) had shared misinformation that they knew at the time or found out later it was made up. Although there is no substantial difference between the statistics available for the US, Kazakhstani social media users reported a slightly higher level of misinformation sharing than in a developed country like the USA. This suggests some support for H1, which stated that social media users in Kazakhstan would report a higher level of misinformation sharing than in the US. However, it is worth noting that the rate of misinformation sharing in Kazakhstan is just slightly higher than reported in the US in 2016.

Since personal motivations to share news on social media are underlying factors that are difficult to measure, I used multiple statements to measure each motivation factor. To test whether the factor structure matched the theoretical measurement model, I conducted an exploratory factor analysis (Promax extraction method). I used this approach to examine construct validity and to see if the 30 motivation items used in the study captured the seven proposed motivation factors (entertainment, altruism, socialization, passing time, information-seeking, information sharing, and self-promotion/reputation). The pattern matrix for a factor analysis results is provided in *Table 3.1*.

Table 3.1*Factor Analysis of Motivation Factors to Share COVID-19 News on Social Media*

	Component					
	1	2	3	4	5	6
SCL_1	.900					
SCL_2	.813					0.331
SCL_3	.833					
SCL_4	.508			.385		
PST_1				.771		
PST_2				.781		
PST_3				.679		
ALT_1	.721					
ALT_2	.623					
ALT_3	.834					
ALT_4	.746					
ALT_5	.615					
ISHR_1			.703			
ISHR_2	.567		.327			
ISHR_3			.566			
ISHR_4	.577			-.344		.345
ISHR_5			.501			
ISK_1			.820			
ISK_2			.878			
ISK_3		.338				.440
ISK_4			.566			.426
ENTRM_1						.675
ENTRM_2		.569				.512
ENTRM_3		.731				
ENTRM_4		.858				
SPROM_1		.877				
SPROM_2		.814				
SPROM_3		.816				
SPROM_4					.720	
SPROM_5					.856	.308

Note: SCL = socialization, PST = passing time, ALT = altruism, ISHR = information sharing, ISK = information seeking, ENTRM = entertainment, SPROM = self-promotion. The extraction method was Promax.

Instead of the theorized seven motivation factors, the factor analysis revealed six factors: socialization and altruism were combined into one factor; information sharing and information-seeking were also grouped into one factor; and entertainment was highly associated with self-

promotion; while self-promotion itself was divided into two factors, one associated with entertainment, the second – a separate factor with a focus on reputation.

I revised the motivation factors in accordance with the factor analysis results, eliminating items with cross-loadings. I created five variables representing motivational factors: (1) *prosocial* motivation ($N = 9$, Cronbach's $\alpha = 0.9$, $M = 4.48$, $SD = 1.24$) which includes socialization and altruism, (2) *self-serving* motivation ($N = 5$, Cronbach's $\alpha = 0.9$, $M = 2.28$, $SD = 1.17$) which includes entertainment and self-promotion, (3) *information sharing and storing* motivation ($N = 5$, Cronbach's $\alpha = 0.8$, $M = 3.88$, $SD = 1.24$) which combined information-seeking and information sharing motivations, (4) *passing time* motivation ($N = 3$, Cronbach's $\alpha = 0.8$, $M = 2.42$, $SD = 1.20$), and (5) *reputation* motivation ($N = 2$, $r = .488$, p -value $< .001$, $M = 4.38$, $SD = 1.44$). The pattern matrix is provided in *Table 3.2*.

Conceptualizing new (combined) motivation factors

Prosocial motivation

In the context of the current study, socialization means connectedness and interaction with other people, while altruism is about assisting other people unconditionally. Being combined into one factor, which is about being helpful to others and promoting friendship and communication, I found the term “prosocial” most appropriate to describe a new factor. In psychology, prosocial behavior represents a broad meaning, including sharing, helping, and cooperation (Dovidio & Banfield, 2015). It excellently describes the intention of people to interact, help others, and share views and valuable information. Therefore, for further analysis, socialization and altruism make up a new factor – prosocial motivation.

Self-serving motivation

The factor combined entertainment and self-promotion into one category since, in the context of the current research, the two were measured by the statements related to self-interest and sharing news for their egoistic benefit. For instance, the statements were about sharing COVID-19 news to have fun, combat boredom, release the tension, impress others, and feel and look good. The self-regarding feature common to the two motivations was the primary reason to name a new factor as a self-serving motivation and use it for further analysis.

Information sharing and storing motivation

The theoretical construct used to measure information sharing motivation included the statements about finding unique news, expressing oneself easily, and getting feedback on the shared information. And the constructs of information-seeking motivation related to sharing news for future information needs. That is, for storing valuable information and quickly retrieving it when needed. Therefore, the factor was named information sharing and storing motivation to reveal what it contains.

Reputation motivation

As it was mentioned earlier, self-promotion motivation was partly categorized as self-serving motivation after the results of the factor analysis. The rest of the constructs related to checking the accuracy of sharing information and sharing only the content that does not hurt one's reputation made up a separate factor. Indeed sharing inaccurate information might harm someone's reputation. Since the shared feature for the two constructs is reputation, a new factor was named that way.

Passing time motivation

The factor analysis results revealed that the factor structure of passing time motivation matched the theoretical measurement model (see p.11 for its explication).

Table 3.2

Factor Analysis of Updated Motivation Factors to Share COVID-19 News on Social Media

	Component				
	1	2	3	4	5
F1_SCL_1	.932				
F1_SCL_2	.939				
F1_SCL_3	.902				
F1_SCL_4	.558		.344	.319	
F1_ALT_1	.624				
F1_ALT_2	.539				
F1_ALT_3	.724				
F1_ALT_4	.640				
F1_ALT_5	.531				
F2_ENTRM_3		.742			
F2_ENTRM_4		.889			
F2_SPROM_1		.884			
F2_SPROM_2		.849			
F2_SPROM_3		.835			
F3_ISHR_1			.765		
F3_ISHR_3		.303	.637		
F3_ISHR_5			.556		
F3_ISK_1			.883		
F3_ISK_2			.937		
F4_PST_1				.812	
F4_PST_2				.756	
F4_PST_3				.756	
F5_SPROM_4					.744
F5_SPROM_5					.854

Note: SCL = socialization, PST = passing time, ALT = altruism, ISHR = information sharing, ISK = information seeking, ENTRM = entertainment, SPROM = self-promotion. The extraction method was Promax.

I used logistic regression to test the hypotheses H2, H3, H4, H5, H6, H7, and H8, which proposed relationships between motivation factors (altruism, socialization, passing time, information sharing, information-seeking, entertainment, and self-promotion) and misinformation sharing. Motivation factors were the independent variables, and sharing

misinformation (two levels: “yes” and “no”) was the dependent variable. The control variables were age, gender, education level, and daily social media use hours.

Looking first at the results for the control variables in Block 1 of the model (*Table 4*), the logistic regression analysis showed that participants’ age is significantly related to sharing misinformation about COVID-19 ($\exp(B) = 1.49$, $p\text{-value} = .05$): older participants are more likely to share COVID-19 misinformation. However, other demographic variables used as control variables were not significantly related to COVID-19 misinformation sharing.

Holding these variables constant, I next looked at the relationship between motivation factors and COVID-19 misinformation sharing (Block 2). The only motivation that was significantly related to misinformation sharing was the information sharing and storing motivation ($\exp(B) = 1.92$, $p = .043$) which combined information sharing and information-seeking motivations into one. This result supports H5 (relationship between information sharing motivation and misinformation sharing) and H6 (relationship between information-seeking motivation and misinformation sharing). However, there is no evidence to support H2, H3, H4, H7, and H8.

Table 4

Logistic Regression Analysis for Sharing COVID-19 Misinformation

Block 1									Block 2								
						95% C.I.for EXP(B)									95% C.I.for EXP(B)		
	B	S.E.	Wald	df	Sig.	Exp (B)	Lower	Upper		B	S.E.	Wald	df	Sig.	Exp (B)	Lower	Upper
Hours on social media	.23	.28	.64	1	.42	1.25	.72	2.18	Hours on social media		.31	.14		.71	1.12	.61	2.05
Education	-	.29	1.75	1	.19	.68	.39	1.20	Education	.11	.31	1.19	1	.28	.71	.39	1.31
	.38									.34							
Age	.40	.20	4.01	1	.05	1.49	1.01	2.19	Age	.21	.21	.95	1	.33	1.23	.81	1.88
Gender	-	.49	2.10	1	.15	.49	.19	1.28	Gender	-	.50	1.12	1	.29	.59	.22	1.59
	.71									.53							
Constant	-	1.81	.11	1	.74	.55											
	.59																
.									Prosocial	-.17	.31	.29	1	.59	.84	.46	1.56
.									Self-serving	.40	.26	2.37	1	.12	1.49	.90	2.47
.									Inf.sharing & storing	.65	.32	4.09	1	.04	1.92	1.02	3.62
.									Passing time	-.04	.25	.02	1	.88	.96	.59	1.58
.									Reputation	-.18	.20	.82	1	.37	.84	.57	1.23
.									Constant	-2.4	2.11	1.24	1	.27	.10		

Variable(s) entered: hours spent daily on social media, education, age, gender, prosocial motivation, self-serving motivation, information sharing and storing motivation, passing time motivation, reputation motivation. *N* = 177 (after listwise deletion)

RQ1 asked what social media platforms Kazakhstani people mostly use to share news about COVID-19 and how motivations shape the platform's choice. To answer RQ1, I used multiple linear regression to predict social media platform choices (dependent variable) for sharing COVID-19 news based on participants' motivations (independent variables). Age, gender, education, and hours usually spent on social media use were the control variables (Table 5). Although there was no significant relationship between the control variables and misinformation platform choice, the analysis found a significant relationship between WhatsApp social media platform and prosocial (socialization and altruism) motivation. Respondents following prosocial motivation reported a significant positive relationship with WhatsApp platform ($\beta = .37$, $p\text{-value} < .001$) for sharing COVID-19 news. The model explained 18 percent of the variance ($R^2 = .181$).

Also, those people who follow the prosocial (socialization and altruism) motivation reported a significant positive relationship with news sharing on Instagram, $\beta = .33$, $p\text{-value} < .001$. Regarding Instagram, news sharing on this platform also has a positive relationship with information sharing and storing (information sharing and information-seeking) motivation, $\beta = .27$, $p\text{-value} = .004$. Age, as a control variable, showed a significant negative relationship with Instagram ($\beta = -.24$, $p\text{-value} < .001$). The model explained 28 percent of the variance ($R^2 = .280$).

Sharing COVID-19 news on Facebook is predicted significantly by education level ($\beta = .24$, $p\text{-value} = .001$) of respondents. Also, there is a positive correlation with age ($\beta = .21$, $p\text{-value} = .005$). I assume that the higher the education level and age are, the higher probability to share COVID-19 news on Facebook. No significant effect of motivation factors and control

variables on sharing COVID-19 news on Facebook were found. The model explained 16.3 percent of the variance ($R^2 = .163$).

A positive relationship between Twitter and passing time motivation ($\beta = .29$, p -value = .003) was found but the model explained only 7.9 percent of the variance ($R^2 = .079$). There were no significant effects of motivation factors and control variables on predicting sharing of COVID-19 news on Tiktok, Youtube, and Telegram.

Table 5

Multiple Linear Regression Analysis for Sharing News about COVID-19

	<i>Social media platforms</i>							
	WhatsApp		Facebook		Instagram		Twitter	
	Stand. β	P	Stand. β	p	Stand. β	p	Stand. β	p
Hours on social media	-.082	.253	-.081	.263	-.054	.423	.029	.716
Education	-.042	.564	.244	.001	.107	.121	.085	.287
Age	.165	.023	.206	.005	-.244	<.001	.049	.535
Gender	-.125	.077	-.098	.166	.010	.876	-.072	.348
Prosocial	.368	<.001	-.056	.536	.333	<.001	.029	.767
Self-serving	-.056	.551	-.048	.614	-.154	.079	-.059	.556
Inf. sharing & storing	.038	.696	.232	.020	.269	.004	-.069	.519
Passing time	-.016	.855	.055	.546	.116	.164	.294	.003
Reputation	.043	.588	.144	.077	-.065	.385	.026	.772

Note: N = 175 (WhatsApp), N = 175 (Facebook), N = Instagram (173), N = 173 (Twitter)

Post-hoc Analyses

One interesting question that arises from the results reported above is whether different motivations and platform choices for sharing COVID-19 news emerge among participants who share misinformation. To answer the question, similar multiple linear regression was calculated. As a result, no significant relationships across all social media platforms and motivation factors

were found due to the small sample of people sharing misinformation. Therefore, for exploratory analysis, I analyzed responses to an open-ended question that was asked to those participants who had shared made-up news about COVID-19 in the last six months. Seventeen people (about 60% of those who shared misinformation) responded to the open-ended question. Although the responses were concise and did not provide substantial information on the motivations, I found out that their responses can be categorized into three groups: a) those who described the time when it was, noting that it was in 2020 when the pandemic started; b) those, who thought it was accurate information and did it unknowingly; c) those, who thought it was information helpful for others, like alcohol use for inhalation as a cure to the virus, information about the number of infected people, the changes in COVID status (the epidemic situation in all regions in Kazakhstan is classified into one of the three zones: green, red, and yellow), revaccination, etc. The findings provide some support for the prominent relevance of the information sharing motivation when sharing general COVID-19 news to sharing COVID-19 misinformation mentioned above.

DISCUSSION

This study aimed to explore how motivation factors the Kazakhstani people follow when sharing COVID-19 news predict (1) their social media platform choice to share COVID-19 news and (2) their COVID-19 misinformation sharing patterns. The research model was based on U&G theory and existing related studies. Specifically, to test the hypotheses, I measured the relationship between prosocial (socialization and altruism), passing time, information sharing and storing (information sharing and information-seeking), self-serving (entertainment and self-promotion), and reputation motivations when sharing COVID-19 news and COVID-19 misinformation sharing. Then to answer the research question, I examined if motivations to share COVID-19 news can predict what social media platforms they use to share COVID-19 news.

The study results found information sharing and information-seeking motivation factors to be the significant predictors of sharing misinformation related to COVID-19. That means that the Kazakhstani people knowingly or unknowingly share misinformative about COVID-19 to express themselves easily and get feedback on shared news, storing valuable information for themselves and making it easier to retrieve later when it is needed. Information seeking was also a salient motivation for news sharing on social media in a study by Lee and Ma (2012), who concluded that people share news on social media not only to fulfill their current information needs but also to satisfy their future information-seeking needs. In terms of misinformation sharing, users might share it to seek relevant information or clarification from their network (Chen, 2016). Also, even doubting the accuracy of the information, people driven by the information sharing motivation might be satisfied by the process of sharing information itself, not caring if it is accurate news or misinformation (Chen, 2016; Karlova & Fisher, 2013).

Among four control variables, only age was found to be a significant predictor of sharing COVID-19 misinformation: older people are more likely to share misinformation about COVID-19. The notable effect of age on sharing misinformation was also found by Guess et al. (2019), whose study revealed that people over 65 years old share fake news articles almost seven times more than the youngest category. Gender, education level, and hours spent daily on social media use utilized as other control variables did not show significant effects on predicting misinformation sharing related to COVID-19. This was an interesting fact since previous studies by Chen et al. (2015) found that women tend to share misinformation more than men, while Lim and Kwon (2010) concluded that women are more cautious and critical of the online information quality.

The thesis aimed to explore the relationship between motivation factors and social media platforms' choice for sharing COVID-19-related news, including misinformation. However, due to the small sample size of people sharing misinformation about COVID-19 in the last six months (15.1% of all respondents), no statistically significant relationships between motivations and platforms choice among people who shared misinformation were found. Analyzing the potential reasons causing that, I assume that the timing of the survey distribution (early March of 2022) coincided with the time when COVID-19 news was obscured by other news topics in Kazakhstan and its neighboring countries.

A series of massive riots that started in the west part of Kazakhstan on January 2, 2022, turned into nationwide anti-government protests that were the breaking news on all media channels, including social media platforms, until the end of February. The Russian invasion of Ukraine on February 23 and various political and financial issues caused by this situation, such as the devaluation of the national currency of Kazakhstan, inflation, sanctions, etc., made

COVID-19-related news less dominant in Kazakhstani media repertoire because of having tight economic relations with and close geographical position to Russia. Moreover, by the end of February, COVID-19 requirements were lifted in Kazakhstan because of the continuous decrease in the number of infected people. For example, on March 24, 2022, the Kazakhstani government officially stated that masks are no longer required in Kazakhstan due to the stabilization of the epidemiological situation (Shayakhmetova, 2022). These external factors made me assume that the participants were less exposed to COVID-related news at the time of distribution of the survey.

Also, the respondents' replies to the open-ended question asked to describe in a few sentences their experience of sharing COVID-19 misinformation showed that misinformation about COVID-19 mainly was spread in 2020 when the pandemic started. The existing studies on sharing misinformation about COVID-19 (Apuke & Omar, 2021; Lobato et al., 2020; Islam et al., 2020; Balakrishnan et al., 2021;) collected survey responses in 2020 during the first months of the pandemic. Therefore data collection for this study dated March of 2022 might also explain, at some degree, the small sample of people sharing COVID-19 misinformation. This, in turn, made the process of testing hypotheses complicated and led to insufficient shreds of evidence to support or reject them.

Even though the social media platforms choice for sharing COVID-19 misinformation did not significantly correlate with motivation factors, the results further established the relationship between motivation factors and control variables and platforms choice for sharing general news about COVID-19. For example, people with altruism and socialization motivations (combined into prosocial motivation) are significantly more likely to share COVID-19 news on WhatsApp. This might be explained by the closer social ties of WhatsApp, giving the feeling of

safety when sharing news (Rossini et al., 2020). Besides, this leads us to assume that when it comes to COVID-19, people want to help and interact with a network of close people for them.

Similarly, those who choose Instagram for sharing COVID-19 news are likely to follow altruism, socialization, information sharing, and information-seeking motivations. Also, younger people tend to share news about COVID-19 on Instagram since the results found a significant negative effect on age. On the contrary, older people and those with a higher education level will likely share accurate COVID-19 news on Facebook. The fact related to the education level is also supported by Rossini and colleagues (2020), who found that people with higher education levels are less likely to share misinformation on Facebook and WhatsApp, and by Chen et al. (2015), who found that the likelihood of graduates sharing misinformation on social media is lower than undergraduate students.

Study limitations

Although misinformation in media, especially on topics related to health issues, is not new, the rapid development of social media leads to an increase in false content in the health ecosystem (Waszak et al., 2018) and digital and social media environment (Zhou & Zhang, 2007). As a result, this increases people's distrust of science (Cross, 2021), government (John, 2021), and fear of getting vaccinated.

Since most research on sharing (mis)information on social media explores the tendency in the western part of the world, a focus of the current research on Kazakhstan provides significant value for the study. It contributes even a small degree to the knowledge on this topic, especially in the COVID-19 context. It is worth noting that the study revealed significant effects of specific motivation factors on sharing COVID-19 misinformation and brought novelty to the platform's choice for COVID-19 news sharing. Indeed, although the patterns of selecting a

particular platform to fulfill people's needs have been studied a lot, there is still a gap in social media platforms' choices for sharing COVID-related information and misinformation.

Although the current thesis brings some small contributions to the existing knowledge, I acknowledge that it has many limitations. First, the study may not apply to general information sharing patterns on social media. Besides, even in the COVID-19 information and misinformation sharing context, it may have limited generalization because of its narrow sample population. Still, it will be practical to have an overall perspective on other Central Asian and the Commonwealth of Independent States (CIS) countries with a developing economy similar to Kazakhstan because of the commonalities in social media use patterns and overall social media demand. In addition, because being a part of the former Soviet Union, CIS countries still have some similarities in terms of economic, political, and media environments that affect information sharing behaviors and misinformation resilience online.

Second, the limitations in study generalization are caused by the convenience and snowball sampling methods that I used because of the affordability and ease of use. Therefore, the study does not have representative results for the whole adult population in Kazakhstan.

Third, the distribution of the survey on Facebook, WhatsApp, and Instagram contributed to the high participation of people actively utilizing these social media platforms. This fact, in turn, affected the study results that did not have any significant correlations to predict the outcome of sharing information and misinformation related to COVID-19 on such platforms like Telegram, Tiktok, and Youtube. Moreover, the minimal sample size of people who had shared made-up news about COVID-19 did not provide sufficient data to test all the hypotheses effectively. Therefore, increasing the sample size of misinformation-sharing people and the proportionately distributed recruitment across various social media platforms would result in a

more robust statistical outcome. Finally, the survey had many missing responses that were probably caused by its feasibility weaknesses.

Practical implications

The study brought some results that can be set up into practical implications for the public relations practitioners. First, Kazakhstani health care organizations can direct their public relations and communications strategy on the social media platforms that people are likely to use for sharing news about COVID-19: WhatsApp, Instagram, Facebook, and Twitter. Second, as the study findings revealed that older people are more likely to share COVID-19 news on Facebook, the platform can be used as the primary channel when distributing messages targeting the older age category. On the contrary, younger people can be reached through Instagram since there was a significant negative relationship between age and sharing COVID-19 news on Instagram. Third, as the study results found that older people are more likely to share COVID-19 misinformation, communication campaigns dedicated to the increasing media literacy level of people of the more senior age category might effectively strengthen the overall population's resilience to misinformation. Last, at a larger scale, the study findings provide practitioners with an overview of information and misinformation sharing patterns around COVID-19 on social media in a "non-western" country, particularly in the Central Asia. This can be effectively used in planning COVID-19-related campaigns in the region.

CONCLUSION

The thesis explored how motivation factors the Kazakhstani people follow for sharing news related to COVID-19 affect (1) their social media platform choice to share COVID-19 news and (2) COVID-19 misinformation sharing patterns. To study these questions, 288 participants, the adult population of Kazakhstan 18 years old and over, were surveyed about their social media use, news sharing patterns, motivations, and platforms choice for sharing COVID-19 news online.

The results showed a significant effect of age (a control variable) on sharing COVID-19 misinformation. Also, the study revealed that information sharing and information-seeking motivations to share COVID-19 news could significantly predict sharing of misinformation about COVID-19 on social media. Even though the study did not provide any significant evidence to predict the outcome of social media platforms for sharing COVID-19 misinformation, the results established some relationship between motivation factors and social media platforms use for sharing general COVID-19 news. That means people following altruism and socialization motivations are more likely to share news related to COVID-19 on WhatsApp and Instagram. Those who follow information sharing and information-seeking motivations are also likely to choose Instagram while sharing COVID-19 news on Twitter has a significant relationship with pass time motivation. Although the choice of Facebook as a platform for sharing COVID-19 information did not have any notable association with motivation factors, the study results found substantial effects of respondents' education level and age on sharing COVID-19 news on Facebook.

The study results did not find any significant relationships between motivation factors and Tiktok, Telegram, and Youtube platforms to share neither general COVID-19 news nor COVID-19 misinformation.

The open-ended question responses provided some qualitative data. They showed that respondents used to share COVID-19 misinformation in 2020 when the pandemic had just started. The misinformation news was about COVID-19 statistics, treatment, and vaccination, which they found useful and valuable to others. This fact supported the quantitative findings stating that information sharing and information-seeking are the most significant motivations for the Kazakhstani adults when sharing misinformation about COVID-19.

Relying on U&G theory, the study concludes that people's social media platforms' choice for sharing COVID-19 news varies depending on the motivation factors they follow. In addition, the study found that Kazakhstani people share misinformation slightly more than in the US, and those who share COVID-19 misinformation are likely to follow information sharing and information-seeking motivations when sharing general news about COVID-19.

APPENDICES

APPENDIX A

The list of Facebook groups

Table 6*The list of Facebook groups*

Facebook group name	Link	N of Members (02/2022)	Other information
Доска объявлений Алматы / Астана / Казахстан Работа	https://www.facebook.com/groups/KazAds/?fref=ts	91.9K	Bulletin Board where people can post their advertisements
Астана - Что? Где? Когда?	https://www.facebook.com/groups/proastana/about	223K	Public group about all in Astana (Nur-Sultan)
Қазақстан жаңалықтары. Новости Казахстана.	https://www.facebook.com/groups/liveinastana	8.5K	Public group for news in Kazakhstan
Интересная жизнь не только Астаны	https://www.facebook.com/groups/478742892281643	94.3K	Public group about an interesting life of Astana (Nur-Sultan) and other cities in Kazakhstan
Өзіміз отырып шәй ішейік!	https://www.facebook.com/groups/1030160747061582	26.5K	Public group for interesting content like games, questionnaires, photos, and videos
Новости Казахстана	https://www.facebook.com/groups/novosti.kz	474.2K	Public group for news about Kazakhstan
Астана 24/7	https://www.facebook.com/groups/astana24na7	37.4K	All about news in Astana (Nur-Sultan)
Покупай Казахстанское	https://www.facebook.com/groups/1557037707887249/about	23.4K	Public group created to support Kazakhstani goods and services
Керек ақпарат	https://www.facebook.com/groups/1524073264556300	36K	Public group created to share useful information on any topics
Айтарым бар!	https://www.facebook.com/groups/mmjjgroup	71.7K	Public group for sharing information on any topics

APPENDIX B

Survey Design

How often do you use each of the following digital platforms:

	Never	Rarely	Sometimes	Often	Always
Facebook	☐	☐	☐	☐	☐
Instagram	☐	☐	☐	☐	☐
WhatsApp	☐	☐	☐	☐	☐
Twitter	☐	☐	☐	☐	☐
Youtube	☐	☐	☐	☐	☐
Telegram	☐	☐	☐	☐	☐
Tiktok	☐	☐	☐	☐	☐
Other	☐	☐	☐	☐	☐

How often do you share any news (sharing to your feed or story, reposting/retweeting, sending to a friend(s) or group chats, etc.) on social media?

- ☐ never share
- ☐ rarely share
- ☐ sometimes share
- ☐ often share
- ☐ always share

Below, I provide reasons and motivations people follow when sharing information or news about COVID-19. Please, read them carefully and answer to what extent you find each of these statements relevant to yourself? 1 = definitely disagree, 2 = disagree, 3 = somewhat disagree, 4 = not sure, 5 = somewhat agree, 6 = agree, 7 = definitely agree

	1	2	3	4	5	6	7
I share news about COVID-19 on social media because I can freely talk about issues with others.	☐	☐	☐	☐	☐	☐	☐
I share news about COVID-19 on social media because I can effortlessly interact with other members of my network when sharing.	☐	☐	☐	☐	☐	☐	☐
I share news about COVID-19 on social media because I can easily exchange views with other members of my network efficiently.	☐	☐	☐	☐	☐	☐	☐
I share news about COVID-19 on social media because it helps me keep in contact with other members of my network.	☐	☐	☐	☐	☐	☐	☐
I share news about COVID-19 on social media because it is a habit just something to do.	☐	☐	☐	☐	☐	☐	☐
I share news about COVID-19 on social media because I have nothing much to do.	☐	☐	☐	☐	☐	☐	☐
I share news about COVID-19 on social media because I can pass the time away, especially whenever I am bored.	☐	☐	☐	☐	☐	☐	☐
I share news about COVID-19 on social media because I love assisting others.	☐	☐	☐	☐	☐	☐	☐
I share news about COVID-19 on social media because I want to motivate and inspire others to do the same.	☐	☐	☐	☐	☐	☐	☐
I share news about COVID-19 on social media because I want to offer useful information to others.	☐	☐	☐	☐	☐	☐	☐

I know that the list is pretty long, and some statements seem similar, but they do not. So please, pay attention to every sentence. 1 = definitely disagree, 2 = disagree, 3 = somewhat disagree, 4 = not sure, 5 = somewhat agree, 6 = agree, 7 = definitely agree

	1	2	3	4	5	6	7
I share news about COVID-19 on social media because I want to admonish others.	☐	☐	☐	☐	☐	☐	☐
I share news about COVID-19 that might be valuable to others on social media.	☐	☐	☐	☐	☐	☐	☐
I share news about COVID-19 on social media to get feedback on the information I have found.	☐	☐	☐	☐	☐	☐	☐
I share news about COVID-19 on social media to provide information.	☐	☐	☐	☐	☐	☐	☐
I share news about COVID-19 on social media to express myself easily.	☐	☐	☐	☐	☐	☐	☐
I share news about COVID-19 on social media to disseminate information that might interest others.	☐	☐	☐	☐	☐	☐	☐
I share news about COVID-19 on social media to be the first in my network who find unique news.	☐	☐	☐	☐	☐	☐	☐
I share news about COVID-19 on social media to assist me to store valuable information.	☐	☐	☐	☐	☐	☐	☐
I share news about COVID-19 on social media because it is easy for me to retrieve information when needed.	☐	☐	☐	☐	☐	☐	☐
I share news about COVID-19 on social media to keep abreast of the current news and events.	☐	☐	☐	☐	☐	☐	☐

Here is the last block of statements. I appreciate you reading them all carefully and replying honestly. So to what extent do you agree with the following? 1 = definitely disagree, 2 = disagree, 3 = somewhat disagree, 4 = not sure, 5 = somewhat agree, 6 = agree, 7 = definitely agree

	1	2	3	4	5	6	7
I share news about COVID-19 to check with my network if it is truthful and reliable.	☐	☐	☐	☐	☐	☐	☐
I share news about COVID-19 on social media because I find it entertaining.	☐	☐	☐	☐	☐	☐	☐
I share news about COVID-19 on social media because it is fun.	☐	☐	☐	☐	☐	☐	☐
I share news about COVID-19 on social media because it helps me to combat boredom.	☐	☐	☐	☐	☐	☐	☐
I share news about COVID-19 on social media because it helps me to release tension.	☐	☐	☐	☐	☐	☐	☐
I share news about COVID-19 on social media because it helps me to impress other people.	☐	☐	☐	☐	☐	☐	☐
I share news about COVID-19 on social media because it makes me feel important.	☐	☐	☐	☐	☐	☐	☐
I share news about COVID-19 on social media because it helps me to look good when sharing news.	☐	☐	☐	☐	☐	☐	☐
I share news about COVID-19 because I first checked its accuracy.	☐	☐	☐	☐	☐	☐	☐
I share news about COVID-19 only when I am sure it will not hurt my reputation.	☐	☐	☐	☐	☐	☐	☐

What social media platforms do you usually choose for **sharing news stories about COVID-19**?
Use the scale from *never* to *always* to indicate the frequency of using each of these platforms to share COVID-19 news:

	never share	rarely share	sometimes share	often share	always share
Facebook	☐	☐	☐	☐	☐
Instagram	☐	☐	☐	☐	☐
WhatsApp	☐	☐	☐	☐	☐
Twitter	☐	☐	☐	☐	☐
Youtube	☐	☐	☐	☐	☐
Telegram	☐	☐	☐	☐	☐
Tiktok	☐	☐	☐	☐	☐
Other	☐	☐	☐	☐	☐

In the last six months, have you ever shared on social media a news story about COVID-19 **you knew at the time OR later found out** was made up?

- ☐ Yes
- ☐ No

If you want, in just a sentence or two, could you describe the time you shared a news story that **you knew at the time OR later found out** was made up?

Thinking about the times when you shared information that was made up, what social media platforms have you ever used for that? Use the scale from *never* to *always* to indicate the frequency of sharing misinformation about COVID-19 on each of these platforms:

	never shared	rarely shared	sometimes shared	often shared	always shared
Facebook	☐	☐	☐	☐	☐
Instagram	☐	☐	☐	☐	☐
WhatsApp	☐	☐	☐	☐	☐
Twitter	☐	☐	☐	☐	☐
Youtube	☐	☐	☐	☐	☐
Telegram	☐	☐	☐	☐	☐
Tiktok	☐	☐	☐	☐	☐
Other	☐	☐	☐	☐	☐

How many hours per day do you spend on social media?

- ☐ Less than 1 hour
- ☐ 1-3 hours
- ☐ 4-7 hours
- ☐ More than 7 hours

What is the highest degree or level of school you have completed?

- ☐ Middle school
- ☐ Secondary (or high) school
- ☐ Professional college, Vocational school
- ☐ Specialist diploma, Bachelor's
- ☐ Graduate (Master's)
- ☐ Graduate (Ph.D., Doctorate)

Please indicate your age range below:

- ☐ 18-24
- ☐ 25-34
- ☐ 35-44
- ☐ 45-54
- ☐ 55-64
- ☐ 65 and over

How do you identify your gender?

- ☐ Male
- ☐ Female
- ☐ Other
- ☐ Prefer not to say

What is your current location (region/city) in Kazakhstan?

- ☐ Nur-Sultan
- ☐ Almaty
- ☐ Shymkent
- ☐ Aqmola region
- ☐ Aktobe region
- ☐ Almaty region
- ☐ Atyrau region
- ☐ East Kazakhstan region
- ☐ Zhambyl region
- ☐ Mangystau region
- ☐ North Kazakhstan region
- ☐ Pavlodar region
- ☐ Qaragandy region
- ☐ Qostanay region

- ☐ Qyzylorda region
- ☐ South Kazakhstan region
- ☐ West Kazakhstan region

BIBLIOGRAPHY

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- Apuke, O. D., & Omar, B. (2021). Fake news and COVID-19: modelling the predictors of fake news sharing among social media users. *Telematics and Informatics*, 56, 101475. <https://doi.org/10.1016/j.tele.2020.101475>
- Balakrishnan, V., Ng, K. S., & Rahim, H. A. (2021). To share or not to share – The underlying motives of sharing fake news amidst the COVID-19 pandemic in Malaysia. *Technology in Society*, 66, 101676. <https://doi.org/10.1016/j.techsoc.2021.101676>
- Baker, S. A., Wade, M., & Walsh, M. J. (2020). The challenges of responding to misinformation during a pandemic: content moderation and the limitations of the concept of harm. *Media International Australia*, 177(1), 103–107. <https://doi.org/10.1177/1329878x20951301>
- Barthel, M., Mitchell, A., & Holcomb, J. (2020, August 27). Many Americans Believe Fake News Is Sowing Confusion. Pew Research Center's Journalism Project. <https://www.pewresearch.org/journalism/2016/12/15/many-americans-believe-fake-news-is-sowing-confusion/>
- Chen, X. (2016). The Influences of Personality and Motivation on the Sharing of Misinformation on Social Media. *iConference 2016 Proceedings*. <https://doi.org/10.9776/16145>
- Chen, X., Sin, S. C. J., Theng, Y. L., & Lee, C. S. (2015). Why Students Share Misinformation on Social Media: Motivation, Gender, and Study-level Differences. *The Journal of Academic Librarianship*, 41(5), 583–592. <https://doi.org/10.1016/j.acalib.2015.07.003>
- Cooke, N. A. (2017). Posttruth, Truthiness, and Alternative Facts: Information Behavior and Critical Information Consumption for a New Age. *The Library Quarterly*, 87(3), 211–221. <https://doi.org/10.1086/692298>
- Cross, R. (2021, January 25). *Will public trust in science survive the pandemic?* Chemical & Engineering News (C&EN). <https://cen.acs.org/policy/global-health/Will-public-trust-in-science-survive-the-pandemic/99/i3>
- Dovidio, J. F., & Banfield, J. C. (2015). Prosocial Behavior and Empathy. *International Encyclopedia of the Social & Behavioral Sciences*, 216–220. <https://doi.org/10.1016/b978-0-08-097086-8.24024-5>
- Guess, A., Nagler, J., & Tucker, J. (2019). Less than you think: Prevalence and predictors of fake news dissemination on Facebook. *Science Advances*, 5(1). <https://doi.org/10.1126/sciadv.aau4586>
- Gupta, L., Gasparyan, A. Y., Misra, D. P., Agarwal, V., Zimba, O., & Yessirkepov, M. (2020). Information and Misinformation on COVID-19: a Cross-Sectional Survey Study. *Journal of Korean Medical Science*, 35(27). <https://doi.org/10.3346/jkms.2020.35.e256>

- Halpern, D., Valenzuela, S., Katz, J., & Miranda, J. P. (2019). From Belief in Conspiracy Theories to Trust in Others: Which Factors Influence Exposure, Believing and Sharing Fake News. *Social Computing and Social Media. Design, Human Behavior and Analytics*, 217–232. https://doi.org/10.1007/978-3-030-21902-4_16
- Humprecht, E., Esser, F., & van Aelst, P. (2020). Resilience to Online Disinformation: A Framework for Cross-National Comparative Research. *The International Journal of Press/Politics*, 25(3), 493–516. <https://doi.org/10.1177/1940161219900126>
- John, M. (2021, January 13). *Public trust crumbles under COVID-19, fake news: survey*. Reuters. <https://www.reuters.com/article/us-health-coronavirus-global-trust-idUSKBN29I0NL>
- Karlova, N. A., & Fisher, K. E. (2013). A social diffusion model of misinformation and disinformation for understanding human information behaviour. *Information Research*, 18 (1).
- Katz, E., Blumler, J. G., & Gurevitch, M. (1974). Utilization of Mass Communication by the Individual. In J. G. Blumler, & E. Katz (Eds.), *The Uses of Mass Communications: Current Perspectives on Gratifications Research* (pp. 19-31). *Beverly Hills: Sage Publications*.
- Kemp, S. (2021, February). *DIGITAL 2021: KAZAKHSTAN*. Datareportal. <https://datareportal.com/reports/digital-2021-kazakhstan>
- Kircaburun, K., Alhabash, S., Tosuntaş, U. B., & Griffiths, M. D. (2018). Uses and Gratifications of Problematic Social Media Use Among University Students: a Simultaneous Examination of the Big Five of Personality Traits, Social Media Platforms, and Social Media Use Motives. *International Journal of Mental Health and Addiction*, 18(3), 525–547. <https://doi.org/10.1007/s11469-018-9940-6>
- Laruelle, M. (2021). *Covid-19 Pandemic and Central Asia. Crisis Management, Economic Impact, and Social Transformations*. The George Washington University, Central Asia Program, 2021.
- Lee, C. S., & Ma, L. (2012). News sharing in social media: The effect of gratifications and prior experience. *Computers in Human Behavior*, 28(2), 331–339. <https://doi.org/10.1016/j.chb.2011.10.002>
- Lee, C. S., Ma, L., & Goh, D. H. L. (2011). Why Do People Share News in Social Media? *Active Media Technology*, 129–140. https://doi.org/10.1007/978-3-642-23620-4_17
- Lim, S., & Kwon, N. (2010). Gender differences in information behavior concerning Wikipedia, an unorthodox information source? *Library & Information Science Research*, 32(3), 212–220. <https://doi.org/10.1016/j.lisr.2010.01.003>

- Lobato, E. J. C., Powell, M., Padilla, L. M. K., & Holbrook, C. (2020). Factors Predicting Willingness to Share COVID-19 Misinformation. *Frontiers in Psychology*, 11. <https://doi.org/10.3389/fpsyg.2020.566108>
- Losee, R. M. (1997). A discipline independent definition of information. *Journal of the American Society for Information Science*, 48(3), 254–269.
- Ma, W. W., & Chan, A. (2014). Knowledge sharing and social media: Altruism, perceived online attachment motivation, and perceived online relationship commitment. *Computers in Human Behavior*, 39, 51–58. <https://doi.org/10.1016/j.chb.2014.06.015>
- Mourão, R. R., & Robertson, C. T. (2019). Fake News as Discursive Integration: An Analysis of Sites That Publish False, Misleading, Hyperpartisan and Sensational Information. *Journalism Studies*, 20(14), 2077–2095. <https://doi.org/10.1080/1461670x.2019.1566871>
- Nelson, J. L., & Taneja, H. (2018). The small, disloyal fake news audience: The role of audience availability in fake news consumption. *New Media & Society*, 20(10), 3720–3737. <https://doi.org/10.1177/1461444818758715>
- Newman, N., Fletcher, R., Kalogeropoulos, A., Levy, D. A. L., & Nielsen, R. K. (2017). *Reuters Institute Digital News Report 2017*. Reuters Institute for the Study of Journalism. https://reutersinstitute.politics.ox.ac.uk/sites/default/files/Digital%20News%20Report%202017%20web_0.pdf
- Piketty, T. (2014). *Capital in the twenty-first century*. Cambridge, MS: Harvard University Press.
- Poushter, J., Bishop, C., & Chwe, H. (2020, August 14). Social Media Use Continues to Rise in Developing Countries but Plateaus Across Developed Ones. Pew Research Center's Global Attitudes Project. <https://www.pewresearch.org/global/2018/06/19/social-media-use-continues-to-rise-in-developing-countries-but-plateaus-across-developed-ones/>
- Rossini, P., Stromer-Galley, J., Baptista, E. A., & Veiga De Oliveira, V. (2020). Dysfunctional information sharing on WhatsApp and Facebook: The role of political talk, cross-cutting exposure and social corrections. *New Media & Society*, 23(8), 2430–2451. <https://doi.org/10.1177/1461444820928059>
- Shearer, E. & Gottfried, J. (2017). News use across social media platforms 2017. Available at: <http://www.journalism.org/2017/09/07/news-use-across-social-media-platforms-2017/>
- Shin, J., & Thorson, K. (2017). Partisan Selective Sharing: The Biased Diffusion of Fact-Checking Messages on Social Media. *Journal of Communication*, 67(2), 233–255. <https://doi.org/10.1111/jcom.12284>
- Silver, L. (2020, August 17). Misinformation and fears about its impact are pervasive in 11 emerging economies. Pew Research Center. <https://www.pewresearch.org/fact-tank/2019/05/13/misinformation-and-fears-about-its-impact-are-pervasive-in-11-emerging-economies/>

- Statista. (2021, October 26). *Nigeria: online usage penetration 2016–2026*.
<https://www.statista.com/statistics/484918/internet-user-reach-nigeria/>
- Talwar, S., Dhir, A., Kaur, P., Zafar, N., & Alrasheedy, M. (2019). Why do people share fake news? Associations between the dark side of social media use and fake news sharing behavior. *Journal of Retailing and Consumer Services*, 51, 72–82.
<https://doi.org/10.1016/j.jretconser.2019.05.026>
- Tandoc, E. C., Lim, D., & Ling, R. (2019). Diffusion of disinformation: How social media users respond to fake news and why. *Journalism*, 21(3), 381–398.
<https://doi.org/10.1177/1464884919868325>
- Tandoc, E. C., Ling, R., Westlund, O., Duffy, A., Goh, D., & Zheng Wei, L. (2017). Audiences' acts of authentication in the age of fake news: A conceptual framework. *New Media & Society*, 20(8), 2745–2763. <https://doi.org/10.1177/1461444817731756>
- The World Bank. (2021, September). *Literacy rate, adult total (% of people ages 15 and above) - Nigeria* | Data. <https://data.worldbank.org/indicator/SE.ADT.LITR.ZS?locations=NG>
- Thompson, N., Wang, X., & Daya, P. (2019). Determinants of News Sharing Behavior on Social Media. *Journal of Computer Information Systems*, 60(6), 593–601.
<https://doi.org/10.1080/08874417.2019.1566803>
- Udanor, C., Aneke, S., & Ogbuokiri, B. O. (2016). Determining social media impact on the politics of developing countries using social network analytics. *Program*, 50(4), 481–507.
<https://doi.org/10.1108/prog-02-2016-0011>
- Waszak, P. M., Kasprzycka-Waszak, W., & Kubanek, A. (2018). The spread of medical fake news in social media – The pilot quantitative study. *Health Policy and Technology*, 7(2), 115–118. <https://doi.org/10.1016/j.hlpt.2018.03.002>
- World Health Organization. (2020, December 22). *Infodemic*. https://www.who.int/health-topics/infodemic#tab=tab_1
- Zhou, L., & Zhang, D. (2007). An Ontology-Supported Misinformation Model: Toward a Digital Misinformation Library. *IEEE Transactions on Systems, Man, and Cybernetics - Part A: Systems and Humans*, 37(5), 804–813. <https://doi.org/10.1109/tsmca.2007.902648>