COVID-19 Pandemic and Diffusion of Fake News through Social Media in the Arab World

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1. Introduction

Social media have become a popular way for people to communicate with others, connect and socialize with friends, family and strangers, and share, explore and consume information. Given the rewarding nature of these technologies and the repeated exposure of users to such sites, and individual differences in self-control abilities, some people started using social media sites in a problematic manner, to the point that their use patterns adversely affect various aspects of life (Turel 2021).

During the COVID-19 pandemic, people resorted to different sources, predominantly internet-based sources, to gather information and inform themselves. Being health conscious amid the emerging uncertainty, people immediately started searching for COVID-19 information, such as its symptoms and precautionary measures. According to Soroya et al. (2021) people used various sources to keep themselves informed about the COVID-19. Among these sources, broadcast media (TV and radio), print media (newspapers and magazines), social media (Facebook, Twitter, etc.), search engines (such as Google), family and friends, and scientific and official websites are prominent. The available statistics from Google Trends also confirm that people worldwide were actively seeking COVID-19 related information online (Fig.1).

Fake news stories are considered fabricated to deceive viewers into thinking they are real news. Social media have been called "the lifeblood of fake news" since these platforms allow anyone to disseminate fake news to mass audiences easily and at a low cost (Leeder 2019). It is a particularly potent vehicle for disinformation— one that masquerades as a journalistic article and, as such, usurps the credibility of journalism, the timeliness of the content, and the ability to push articles on sensitive topics that include politics into platform newsfeeds. Identifying fake news

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can be challenging, not least because the intent to deceive can be difficult to differentiate from the genuine portrayal of a controversial perspective (Bastick 2020).
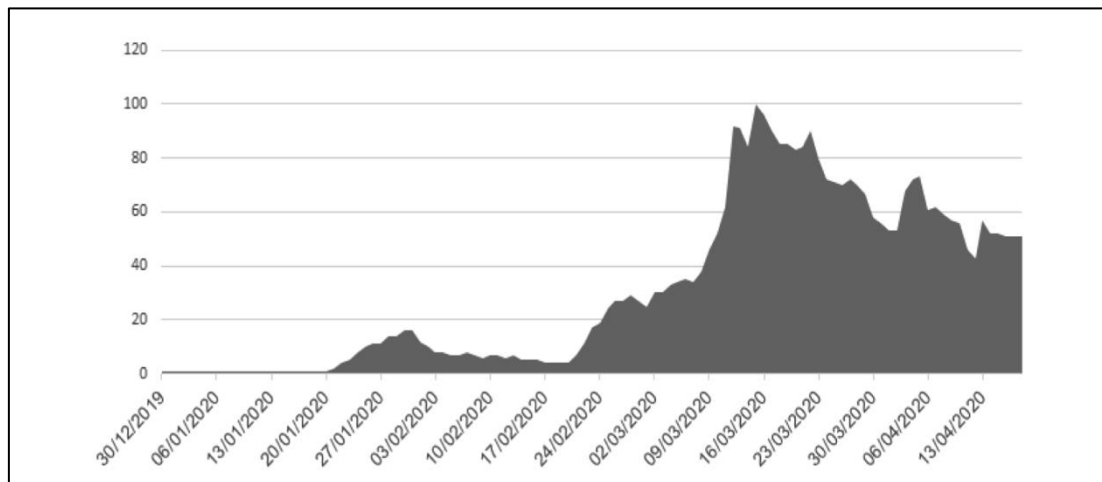

Fig. 1. Global search interest in coronavirus (dated 18 April 2020).

Bryant (2008) suggests five factors to differentiate types of deception: *Intention* (the deceiver's motivation), *Consequences* (the extent and severity of a given deception), *Beneficiary* (who a deception is intended to benefit), *Truthfulness* (the degree of truth present), and *Acceptability* (the extent to which a given deception may be tolerated) (Stoll 2013).

Misinformation on social media platforms like Facebook, Twitter, and YouTube range from racially driven scapegoating to supposed cures for the virus. One inaccurate Facebook post shared more than 500 times claimed that a vaccine exists for the new form coronavirus, which was false at the time of the post. In fact, at the time there were no vaccines for any of the seven types of coronavirus that humans are susceptible to according to PolitiFact, quoting Amesh Adalja, senior scholar at Johns Hopkins Center for Health Security (Time.com 2020).

In addition, Daniel Rogers, founder of the Global Disinformation Index, expressed the dark side of social media in the shadow of the coronavirus pandemic by saying: "The corona pandemic provided fertile soil for every fraud expert, every seller of fabricated stories, every promoter of conspiracy theory, every hunted opportunity on the Internet" (Dw.com 2020). For example, a post was circulated falsely attributed to the Italian Prime Minister saying that: "There are no human solutions for the virus. Right now, it is up to the almighty God." This incident is an indication of the potential severity of fake news and its capacity to spread rapidly through social media platforms.

In this regard, studies on fake news during the pandemic have focused on several areas, such as detecting health misinformation in online health communities (Zhao, Da, and Yan 2021), fake news detection based on cross-modal attention residual, and multichannel convolutional neural networks (Song et al. 2021), and fake news

detection through a convolutional neural network with margin loss (Goldani, Safabakhsh, and Momtazi 2021). However, there are techniques to detect fake news on social media; it is very important to study the user's behavior towards spreading fake news (Khalifa et al. 2020). Hence, this study's main purpose is to explore social media user responses to fake information about the coronavirus (COVID-19) in the context of the Arab world. This study contributes to the literature in different aspects. Firstly, it explores to what extent social media users trust the information presented on the COVID-19 pandemic. Secondly, the current study identifies the most popular social media networks spreading rumors related to coronavirus. Thirdly, our study seeks to provide insightful information on user interaction with news and information related to coronavirus over social media platforms.

2. Literature review

2.1. Social media as sources of fake news

Despite the possible positive effect of social media platforms in shaping public opinion, knowledge, and attitudes, which can in some cases influence decision-making processes. it can also spread fake news rapidly, which affects the perception of public affairs, especially during crises. The phenomenon itself is not entirely new of course: false or misleading information has always played a role in human societies throughout the ages. Yet, the internet and social media are proving to be particularly fertile soil for fake news (Van der Linden et al. 2020).

In fact, fake news spreads from sources to consumers through a complex ecosystem of websites, social media, and bots. Features that make social media engaging, including the ease of sharing and rewiring social connections, facilitate their manipulation by highly active and partisan individuals (and bots) that become powerful sources of misinformation (Lazer et al. 2017). A classic example of widespread misinformation dates back to 1938, when the broadcast of a radio adaptation of H. G. Well's drama *The War of the Worlds* frightened an estimated one million residents. By adopting a broadcast news format via the relatively new technology of radio, complete with actors playing the roles of reporters, residents, experts, and government officials, radio drama director Orson Welles found an innovative way of narrating the story of the Martian invasion (Tandoc et al. 2018).

In diagnosing the problem of fake news, many writers and commentators search for a language that links technical workings to social conditions, often comparing fake news to a systemic bug. Settling on the phrase 'information disorder' to capture the broader idiom of fake news, Wardle and Derakhshan (2017) use the terms 'misinformation', 'disinformation', and 'mal-information' to describe different levels of severity of fake news, situating these phenomena as indicative of vulnerabilities within a communication system driven by both technology and human psychology (Creech 2020). A definition of fake news is news pieces that are intentionally and verifiably false and could mislead audiences. The broad definitions

of fake news focus on the authenticity or intent of the news content. Some papers regard satire news as fake news since the contents are false, even though satire often uses a witty form to reveal its own deceptiveness to the consumers (Liu 2019). While Finneman and Thomas define fake news as "the intentional deception of a mass audience by nonmedia actors via a sensational communication that appears credible but is designed to manipulate and is not revealed to be false" (Finneman and Thomas 2018).

The academic literature reported about seven types of fake news; satire news, parody news, propaganda news, manipulated visual content, fabricated content, alternative truth, and false connection (Ibrahim 2020). These behaviors can induce feelings of anger or dislike from other people because they are hostile, abrasive, or inappropriate in comparison to accepted social behavioral codes (Bryant 2008). Two main motivations underlie the production of fake news: financial and ideological. On one hand, outrageous and fake stories go viral-precisely because they are outrageous; they provide content producers with clicks that are convertible to advertising revenue. On the other hand, other fake news providers produce fake news to promote particular ideas or people they favor, often discrediting others (Tandoc et al. 2018). Primarily, fake news is produced by individuals who are concerned not with gathering and reporting information to the world, but rather with generating profit through the social media circulation of false information mimicking the style of contemporary news (McLeod 2020). Researchers from the Oxford Internet Institute focused on political news related to the elections in the UK, France, Germany, Italy, Spain, Poland, and Sweden on the social media platforms of Facebook and Twitter in the month prior to the ballot. They specifically looked at 'junk news', which they defined as 'ideologically extreme, misleading, and factually incorrect information (Syrovátka 2019).

When Goh et al. (2017) examined 4321 tweets he revealed six categories of rumor messages, four categories of counter-rumor messages, and two categories belonging to neither type. Interestingly, there were more counter-rumor messages than rumor messages. Social media is rife with opportunities for those who seek to destabilize societies through disinformation either for ideological purposes, financial gains or both, particularly before elections (Iosifidis and Nicoli 2020).

In June 2020, BBC website mentioned that the official White House Twitter account shared a video montage showing piles of bricks on the streets in different cities, and protesters, responding to the killing of George Floyd, throwing projectiles. The accompanying tweet accused an anti-fascist group, Antifa, and "professional anarchists" of domestic terror through "staging bricks and weapons to instigate violence." It didn't provide any evidence to support this claim. After investigation they found that the bricks had been there before the protests started, a common presence at construction projects in different cities (BBC.com 2020).

Several studies have looked at the spread of fake news on social media platforms. For example, (Vosoughi et al. 2018) found that falsehood diffused significantly farther, faster, deeper, and more broadly than the truth in all categories of information. The effects were more pronounced for false political news than for false news about terrorism, natural disasters, science, urban legends, or financial information.

Many studies have examined the consequences of fake news. For example, In the 2016 US Presidential election, the victorious celebrity property tycoon Donald Trump maintained a controversial online presence. He posted tweets about his campaign and engaged in a blatantly hateful online discourse aimed at his political opponents. Such usage of social media does not aid democratic representation, but instead contributes to a greater destabilization of modern politics. Therefore, the spread of disinformation has to do both with technological processes and motivated political actors (Iosifidis and Nicoli 2020).

This makes many vulnerable to accepting and acting on misinformation. For instance, after fake news stories in June 2017 reported Ethereum's founder Vitalik Buterin had died in a car crash its market value was reported to have dropped by $4 billion (Rainie 2017). Since user interaction with news about COVID-19 has effects on the spreading or controlling of fake news, we ask these questions:

RQ₁. How confident are you in the information published by social networking platforms on the coronavirus?

RQ₂. What are the most popular social networking platforms spreading rumors related to coronavirus?

RQ₃. What is the audience interaction with news and information related to coronavirus on social media?

3. Research methods

3.1 Data collection

This study employed a questionnaire to investigate the respondents' perception of the level of confidence in the information published on social networking platforms regarding the coronavirus, and the social media networks most frequently spreading rumors about the pandemic. Further, it explores the respondents' interaction with news and information about coronavirus published on social media. The questionnaire was adapted based on studies by Khalifa, Badran, Al-Absy, and Almaamari (2020), Altoom (2019), Wkal (2018), and Al-Madani (2017). A non-probability sampling technique was used. The questionnaire was administered to respondents in July 2020 through the internet; posted on social media accounts, internet newsgroup, discussion groups, as well as emails sent to colleagues and friends inviting them to complete the questionnaire. A total of 1274 respondents from Bahrain, Egypt, Iraq, Jordan, Morocco, Oman, Saudi Arabia,

Sudan, and the United Arab Emirates were investigated out of 423 million; the total population of the Arab region (World Population Review 2020).

Table 1: Demographic Characteristics of the respondents.

Demographic Characteristics		N	%
Country	United Arab Emirates	14	1.10
	Bahrain	483	37.91
	Saudi Arabia	413	32.42
	Oman	56	4.40
	Jordan	21	1.65
	Iraq	7	0.55
	Egypt	231	18.13
	Morocco	7	0.55
	Sudan	42	3.30
Experience Level with Social Media	Less than (3) years	21	1.65
	From (3 - 5) years	126	9.89
	More than (5) years	1127	88.46
Education	Below High School	14	1.10
	High School	77	6.04
	B.Sc.	854	67.03
	M.A/ PhD	329	25.82
Gender	Male	546	42.86
	Female	728	57.14
Age	(18 – 35)	595	46.70
	(36 – 50)	532	41.76
	Above (50)	147	11.54

3.2 Measurement of variables

To investigate the respondents' perception on the level of confidence in the information published by social networking platforms about the coronavirus, we asked the respondents to identify whether they totally trust, somewhat trust, or do not trust the information published on social networking platforms relating to the coronavirus. This question has adapted from Khalifa (2020). In more detail, we listed several social networking platforms, namely, Facebook, Twitter, Instagram, YouTube, WhatsApp, Snapchat, Tik Tok, and other networks to see which are more likely to be trusted for obtaining information related to coronavirus. Regarding the social networking platforms most frequently spreading rumours related to coronavirus, respondents were asked to identify the frequency of spreading rumours, e.g., "always, sometimes, never", for each, namely, Facebook, Twitter, Instagram, YouTube, WhatsApp, Snapchat, Tik Tok, and other networks. This question has adapted from Khalifa (2020), and Wkal (2018).

Concerning the respondents' interaction with news and information of coronavirus published on social media, we asked the respondents to identify their frequency of interaction with the news and information of coronavirus. This question has adapted from Al-Madani (2017), and Altoom (2019). In more detail, we asked the respondents whether they always, sometimes, or rarely write a comment on the

news and information of coronavirus; share the news and information of coronavirus, record a like for the news and information of coronavirus; create a link for the news and information of coronavirus, or if they just read the news and information of coronavirus without engagement. Further, we also asked the respondents to identify their frequency of reading the news and information of coronavirus shared or comments by their friends. Besides that, we asked the respondents whether they write comments on the news and information about coronavirus shared or commented on by their friends.

4. Results and discussion

4.1. Confidence in the information published on social networking platforms for the coronavirus

Table 2 shows the respondents' perception of whether they have full trust, some faith or no trust in the information published on the coronavirus on social networking platforms. The study revealed that the weighted average of confidence in information published on Facebook, Twitter, Instagram, YouTube, WhatsApp, Snapchat, Tik Tok and other networks are 1.54, 2.06, 1.88, 1.85, 1.73, 1.59, 1.20, and 1.46 respectively. Hence, respondents have more confidence in the information published on Twitter, followed by Instagram, YouTube, WhatsApp, Snapchat, and Facebook. However, they have less confidence in the information published on Tik Tok or other networks

In more detail, only 63 respondents (4.95%) have confidence in the information published on the coronavirus on Facebook while 560 respondents (43.96%) have some confidence in the information published on the coronavirus on Facebook. However, 651 of respondents (51.10%) have no confidence in the information published on the coronavirus on Facebook. Regarding Twitter, 329 respondents (25.82%) have confidence in the information published on the coronavirus on Twitter, while 693 respondents (54.40%) have some confidence in the information published on the coronavirus on Twitter. However, 252 respondents (19.78%) have no confidence in the information published on the coronavirus on Twitter.

Concerning Instagram, 245 respondents (19.23%) have confidence in the information published on the coronavirus on Instagram, while 630 respondents (49.45%) have some confidence in the information published on the coronavirus on Instagram. However, 399 respondents (31.32%) have no confidence in the information published on the coronavirus on Instagram. With respect to YouTube, 203 respondents (15.93%) have confidence in the information published on the coronavirus on YouTube, while 679 respondents (53.30%) have some confidence in the information published on the coronavirus on YouTube. However, 392 respondents (30.77%) have no confidence in the information published on the coronavirus on YouTube.

Related to WhatsApp, 147 respondents (11.54%) have confidence in the information shared on the coronavirus on WhatsApp while 630 respondents (49.45%) have some confidence in the information shared on the coronavirus on WhatsApp. However, 497 of respondents (39.01%) have no confidence in the information shared on the coronavirus on WhatsApp. For Snapchat, 105 respondents (8.24%) have confidence in the information published on the coronavirus on Snapchat, while 546 respondents (42.86%) have some confidence in the information published on the Coronavirus on Snapchat. However, 623 respondents (48.90%) have no confidence in the information published on the coronavirus on Snapchat.

Regarding Tik Tok, only 14 respondents (1.10%) have confidence in the information published on coronavirus on the platform. While 231 respondents (18.13%) have some confidence in the information published on the coronavirus on Tik Tok. However, 1029 respondents (80.77%) have no confidence in the information published on the coronavirus on Tik Tok. Concerning other networks, 42 respondents (3.30%) have confidence in the information published on the coronavirus on other networks, while 504 respondents (39.56%) have some confidence in the information published on the coronavirus on other networks. However, 728 respondents (57.14%) have no confidence in the information published on the coronavirus on other networks.

Table 2: Confidence in the coronavirus information published by social networking platforms

| *Social media*	Full confidence		Some confidence		No confidence		Weighted Average
Facebook	4.95%	63	43.96%	560	51.10%	651	1.54
Twitter	25.82%	329	54.40%	693	19.78%	252	2.06
Instagram	19.23%	245	49.45%	630	31.32%	399	1.88
YouTube	15.93%	203	53.30%	679	30.77%	392	1.85
WhatsApp	11.54%	147	49.45%	630	39.01%	497	1.73
Snapchat	8.24%	105	42.86%	546	48.90%	623	1.59
Tik Tok	1.10%	14	18.13%	231	80.77%	1029	1.20
Other networks	3.30%	42	39.56%	504	57.14%	728	1.46
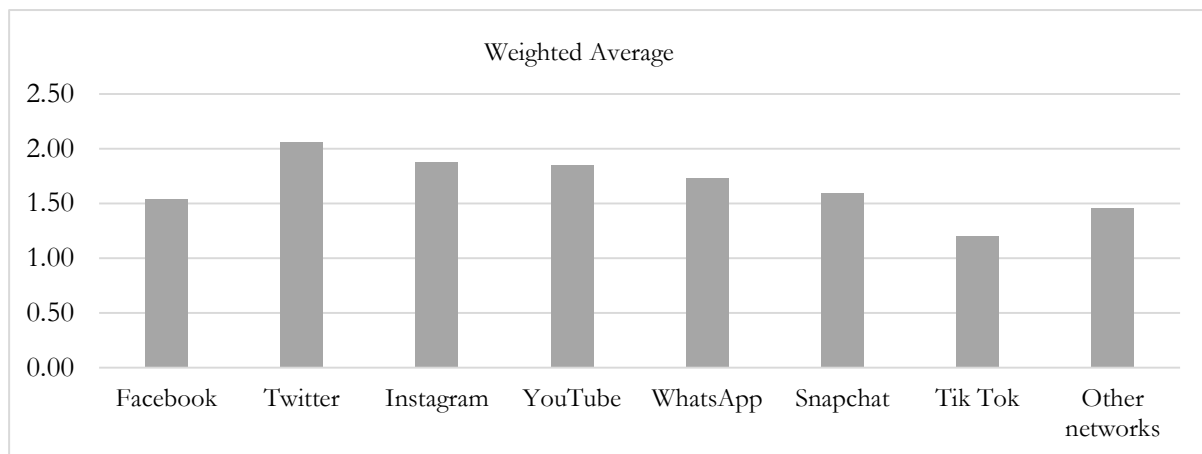
Fig. 2. Confidence in the information published by social networking platforms for the coronavirus

4.2 The most popular social media platforms spreading rumours related to coronavirus

Based on Table 2, the weighted average of confidence on information published on social media platforms, e.g., Facebook, Twitter, Instagram, YouTube, WhatsApp, Snapchat, Tik Tok, and other networks is low, at 1.54, 2.06, 1.88, 1.85, 1.73, 1.59, 1.20, and 1.46 respectively. Hence, in this section, the study attempts to investigate the social media platforms that most frequently circulate false information relating to coronavirus. Figure 3 indicates that the weighted average of spreading rumours related to coronavirus by Facebook, Twitter, Instagram, YouTube, WhatsApp, Snapchat, Tik Tok, and other networks are 2.30, 2.23, 2.26, 2.09, 2.70, 2.28, 2.25, and 2.15 respectively. Thus, the most popular social media platform spreading rumours related to coronavirus is WhatsApp.

In more detail, respondents argue that a lack of confidence in Facebook is due to the fact that Facebook is seen as a vector that facilitates the spread of rumours related to coronavirus, with 511 respondents (40.11%) believing this to be the case. A larger proportion, 637 respondents (50.00%), believe that Facebook somewhat spreads rumours related to coronavirus. However, only 126 respondents (9.89%) express that Facebook never spreads rumours related to coronavirus. Regarding Twitter, 427 respondents (33.52%) argue that a lack of confidence in Twitter is due to the fact that Twitter frequently facilitates the spreading of rumours related to coronavirus. Some 707 respondents (55.49%), believe that Twitter somewhat spreads rumours related to coronavirus. However, 140 respondents (10.99%) express that Twitter never spreads rumours related to coronavirus. Concerning Instagram, 411 (34.62%) respondents argue that lack of confidence in Instagram is due to the fact that Instagram frequently facilitates the spreading of rumours related to coronavirus. Some 728 respondents (57.14%) believe that Instagram somewhat spreads rumours related to coronavirus. However, only 105 respondents (8.24%) express that Instagram never spread rumours related to Coronavirus.

For YouTube, respondents argue that a lack of confidence in YouTube is due to the fact that YouTube frequently facilitates the spreading of rumours related to coronavirus, in this case 266 respondents (20.88%). A notable 854 respondents (67.03%) believe that YouTube somewhat spreads rumours related to coronavirus. However, only 154 of respondents (12.09%) express that YouTube never spread rumours related to coronavirus. Regarding WhatsApp, 931 respondents (73.08%) argue that a lack of confidence in WhatsApp is due to the fact that rumors related to coronavirus are frequently spread using this application. In contrast, 301 respondents (23.63%) believe Whatsapp is somewhat used to spread rumours related to coronavirus. However, only 42 respondents (3.30%) express that WhatsApp is never used to spread rumours related to coronavirus. Concerning Snapchat, 490 respondents (38.46%) argued that a lack of confidence in Snapchat is due to the fact that Snapchat frequently facilitates the spreading of rumours related to coronavirus. However, 651 respondents (51.10%) believe Snapchat somewhat

spreads rumours related to coronavirus; while 133 respondents (133%) express that Snapchat never spreads rumours related to coronavirus. About Tik Tok, 532 respondents (41.76%) argue that a lack of confidence in Tik Tok is due to the fact that Tik Tok frequently facilitates the spread of rumours related to coronavirus. A similar number, 525 respondents (41.21%) believe that Tik Tok somewhat spreads rumours related to coronavirus, and 217 respondents (17.03%) express that Tik Tok never spreads rumours related to coronavirus.

Table 3: Most popular social media platforms spreading rumours related to coronavirus

| *Social media*	Always spreading rumours		Somewhat spreading rumours		Never spreading rumours		Total	Weighted Average
Facebook	40.11%	511	50.00%	637	9.89%	126	1274	2.30
Twitter	33.52%	427	55.49%	707	10.99%	140	1274	2.23
Instagram	34.62%	441	57.14%	728	8.24%	105	1274	2.26
YouTube	20.88%	266	67.03%	854	12.09%	154	1274	2.09
WhatsApp	73.08%	931	23.63%	301	3.30%	42	1274	2.70
Snapchat	38.46%	490	51.10%	651	10.44%	133	1274	2.28
Tik Tok	41.76%	532	41.21%	525	17.03%	217	1274	2.25
Other networks	28.57%	364	57.69%	735	13.74%	175	1274	2.15
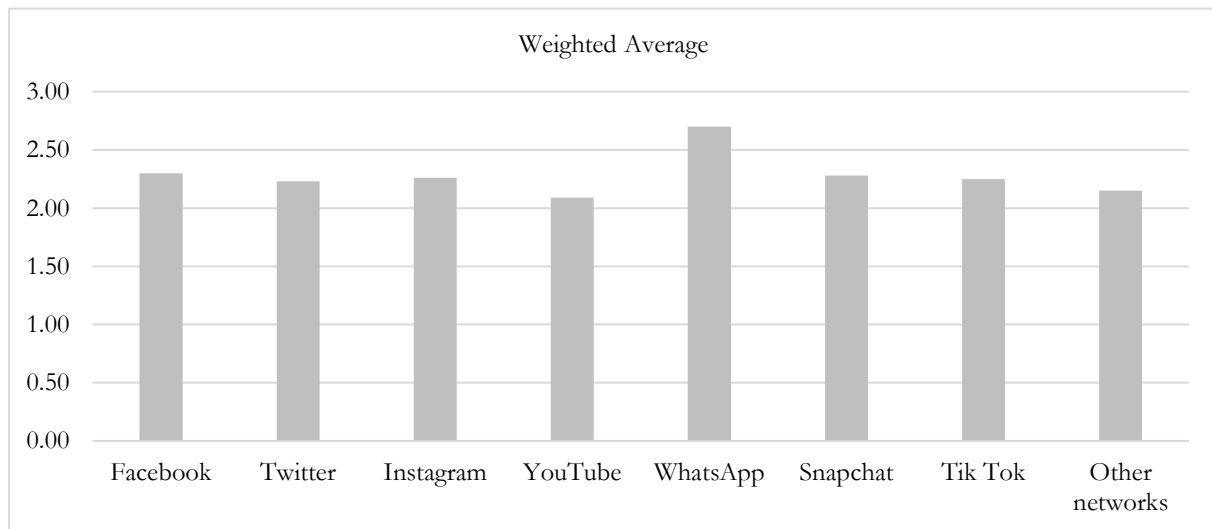
Fig. 3. Most popular social media platforms spreading rumours related to coronavirus

4.3 Respondents' interaction with news and information related to coronavirus

In this section, the study attempts to determine the respondents' frequency of interaction with news and information about coronavirus published on social media. Table 4 shows that the weighted average of the respondents' frequency of interaction with the news and information of coronavirus are as follows: (i) always writing comments on coronavirus news and information (1.62 from 3); (ii) always sharing coronavirus news and information (1.69 from 3); (iii) always recording a like for the news and information of coronavirus (1.72 from 3); (iv) always reading the news and information of coronavirus without re-sharing it (2.33 from 3); (v)

always providing a link to correct or confirm the news and information of coronavirus (1.6 from 3); (vi) always reading posts and comments of friends about news and information of coronavirus (2.02 from 3); (vii) always write comments on posts and comments of friends about news and information of coronavirus (1.77 from 3); and (viii) always chatting with friends about news and information on coronavirus (1.84 from 3). Hence, it seems that respondents are interactive with all news and information of coronavirus published on social media.

In more detail, 168 of respondents (13.19%) always write comments on the news and information of coronavirus, while 448 respondents (35.16%) sometimes do. However, 658 respondents (51.65%) rarely write comments on the news and information of coronavirus. Further, the results show that 196 respondents (15.38%) always share the news and information of coronavirus while 483 respondents (37.91%) sometimes do. However, 595 respondents (46.70%) rarely share the news and information of coronavirus. In terms of recording likes, 231 respondents (18.13%) always record a like for coronavirus news and information, while 455 respondents (35.71%) sometimes do so. However, 588 respondents (46.15%) rarely record a like for coronavirus news and information.

Furthermore, the findings show that 595 respondents (46.70%) always read the news and information about coronavirus without re-sharing it while, 504 of respondents (39.56%) sometimes do. However, 175 of the respondents (13.74%) rarely read news and information about coronavirus. Regarding correcting or confirming the news, Table 4 shows that 126 respondents (9.89%) always provide a link to correct or confirm the news and information of coronavirus while 511 of the respondents (40.11%) sometimes do so. However, 637 respondents (50%) rarely share a link to correct or confirm news and information of coronavirus.

Additionally, the study attempts to discover the respondents' frequency of interaction with the news and information of coronavirus published on social media by their friends. The study expected that the respondents' frequency of interaction would vary between the broader public and their friends. Table 4 shows that 294 of the respondents (23.08%) always read posts and comments of friends about news and information of coronavirus while 714 respondents (56.04%) sometimes do. However, 266 of the respondents (20.88%) rarely read posts and comments of friends about news and information of coronavirus. Table 4 also shows that 175 of respondents (13.74%) always write comments on posts and comments of friends about news and information on coronavirus while 637 of respondents (50%) sometimes do. However, 462 respondents (36.26%) rarely write comments on posts and comments of friends about news and information of coronavirus. Table 4 also shows that 245 of the respondents (19.23%) always chat with friends about news and information on coronavirus while 574 of respondents (45.05%) sometimes do so. However, 455 of respondents (35.71%) rarely chat with friends about news and information on coronavirus.

Table 4: Respondents' interaction with news and information related to coronavirus

| Question	Always		Sometimes		Rarely		Weighted Average
Write a comment on the news and information of coronavirus	13.19%	168	35.16%	448	51.65%	658	1.62
Share the news and information of coronavirus	15.38%	196	37.91%	483	46.70%	595	1.69
Record a like for the news and information of coronavirus	18.13%	231	35.71%	455	46.15%	588	1.72
Read the news and information of coronavirus without re-sharing it.	46.70%	595	39.56%	504	13.74%	175	2.33
Provide a link to correct or confirm the news and information of coronavirus	9.89%	126	40.11%	511	50.00%	637	1.6
Just reading posts and comments of friends about news and information of coronavirus	23.08%	294	56.04%	714	20.88%	266	2.02
Write comments on posts and comments of friends about news and information of coronavirus	13.74%	175	50.00%	637	36.26%	462	1.77
Chatting with friends about news and information on coronavirus	19.23%	245	45.05%	574	35.71%	455	1.84
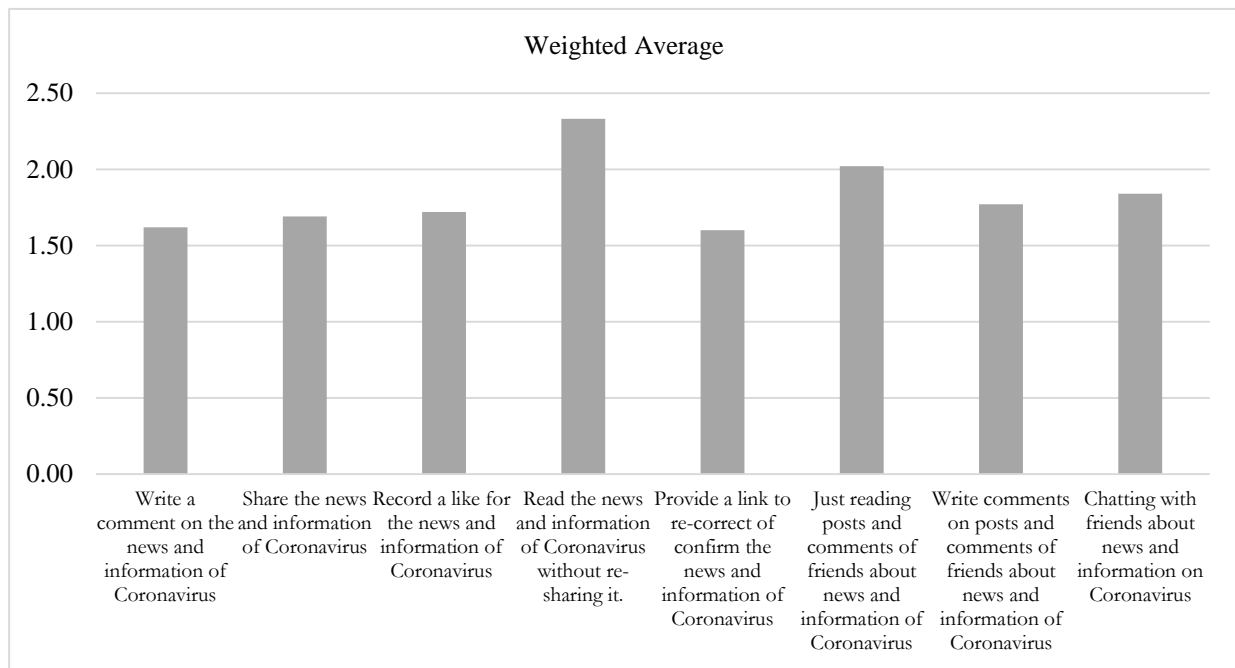
*Fig. 4. **Respondents' interaction with news and information related to coronavirus***

5. Conclusion

Research has shown that in recent months, the most notable fake news sharing that is deleterious to public health and safety has been on the COVID-19 pandemic. This supports a growing view that false content concerning COVID-19 has become more pronounced on social media. It has also been observed that many people now seek information online that they perceive to be helpful, leading to a wide range of fake news consumption and sharing (Apuke and Omar 2020). The

purpose of this study was to determine the level of confidence among Arab populations in the information published on social networking platforms regarding the coronavirus. In addition, it aims to identify the most popular social media platforms spreading rumors related to coronavirus in the Arab region. Further, it explores the respondents' interaction with news and information of coronavirus published on social media. This study revealed that respondents have more confidence in the information published on Twitter, followed by Instagram, YouTube, WhatsApp, Snapchat, and Facebook. However, they have less confidence in the information published by Tik Tok or other networks. Regarding spreading rumors, the study found that the most popular social media platforms spreading rumors related to coronavirus is WhatsApp. Further, the study found that respondents interact with all news and information of coronavirus published on social media.

6. Study limitations

Although our research paper contributes to the scientific literature and knowledge relating to fake news and information sharing in general and during the pandemic, there are some limitations. Firstly, this research depends on a non-probability sample from nine Arab countries only, which resulted in varying numbers of respondents from the countries included. As a result, the generalization of social media users' behavior related to fake news may not apply universally. Nonetheless, the results may be valid in the other Arab countries, which belong to the same cultural background. Secondly, the COVID-19 pandemic is a recent crisis, which may have resulted in respondents providing responses applicable to these temporary circumstances. Thirdly, the study did not examine the variables that could moderate the spreading and sharing of fake news over social media platforms.

7. Future research

Future research papers may: (i) further explore fake news diffusion through social media during regular times away from the COVID-19 pandemic. (ii) test factors that may affect the spreading and sharing of fake news through social media platforms. (iii) investigate a larger and more representative sample from Arab countries and include variables like income, and cultural context.

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