

# Linguistics and Literature Review (LLR)

Volume 6, Special Issue, 2020

Journal DOI: <u>https://doi.org/10.32350/llr</u> Issue DOI: <u>https://10.0.126.94/llr.6Supp1</u>

ISSN: 2221-6510 (Print) 2409-109X (Online) Journal homepage: http://journals.umt.edu.pk/llr/Home.aspx

# Dialogic Content Analysis of Misinformation about COVID-19 on Social Media in Pakistan

# Muhammad Shaban Rafi

**To cite this article:** Muhammad Shaban Rafi (2020). Dialogic Content Analysis of Misinformation about COVID-19 on Social Media in Pakistan, *Linguistics and Literature Review* 6 (Special Issue): 1-11.

To link this article: <a href="https://10.32350/llr.6Supp1.01">https://10.32350/llr.6Supp1.01</a>

Published online: July 2, 2020

Article QR Code:





A publication of the Department of Linguistics and Communications Institute of Liberal Arts University of Management and Technology Lahore, Pakistan

# Dialogic Content Analysis of Misinformation about COVID-19 on Social Media in Pakistan

Muhammad Shaban Rafi

University of Management and Technology, Lahore-Pakistan

### ABSTRACT

This study aims to explore the most common misinformation topics about COVID-19, people's perceptions concerning disinformation, and its consequences. A purposive sample of 50 posts and thousands of comments on coronavirus was drawn from social media networking sites. The data were also collected through informal interviews of 30 participants of different demographic backgrounds. The selected data were analyzed as dialogic communicative content between the participants. The study reveals that the most common topics regarding coronavirus misinformation are about cure and conspiracy theories. The participants have shown a mixed response towards the misinformation. The study has concluded the severe consequences of misinformation concerning the virus. Hence, I would like to recommend compulsory social media education for the internet users regarding how to respond to such a crisis while abiding by the Internet regulations.

**Keywords:** Misinformation, conspiracy theories, social media, covid-19, racism, social media education

# Introduction

Pakistan is a country of over 212 million people with a fast-growing Internet market. According to Pakistan Telecommunication Authority (2020), around 36% of the population has access to the internet, mostly through mobile phones. The rapid rise in the frequency of internet connections has been due to the outbreak of COVID-19 during March 2020. There is a phenomenal increase in online activities to minimize human-to-human transmission. Unlike face-to-face contact, Computer-Mediated Communication (CMC) provides the opportunity to people to work from home and interact through virtual conference and written utterances, e.g., by typing a message on a keyboard or keypad that is read by others on their computers or mobile phone screens, either immediately (synchronous) or at some later point in time (asynchronous). Rafi (2017) states that CMC is a variety (or more accurately, a set of specific linguistic forms operating independently in its own right) in itself. A variety is defined here as a system of linguistic expressions whose use is

governed by situational factors, such as tenor (relationship between a texter and a receiver), mode (exchange of virtual conference and written utterances), and domain (the subject matter).

CMC has turned out to be an essential vehicle for spreading awareness about coronavirus among other things via different internet situations, e.g., Email, SMS, Facebook, Twitter, WhatsApp, YouTube, Instagram, Blog, Skype, Zoom, Viber, Snapchat, Flickr, MeetMe, Meetup, TikTok (henceforth Social Media). No doubt, social media networking sites have played an essential role in spreading information and awareness about natural disasters and healthcare crises. However, the social media platform has no limitations regarding the spread of unsolicited and unauthorized information about the health crises. For most people, social media usage enhances, extends, and supplements what we do offline, as argued by Singer and Brooking (2019) and researchers cited therein. Part of this is a spread of the flood of information about COVID-19 (recently renamed as Severe Acute Respiratory Syndrome Coronavirus 2) with no evidence to support the claims. Researchers (see, e.g., Jacobsen & Vraga, 2020; Love, Blumenberg & Horowitz, 2020; Mehrpour & Sadeghi, 2020; Kadam & Atre, 2020) envisage that social media offers a fertile space for swift propagation of unproven clinical care guidelines and overt misinformation.

Thousands of human trolls backed by pseudoscientific theories about the treatment and conspiracies swamp social media as the virus is marching around the globe, as noted by Krause, Freiling, Beets, and Brossard (2020). The language of these theories and conspiracies steers discussion, sows doubt, and obfuscates truth as noted by Jaiswal, LoSchiavo, and Perlman (2020) and Levin (2020) that misinformation has created mistrust in the time of COVID-19. Instead of taking precautions, people have started disbelieving and opposing the lockdown in Pakistan. Smith and Li (2020) have argued that fake news relating the cure against coronavirus has generated panic and mistrust in public. As endorsed by Pulido, Villarejo-Carballido, Redondo-Sama, and Gómez (2020), users' trends in information consumption and sharing on social media are different when this involves a health emergency. It seems as social media sites have emerged as a clearinghouse for corona related information.

When the lockdown was a little eased over the eid festival by the federal government of Pakistan, people thronged the malls for shopping despite the strict instructions to follow precautionary measures. It was as the people had reached their saturation point amid the lack of accurate information about the infection and a constant abuse of regulations and overreaching of executive powers by law enforcement agencies during the lockdown (review, e.g., Spadaro, 2020). Rampersad and Althiyabi (2020) have highlighted that a piece of mixed information on the matter has confused people to distinguish between real and fake news. Many think it is only a conspiracy of Islamabad to mobilize donors for the corona relief fund and waive off loans from IMF.

WHO (2020) has declared its "massive infodemic" and requested social media companies to delete fake news about COVID-19. Although they remove misinformation as fast as they can (review, e.g., Pulido, Villarejo-Carballido, Redondo-Sama, and Gómez, 2020), there are fake news which slip through the cracks of social media. A majority of the people in Pakistan are confused about what the reality or myth is in the presence of a flood of uncertain information about the

process of disease transmission and prevention strategies. With an increasing proliferation of misinformation about the virus, there is little research about people's perceptions concerning false theories and conspiracies that are falling us apart.

Krause, Freiling, Beets, and Brossard (2020) have emphasized that misinformation can be a matter of life and death for the primary consumers. WHO (2020) has announced that false news creates trouble for the Health Promotion and Disease Prevention Units operating in various countries. A fair chance of falsehood about COVID-19 might generate racist sentiments (review, e.g., Rafi, 2020; Haokip, 2020). Rafi (2020) finds that false news and comments about the novel virus can generate a discourse of fear and Sinophobia. Pakistani people point the finger towards foreign nationals, particularly Chinese, *Shias* (a Muslim sect), who return from Iran and Iraq after performing their religious obligations, and those who have traveled abroad as the chief carriers of the disease. Such an attitude has contributed to the development of conspiracy theories and myths about the virus. Hence, understanding the misinformation is critical to public safety admits the incessant spread of COVID-19 (c.f., Kawchuk et al., 2020; Saurwein & Spencer-Smith, 2020). This study aims to explore:

#### **Research Questions**

- What is the most common misinformation concerning coronavirus on social media?
- How do people respond to misinformation about coronavirus on social media?
- What are the implications of false information related to coronavirus?

#### Methodology

The sample of this study comprised of social media public pages for collecting the representative data. Ali et al. (2020) emphasize that social media platforms can be a useful research strategy to gather valuable, large-scale, nationwide survey data from various demographic groups on the ongoing pandemics. I crawled through various social media sites to enlist the themes of misinformation and the participants' response in the same thread. My definition of misinformation is any news that contradicts the best available evidence and inconsistent with the WHO's section devoted to debunking of false information about COVID-19 (review, e.g., World Health Organization, 2020).

Fifty posts, along with thousands of comments, were analyzed to answer the underlying research questions. It is important to note that given the selected excerpts, nearly 70% were from Twitter, and the remaining 30% were from Facebook, Instagram, WhatsApp, and YouTube. It is important to note that even the mainstream media in Pakistan share the news headings on social media to increase its rating. The data were comprised of English, Urdu and Roman Urdu texts. The source of the selected posts was media houses and individuals from Pakistan and abroad. In addition to this, code-switching, short language forms, and emoticons were common in the participants' comments on the postings. The selected texts were most frequently liked, commented, and shared by the social media users (henceforth, the participants) in Pakistan.

The data were also gathered through informal interviews of 30 university students via Zoom. The participants were staying and studying from home because of the lockdown of

universities. They were from different areas of Pakistan; however, most of them from Lahore, the capital city of Punjab, Pakistan. They were asked what their perception regarding the flood of information about COVID-19 on social media is? And, what are the implications of misinformation circulating via social media sites? Their responses were recorded in the form of written notes.

I have interpreted the data for the most reoccurring category and themes as the interactive dialogues between the creators of the post and the participants. A dialogic co-creation of informative content on a post forms the participants' inherent capacity for communicative interaction. This dialogic co-creation of knowledge includes subjective, objective, solidarity, and consensus on the posts shared by the participants. Since the data were collected in free conversation, I could not forbid the use of racist and sexist language, and other contentious and provocative material.

## **Results and Discussion Misinformation**

The misinformation about the virus ranges from the magic cure, secret labs, and government plots, as reported by Frankel, Alba, and Zhong (2020) and noted in [1a-1c]. The most popular misinformation about the cure is, e.g., inhaling hot steam, spraying chlorine, drinking alcohol, drinking *senaa makki* (herbal treatment), and cow urine. The false information about cure also includes eating chloroquine, hydroxychloroquine or vitamin D, onion or garlic or bleach, and performing ablution five times a day. One of the participants in [1a] claimed that hydroxychloroquine is found in *Kalonji* seeds (in English black seeds). The information is also linked with the *Hadith* (sayings of the Holy Prophet). The participated employed the imperative structure that eating a half teaspoon of *Kalonji* mixed with honey can save you from COVID-19. Furthermore, he requested that his followers spread this 'noble' information so that people can protect themselves from the virus. The language that he has deployed shows a blind faith by the *Kalonji* seed participants to shield against the virus. I have observed that most people who believe in unattested tips are usually associated with *Hikmat* (in English wisdom) and religion. However, some rumors that propagate because they are scientifically plausible and tested positive by individual experiences.

The participants also find curative effects in shaving their heads, especially in Sindh, the second largest populated province of Pakistan. I have observed that people's faith in stereotypes to treat illness is associated with ignorance and culture in Pakistan's remote and nonurbanized areas. The participants have theorized that children and adults are among the most vulnerable group to the disease, hot or cold weather kills the virus, and being able to hold breath without coughing for more than 10 seconds is a test for COVID-19, and the infection does not affect Muslims. In addition to these theories, certain conspiracies have been invariably hatching since the official outbreak of the virus in Pakistan.

The participants' most favorite conspiracies are, e.g., the leakage of the virus from a Chinese laboratory, bioweapon, 5-G rays saga, a strategy to control the world population, parcel from China spread virus, eating Chinese food cause virus, Zionist conspiracy against the Muslims

world, and Islamabad is being paid for each death from coronavirus. In [1b], the participant labeled the infection as *the Shia* virus and *Tablighi* virus. If not all, most of the participants blame *Shais* and *Tablighi Jamaat* for importing the virus from Iran and beyond Pakistan. It is not surprising that *Sunni* Muslims have been in dispute with Shias and vice versa over religious differences. The pandemic provided them the opportunity to repeat the history of racist allegations. Without any doubt, such accusations in the time of national emergency complicate the job of frontline health workers and security personnel.

When the information about the virus is still unfolding, the politicians, among others, have been deploying less cautionary language to speak about the disease. The Prime Mister of Pakistan declared in his television address to the nation, "COVID-19 is mere a flu." So, the people need not worry. His cabinet members parroted the same information. The sitting governor of Sindh tweeted [1c] with an unequivocal declarative statement that coronavirus was just the flu and lamented his rival politicians for creating mayhem. Not unsurprisingly, there were several hundred comments on his tweet. A majority of the participants branded him mostly as a 'covidiot' (someone who ignores the warning of public health). However, a few participants also endorsed the governor's insightful remarks.

In the same vein, one of the participants, who was a COVID-19 survivor, expressed, "The virus is just a fever." In [2c], the participant raised the concern that those who were COVID-19 survivors they are coming up with their theories while refereeing to Dr. Anthony Fauci, American Physician and Immunologist, who is one of the lead members of Trump Administration's White House Coronavirus Task Force. Dr. Fauci warned that the USA might not achieve herd immunity to the contagion if too many people refuse to be vaccinated. The participants perceived the news headline in isolation and concluded that the vaccine is less effective. This misinformation is partly due to the language of the caption that does not glean precisely the gist of the news and the participants' failure to consume the information.

In [3c], the participant has shared the information generated by the Thai healthcare unit that 'social distancing' is nothing but a piece of fake news. Several participants hailed the information assuming that it has come from an authentic source. Furthermore, they appealed to the creator to keep share such scientific information so that the people could have healthy lives. Whether or not COVID-19 is the real virus creates mistrust among people. Some of the participants expressed, "It is a weak form of the virus because of a smaller number of deaths in Pakistan as compared to Europe and the USA." The M.P.s have repeated the same information on the mass media who mostly fill the primetime T.V. talk shows in Pakistan.

3		b				С			
Zahra Baho		Arshad Afridi @Arshad,Afridi Corona started from China as US conspiracy and then reached USA as Chinese virus now reached Pakistan as Shia and tablighi virus. Facebook is flooded with Sunnis blaming it on shias and shias blaming it on tablighis.			← Thread				
Mar 29 @- Hydroxychloroquine i Is founded 100% in Kalonji seed So take Half teaspoon of Kalonji seed with Honey i to prevent yourself to be attacked from COVID-19 Corona virus please guys share this information dramatically it's an humble					Coronavirus is a flu, and if we start media discussion or the data of all flu patients, it will appear to be very alarming. Same holds true for any other common ailment. Unfortunately, the dirty politics are causing more				
14 7 Comments 4 Shares		#CoronavirusPandemic 3:23 AM - Apr 3, 2020 from North-west Frontier, Pakistan - Twitter for Android				mayhem than the disease 643 PM - May 7, 2020 - Twitter for iPhone 102 Retweets 391 Likes			
		11 Retweets 28 Likes							
		0		~	<u>^</u>	Q	tì	$\odot$	<u>ث</u>

The study has found that the misinformation creators were mostly anchorpersons of mainstream media, social media influencers, and politicians in Pakistan. Spring (2020) reports seven types of people (e.g., joker, scammer, politicians, conspiracy theorists, insider, relative, and celebrity) who spread viral misinformation. The researcher observed that the unproven information was spreading faster than the virus in Pakistan. One of the Urdu newspapers in [2b] quoted WHO's outdated tweet [2a] that the novel coronavirus does not transmit from human-to-human. This disinformation got viral on social media in the last week of June 2020. Although the WHO acknowledged that coronavirus could transmit from human-to-human, participants still quote and believe in the outdated disinformation. Among the most popular discussion routing on social media in Pakistan is about false theories, and conspiracies. The posts on these themes circulated significantly faster and more broadly than the truth that has obscured the real information and perpetuated frustration among the participants as narrated in [3a and 4a].

[2]

F 1 1



### **Perceptions about Misinformation**

The participants have mixed reactions to the abovementioned myths, theories, and conspiracies. Not surprisingly, the knowledge was lower among less-educated, lower-income folks, and rural residents. A fewer number of participants were aware in reality about the concept of quarantine and the ideal distance to be maintained between individuals to prevent the transmission. Perhaps,

many of them do not believe even the novel coronavirus is a disease – so is the belief of the current government representatives in Pakistan [1c]. Moreover, the participants are convinced through the posts covering the Quran verses that death cannot arrive before God's will, in a way, to justify that they might want to overlook the preventive measures. In [4c], the participant used a deterministic expression to emphasized, "from the creation and spread of the virus involved a chain of deception and fraud."

[3]

a	b	c		
Geo News Urdu O @geonews_urdu	Asif khan @AHameed63697312 · 6h Replying to @geonews_urdu اور باکستان کو جب تک بهیک طنا رہے اسہ وقت تک خر بد نہیں برسکا	Thailand Medical News <sup>(10)</sup> ABOUT CONTRIBUTE SPONSORSHIP CONTACTS		
کورونا وائرس شایدکیهی بهی ختر نہیں ہو		ENGLISH -		
Translate Tweet 3:23 AM - May 14, 2020 - GeoNews_UrduApp	Tahira @Tahira6247 · 46m ~	BREAKING NEWS Coronavirus WARNING! Researchers Say The		
	والرس کبهد ختم نمیں ہوتا یہ بات ورلڈ بیلتھ آرگنائزیشن کو اب یاد آلد	Source: Covid-19 Prevention Apr 01, 2020 17 days ago		
23 Retweets 388 Likes		BREAKING NEWS!		
<ul> <li></li></ul>	Azeem Rai (吉米) @manj259 · 6h ~ Replying to @geonews_jurdu Virus Khatam ni Hota janab. Dwai bina'ni hai	Covid-19 Prevention: New Study Proves That Social		
Replying to @geonews_utdu تر و اینکروں اور میآیا نوسز کے نظائر میں ہےجو کتوں کہ طرح کرونا دونی میرف بھارے لدہ وٹ اینکروں اور میآیا نوسز کے نظائر میں ہےجو کتوں کہ طرح کرونا دونی کے نظرے بلند کرتےہیں اور سارا دن سرخ سیابہ دیکھاتے رہتے ہیں۔	Q 1 tì ♡ 2 Å	Distancing Of 1 to 3 Meters Is Nothing But Fake News and		
انڈین جرنیل تو کبہ جکےاور اب شاید یبودی دجالہ قوتیں بھہ ایکسوز کرنےوالہ ہی کہ پاکستان کامیڈیا بلاشیہ ہمارےاہےکام کرتا ہے	Ap logo se bas yahi umeed ha 🙏	Misinformation		
Q t3 2 ♥ 6 Å				

It seems as if the participants find it very hard to resist their natural tendencies regarding distancing because it is a part of their culture to hug, shake hands, and stand closer. It may not be easy for people to say goodbye to these cultural nuances. If someone acts against these cultural values, even during the pandemic is thought to be disrespectful. The participants are more prone to accept or confirm information consistent with their attitude and beliefs, as emphasized by Pulido, Villarejo-Carballido, Redondo-Sama, and Gómez (2020). Some participants came up with their theory and linked COVID-19 with God's wrath and discontent with people. They appealed the fear-stricken people to recite *Adan* (call for prayer) in the loudspeakers other than the regular times of *Adan* to please God and to save them from the virus.

The language used in most of the posts concerning COVID-19 myths and conspiracies is deterministic, imperative and declarative. Certain words and phrases are deployed so frequently by the creator of posts that tend to obscure the analytical and inferencing ability of its readers to decipher what is real or fake? Surprisingly, people attraction towards false information surpasses the factual information in many ways. Perhaps, it is partly due to uncertainty in the information shared by the health care department. Hence, people trapped in the information that offers them even false hope apparently with the low cost and free treatment. This misunderstanding is impeding the activities of already stretched healthcare professionals and somehow contributing to the increasing fatality rate in Pakistan.

# **Implications of Misinformation**

The misinformation accompanying the coronavirus pandemic has caused hundreds of fatalities in the world. For example, when people found curative effects in booze in Iran, over 300 died, 1000 hospitalized, and many had permanent vision loss for drinking counterfeit alcohol (c.f., Love,

Blumenberg & Horowitz, 2020). Similarly, the sudden shutdown of businesses caused panicked and toppled the lives of millions of laborers in Pakistan, as reported by Abi-Habib and Yasir (2020), that people are more frightened of dying with hunger than the spread of the virus. In [3a], the participants pleaded and rebuked one of Pakistan's mainstream media channels to stop spreading fear about the virus's ramifications. He claimed that people were committing suicide because of the fear of hunger amidst increasing unemployment. There are reports of deaths and health complications when people tried scientifically unproven medicine and products inspired by social media users. The number of cases for psychological consultation has quadrupled in Pakistan and elsewhere. Kovecses (1990) argued that "as fear increases, its physiological effects and behavioral reactions increase" (p.73).

Panicked with the increasing medical expenses to treat corona-patients, their caretakers attacked and bullied health workers. Such incidents got viral on social media and generated anger among people in Pakistan. They have used socially inappropriate language to express their wrath against doctors. They are spreading that the ventilators are killing patients, and the treatment regime that is being followed is faulty [4c]. Such disinformation has ignited already frustrated and fear-stricken people.

[4]



It is not uncommon to find discourses of fear, bullying, fun, resistance, and responsibility, along with misinformation on social media, as illustrated in [3a and 4b]. In [3a], the participant has resisted the pessimistic news vehemently by Geo, one of the most popular channels in Pakistan, that perhaps have to live with this virus for the rest of life. The discourse of fear and uncertainty has evoked mistrust, hatred, and outright racism in Pakistan [1b]. Eventually, people are not taking the guidelines seriously because of its sheer lack of sober and professionally credentialed, voices on social media. Instead, the participants think that they have been left in the hands of coronavirus by the federal government. They assume that the government has been redirecting their attention away from its inadequate, incoherent, and delayed response to contain the virus. This is quite unfortunate that the politicians are confused and blaming disenfranchised people who are more frightened of dying with hunger than the virus, as emphasized by the participant in [4a].

The outbreak of coronavirus in Pakistan has perpetuated mistrust and various conspiracy theories about unproven treatment. Social media has provided people a platform to express their thoughts and emotions that the mainstream media fails to do so as found by Laato, Islam, Islam, and Whelan (2020). They have argued that people's trust in online information is usually perceived as a strong predictor of unverified information. This attitude has contributed to the current disaster by diverting attention from the outbreak and hampering the activities of already stretched healthcare professionals, and law and enforcement agencies.

The social media users choose to like, share, and comment on a status update without investigating its trustworthiness or analyzing whether the information is real or fake. They appear to be less conscious of choosing the words to comment on others' status updates, as evident from the selected texts for this study. Rafi (2019) argues that sometimes, peers and strangers for various reasons use socially inappropriate language, assuming that they are not seen, or perhaps may not be caught, or does not make the difference. Such a casual and invasive response to the information that could risk the lives of millions of internet users demands social media education to promote safe cyberspace for every citizen.

#### Conclusion

The virus has upended indiscriminately the life of almost everyone in Pakistan. The study has revealed that the misinformation about coronavirus is so pervasive on social media. The finding questions the robustness of specific filters and raises concerns about the efficiency of social media companies to remove linguistically complex misinformation. The alarming result is that the participants have shown mixed reactions to the conspiracy theories and myths about the virus. The comments on misinformation show that the participants are on the information superhighway that has obfuscated the truth. They mostly, if not always, conclude without analyzing the information correctly. The situation can complicate the task of already overwhelmed health professionals and generate racist sentiments (c.f., Rafi, 2020) that might have deep-rooted consequences. This study's findings raise a severe ethical challenge for people to step outside their preoccupation and be present to help others and resist disinformation to spread. The survey demands local and international regulatory authorities to educate the social media users rather than just removing misinformation asynchronously that might have already done the damages. The research suggests thinking new and innovative ways to protect people from misinformation, which has torn apart their lives and continues to do so if we fail to act.

#### References

- Abi-Habib, M., and Yasir, S. 2020. India's coronavirus lockdown leaves vast numbers stranded and hungry. Retrieved on June 19, 2020, from https://www.nytimes.com/2020/03/29/world/asia/coronavirus-india-migrants.html
- Ali, S. H., Foreman, J., Capasso, A., Jones, A.M., Tozan, Y., and DiClemente, R. 2020. Social media as a recruitment platform for a nationwide online survey of COVID-19 knowledge, beliefs, and practices in the United States: methodology and feasibility analysis. *BMC Medical Research Methodology* DOI: 10.1186/s12874-020-01011-0

- Frenkel, S., Alba, D., and Zhong, R. 2020. Surge of virus misinformation stumps Facebook and Twitter. New York Times, March 3, 2020. Retrieved on May 26, 2020, from https://www.nytimes.com/2020/03/08/technology/coronavirus-misinformation-socialmedia.html.
- Haokip, T. 2020. From 'Chinky' to 'Coronavirus': racism against Northeast Indians during the Covid-19 pandemic. *Asian Ethnicity* DOI: 10.1080/14631369.2020.1763161
- Jacobsen, K. H., and Vraga, E. K. 2020. Improving communication about COVID-19 and Emerging infectious diseases. *European Journal of Clinical Investigation* DOI: 10.1111/eci.13225
- Jaiswal, J., LoSchiavo., and Perlman. 2020. Disinformation, Misinformation and Inequality Driven Mistrust in the Time of COVID-19: Lessons Unlearned from AIDS Denialism. *AIDS and Behavior* DOI: 10.1007/s10461-020-02925-y
- Kadam, A. B., and Atre, S. R. 2020. Negative impact of social media panic during the COVID-19 outbreak in India. *Journal of Travel Medicine* DOI: 10.1093/jtm/taaa057
- Kovecses, Z. 1990. Emotion Concepts. New York: Springer.
- Krause, N. M., Freiling, I., Beets, B., and Brossard, D. 2020. Fact-checking as risk communication: the multi-layered risk of misinformation in times of COVID-19. *Journal of Risk Research* DOI: 10.1080/13669877.2020.1756385
- Laato, S., Islam, N., Islam, M. N., and Whelan, E. 2020. What drives unverified information sharing and cyberchondria during the COVID-19 pandemic? *European Journal of Information Systems* DOI: 10.1080/0960085X.2020.1770632
- Levin, J. 2020. The faith community and the SARS-CoV-2 outbreak: Part of the problem or part of the Solution?. *Journal of Religion and Health* DOI: 10.1007/s10943-020-01048-x
- Love, J. S., Blumenberg, A., and Horowitz, Z. 2020. The parallel pandemic: Medical misinformation and COVID-19. *Journal of General Internet Medicine* DOI: 10.1007/s11606-020-05897-w
- Mehrpour, O., and Sadeghi, M. 2020. Toll of acute methanol poisoning for preventing COVID-19. *Archives of Toxicology* DOI: 10.1007/s00204-020-02795-2
- Pakistan Telecommunication Authority. 2020. Telecom Indicators. Retrieved on June 29, 2020, from <u>https://www.pta.gov.pk/en/telecom-indicators</u>
- Pulido, C. M., Villarejo-Carballido, B., Redondo-Sama, G., and Gomez, A. 2020. COVID-19 infodemic: More retweets for science-based information on coronavirus than for false information. *International Sociology* DOI:10.1177/0268580920914755.
- Rampersad G., and Althiyabi, A. 2020. Fake news: Acceptance by demographics and culture on social media. *Journal of Information Technology & Politics* 17(1): 1-11.
- Rafi, M. S. 2020. Language of COVID-19: Discourse of fear and Sinophobia. *Social Sciences and Humanities Open*. Retrieved on June 26, 2020, from <u>https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=3603922</u>
- Rafi, M. S. 2019. Cyberbullying in Pakistan: Positioning the Aggressor, Victim and Bystander. *Pakistan Journal of Psychological Research*, 34 (3), 601-620.

- Rafi, M. S. 2017. Bilingualism and identity construction in the digital discourse. *Journal of Multicultural Discourses* DOI: 10.1080/17447143.2017.1342649
- Saurwein, F., and Spencer-Smith, C. 2020. Combating disinformation on social media: Multilevel governance and distributed accountability in Europe. *Digital Journalism* DOI: 10.1080/21670811.2020.1765401
- Smith, G. D., and Li, W. H. C. 2020. COVID-19: Emerging compassion, courage and resilience in the face of misinformation and adversity. *Journal of Clinical Nursing* DOI: 10.1111/jocn.15231.
- Spadaro, A. 2020. COVID-19: Testing the limits of human rights. *European Journal of Risk Regulation* DOI: 10.1017/err.2020.27
- Singer, P. W., and Brooking, E.T. 2019. *LikeWar: The Weaponization of Social Media*. New York: Houghton Mifflin Harcourt Publishing Company
- World Health Organization. 2020. Novel Coronavirus (2019-nCoV) advice for the public: Myth busters. Retrieved on May 26, 2020, from <u>www.who.int/emergencies/diseases/novel-coronavirus-2019/advicefor-public/myth-busters</u>.