

RESEARCH ARTICLE

Community Perceptions on Social Media and COVID-19: Insights from a Thematic Analysis

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Abstract: A worldwide crisis brought on by the COVID-19 epidemic overtook health systems, destroyed economies, and altered social norms through lockdowns and social distancing regulations. This qualitative study highlights social media's crucial yet conflicting role as an Infodemic amplifier and a connectivity lifeline amid widespread disinformation by examining community perceptions of its diverse effects in District Malakand, Khyber Pakhtunkhwa, Pakistan. Major themes, such as false communication/conspiracy theories, social distancing, and psychological-emotional strains, were found through purposive sampling of twenty-one in-depth interviews with local academicians. Social media platforms, according to respondents, are causing an "Infodemic," spreading false information about COVID-19 as Western anti-Muslim plots, 5G bioweapons, microchip vaccines, or divine retribution. Although social distancing reduced the spread of the disease, it also led to family strife, strange routines, economic hardship due to supply disruptions, and loneliness.

Keywords: COVID-19, Social Media, Infodemic, False Communication and Conspiracy Theories, Social Distancing, The Psychological and Emotional Dimension

Introduction

The COVID-19 pandemic has altered how individuals use social media globally, including professionals, international leaders, and celebrities. Through online memes, social media platforms were used to provide info and provide amusement and diversion from the pandemic (Nisar & Shafiq, 2019; Vincent et al., 2020). However, many people have experienced a shift in lifestyle and strain on their mental health as a result of social distancing (Coroiu et al., 2020). Social media encompasses computer- and internet-based technologies and mass-personal communication channels that enable user interactions through virtual communities and networks (Carr & Hayes, 2015). Since social media platforms can be used safely to connect psychiatrists with patients in need, many social media-based online counseling services have been developed and have become well-known (Ahmad & Murad, 2020). User vulnerability to rumors and dubious information stems from direct access to content on social media platforms such as Twitter, Facebook, YouTube, Telegram, Instagram, and others (Bavel et al., 2020). The impact of information on individual behavior, intergroup connections, and the efficacy of government countermeasures against the virus has been demonstrated (Bavel et al., 2020; Ahmad & Murad, 2020). At both the federal and state levels, health groups and politicians use these platforms to quickly disseminate information to a large audience (Hamzah et al., 2020).

Research on how using social media during the COVID-19 epidemic affected people's social and psychological well-being has yielded mixed and contradictory results (Ahmad & Murad, 2020; Drouin et al., 2020). One of the studies provides evidence that social media can be a source of dread (Ahmad and Murad,

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2020), anxiety, and social support (Drouin et al., 2020). In this light, the evidence on the impact of social media use during the COVID-19 pandemic has been both beneficial (Ye et al., 2020) and detrimental (Pennington, 2021) for subjective well-being.

According to Carvalho-Alves et al. (2021), COVID-19 affects not only the individual infected with the virus but also humanity as a whole. Owing to its simplicity, accessibility, and availability as a straightforward form of communication, social media is beneficial during natural disasters such as wars, floods, earthquakes, lockdowns, or riots, as well as being amusing (Rosenberg et al., 2018). Throughout the epidemic, social media has been heavily utilized by both individuals and commercial groups (Zhao & Zhou, 2021). With the rise of social media in the twenty-first century, we not only consume the latest news but also exchange updates about our personal and professional lives on sites like Facebook and Twitter (Gough et al. 2017). COVID-19 started in China and spread to other nations before becoming a pandemic. The global dissemination of coronavirus knowledge has been greatly aided by mass and social media channels (Chouhan et al., 2020). Owing to a lack of awareness and the proliferation of rumors, incorrect information, and false news on digital media, many were driven to act rashly. Numerous changes to daily life were brought about by the COVID-19 epidemic, such as restrictions on movement, a shift to remote employment and education, and advice on social isolation and face masks. This led to a set of new problems in everyday life (Häkkinen, 2020). A survey conducted across nine European countries reveals that screen time has risen by 65% due to the COVID-19 lockdown (Pišot et al., 2020). People used social media excessively during the COVID-19 pandemic to seek peer and emotional support (Zhong et al., 2020). As Mazzo and Minello (2020) suggest, social media may also be used to increase awareness and build emotional connections with others.

Objectives of the Study

1. To probe the community perceptions of different aspects of Social Media in the context of COVID-19.
2. To put forward policy recommendations in light of the study findings.

Literature Review

A transmissible severe respiratory condition brought on by the Coronavirus is the hallmark of COVID-19 sickness. The illness began in Wuhan, China, in late 2019, when a few cases of pneumonia began to spread, eventually reaching the rest of the world (World Health Organization, 2021). Due to individual quarantining and social distancing during the pandemic to stop the spread of COVID-19, social media use surged (Zhao & Zhou, 2021).

The application of social distancing between people is more successful when social media is used. Conversely, social isolation can be lessened by the results of poor communication between individuals. During the COVID-19 pandemic, social media can help citizens communicate with each other and with the government (Chen et al., 2020). Given the availability of information on these networks, social media content can facilitate the growth of the social distancing culture and the role and duties of individuals as members of society (Mohamad, 2020).

Previous research on COVID-19 has been conducted from a variety of angles, including digital learning during the virus's emergence (Smith et al., 2021; Deshpande & Mhatre, 2021) its effects on various nations' economies (Ali et al., 2021; Ye et al., 2020); its part in the worldwide health crisis (Abdalla et al., 2021; Ankrah et al., 2021); and, worst of all, its effects on people's mental health (Lee, 2020; Li & Cao, 2021).

Findings showed an increase in social media use during COVID-19, consistent with previous research (Nguyen et al., 2020). In general, increased social media use during the pandemic was driven by greater opportunities to use it, the need to socialize, and interest in learning about COVID-19. It has been reported that the lockdown had impacts on people's lives beyond practical issues, such as feelings of loneliness and uncertainty (e.g., Newby et al., 2020).

The COVID-19 outbreak has led to a significant increase in personal activity on social media platforms. Some of the major platforms involved during this period are Instagram, YouTube, Facebook, and Twitter (Ahmad & Murad, 2020). Through these platforms, individuals from diverse demographics express their views, feelings, attitudes, and thoughts about the crisis, encouraging their colleagues to engage in similar conversations (Leelawat, 2020).

The use of hashtags like 5GCoronavirus has helped spread social media discourse about the COVID-19 pandemic, thereby fueling multiple conspiracy theories. One of the most noticeable instances of this speculation is the assumption that there is a causal relationship between the pandemic and the implementation of 5G technology. Those hashtags were significantly popular on Instagram and Twitter (Bruns et al., 2020). There is also a conspiracy theory centered on Bill Gates, the philanthropist and co-founder of Microsoft, who is said to have designed the coronavirus to control the world's population and take over the global health system (Fuchs, 2021; Shahsavari et al., 2020). Several posts accusing Gates of exploiting the COVID-19 epidemic to justify vaccine requirements were circulated on Facebook, Twitter, and YouTube (Gerts et al., 2021). According to some, particularly Christian clergymen, immunizations are really a front for implanting a microchip, which they view as the Satanist "Mark of the Beast" (Woodward, 2021; Chimuanya and Igwebuike, 2021).

Social media is being used to disseminate information during the COVID-19 outbreak, which may alter community members' behavior (Eghtesadi & Florea, 2020). The rate at which inaccurate medical information, unverified content, and even outright lies about the COVID-19 pandemic are circulating on social media is concerning (Kouzy et al., 2020; Pulido et al., 2020). People's worries and anxieties about the COVID-19 illness epidemic have grown due to the spread of false information on social media and users' inability to distinguish true from false information (Ahmad & Murad, 2020; Motta et al., 2020). However, the impact of social media on people's issues depends on demographic characteristics such as age, sex, and education level (Ahmad & Murad, 2020; Rincken et al., 2020). Agius et al. (2020) argue that social media is an avenue through which consumers seeking information about the COVID-19 pandemic and their health can find current information. Guo et al. (2020) documented a positive experience in which they provided information and services related to dental patients' health through online social networks such as WeChat. To address the previously unknown conditions of the coronavirus crisis, that is, the lack of mobility and isolation at home, these platforms offered an appropriate experience in remote healthcare and showed that social media helped to reduce the spread of the disease. Furthermore, specific disease-specific virtual question-answer sessions have been well carried out through social media (Jayawardena et al., 2020). Moreover, people with COVID-19 benefit from the safe sharing of health data and services via social media, which keeps them informed about modern practices and current conditions (Dost et al., 2020).

Research Methodology

This study has followed a qualitative research approach to research the social understanding of the role of social media during the COVID-19 period in the District of Malakand, Khyber Pakhtunkhwa, Pakistan. The choice of a qualitative study was motivated by the fact that this type of study captures the reality in considerable detail and is particularly useful when focusing on contemporary subjects (Chan & Ngai, 2007). A non-probability sampling technique was used, specifically purposive sampling, to select potential participants with the required level of knowledge, i.e., academicians (male and female) from different academic institutions in Malakand. The data were collected through 21 in-depth interviews with participants in the study locale, keeping in mind the saturation analogy proposed by Creswell (2014). The data analysis was carried out using thematic analysis, highlighting three (03) major themes, as explained in the results and discussion section. Meanwhile, the researchers took great care to address ethical considerations in social research to obtain the requisite data amicably.

Results and Discussion

Based on the collected data, results were drawn using thematic analysis. The main themes revealed in this study include false communication and conspiracy theories, social distancing, and the psychological & emotional dimension. The results and discussion of the themes are presented in the following lines.

Theme 1: False Communication and Conspiracy Theories

Social media is helpful for quickly and easily obtaining up-to-date information globally in response to the rapidly changing conditions of today due to the rapid pace of content distribution (Bilal et al., 2020). Communication is one of the basic aspects of human life. In parallel with the social health crisis created by the COVID-19 pandemic, an infodemic emerged, marked by the spread of conspiracy theories and fake news. Sociologically speaking, such conspiratorial arguments can be interpreted as reflecting underlying structural ailments, such as the loss of trust in authority, the overwhelming role of digital media in shaping the general mood, and an epistemic tendency to quickly form explanatory schemata in the face of epistemic insecurity.

One of the participants of the study stated that,

"message apps, social media, and non-official networks were used to spread false information about the origins of the virus, alleged miracle treatment, vaccines, and government plans quickly. Most conspiracy theories suggest that the virus was either deliberately created due to technological progress, including 5G, or formed a component of a larger political agenda on a global scale. Such claims thrived in conditions characterized by low popular trust in institutions and low scientific literacy. The rapid dissemination of untrustworthy information created doubt, panic, and distrust of health authorities, and sometimes discouraged people from taking protective measures or getting vaccinations".

With the usage of hashtags like #5GCoronavirus, social media discussions around the COVID-19 epidemic have also contributed to the spread of a number of conspiracy theories. One such theory links the pandemic to the advancement of 5G technology. On social media sites like Instagram and Twitter, these hashtags became popular (Bruns et al., 2020). There is also a conspiracy theory centered on Bill Gates, the philanthropist and co-founder of Microsoft, who is said to have designed the coronavirus to control the world's population and take over the global health system (Fuchs, 2021; Shahsavari et al., 2020). Several posts accusing Gates of exploiting the COVID-19 epidemic to justify vaccine requirements were circulated on Facebook, Twitter, and YouTube (Gerts et al., 2021). According to some, particularly Christian clergymen, immunizations are really a front for implanting a microchip, which they view as the Satanist "Mark of the Beast" (Woodward, 2021; Chimuanya & Igwebuikwe, 2021).

Another participant of this study revealed that,

"In the context of Pakistan, particularly in Khyber Pakhtunkhwa, COVID-19 misinformation and conspiracy theories were widespread, often fueled by social media, word-of-mouth, and local networks. Some prevalent claims included that the virus was a Western plot to harm Muslims, that vaccines contained microchips for tracking, or that COVID-19 was a fabricated illness designed to generate profits for pharmaceutical companies. In rural and semi-urban areas, distrust of government and health authorities led many to rely on traditional remedies, herbal treatments, or spiritual practices instead of following preventive guidelines. Religious and cultural interpretations also shaped perceptions, with some believing that the pandemic was a divine punishment or that reciting certain prayers could provide immunity. These false narratives were reinforced by low health literacy, limited access to accurate information, and political skepticism, contributing to resistance against mask-wearing, social distancing, and vaccination campaigns in the province."

Social media is being used to disseminate information during the COVID-19 outbreak, which may alter community members' behavior (Eghtesadi & Florea, 2020). The spread of false medical data, unproven content, and outright falsification related to the COVID-19 pandemic on social media is a topic of great concern (Kouzy et al., 2020; Pulido et al., 2020). This misinformation has been spreading rapidly, intensifying people's concerns and fears about the COVID-19 epidemic as users become increasingly unable to distinguish between trustworthy and fake information (Ahmad & Murad, 2020; Motta et al., 2020). Additionally, the effect of social media on these issues may vary by demographic factors (age, gender, and educational level) (Ahmad & Murad, 2020; Rincken et al., 2020).

The results of the study show that the misinformation about COVID-19, shared on social media platforms, mobile apps, and informal rumor networks, presented the virus as either a Western conspiracy, a 5G weapon, microchipped vaccines, or divine retribution, undermining community trust and creating an atmosphere of opposition to wearing masks, social distancing, and taking vaccines. The fear and noncompliance were driven by these conspiratorial stories, rooted in low literacy and cultural orientations towards prayer and herbs. The authors emphasize the danger of Infodemic in low-trust environments and promote specific literacy programs mediated by community and religious leaders.

Theme 2: Social Distancing

According to the World Health Organization (2020) and the Centers for Disease Control and Prevention (2020), social distancing during the COVID-19 pandemic refers to intentional attempts to keep people at least 1-2 meters (roughly 3-6 feet) apart physically to reduce the spread of SARS-CoV-2 through respiratory droplets from speaking, sneezing, or coughing.

One of the respondents of this study narrated that,

“Social distancing during COVID-19 was a necessary evil since, although it prevented deaths by keeping us apart from the virus, social media also increased anxiety by causing me to become disconnected from my real friends and turning daily life into a strange, quiet routine where even a brief conversation felt dangerous. This was in addition to the fact that social media eased isolation through virtual family chats on Facebook and WhatsApp. The personal cost that many experienced is captured by this balance between emotional detachment and maintaining one's health.”

Avoiding busy indoor areas, big parties, and unnecessary close contact with people outside one's own home are all part of it, and it's frequently combined with practices like mask-wearing and hand hygiene. Worldwide healthcare burdens and infection rates were reduced by this tactic (Lewnard & Lo, 2020). Using social media increases the effectiveness of social distancing between individuals. On the other hand, social isolation can be mitigated by the consequences of inadequate communication between people. Social media can facilitate communication between the public and the government during the COVID-19 pandemic (Chen et al., 2020). Social media content can contribute to the development of social distancing culture and to the roles and obligations of individuals as members of society, as information is readily available on these networks (Mohamad, 2020).

Another participant of this study shared views that,

“Social distancing and lockdowns brought severe economic strain, with many facing slashed incomes from broken supply chains, transport halts, and pricier essentials in rural areas. Families reported rising tensions at home, cramped living conditions, worsening stress, and heavier domestic burdens during confinement. Online education flopped for most due to spotty internet, untrained teachers, and missing devices, while mental health took a hit from isolation, fear, and stigma around cases, yet overall, people largely stuck to quarantine rules and appreciated government efforts, especially the less educated”.

People are practicing social distancing norms at a very low rate, as they are least aware of the pandemic's intensity (Imran et al. 2021). Social distancing during COVID-19 was portrayed in the study's findings as a "necessary evil" that helped prevent the spread of the virus and save lives. Still, it also caused extreme loneliness, strained family bonds, and unsettling daily routines in which conversations felt dangerous. Lockdowns exacerbated economic problems by causing supply disruptions and raising rural costs, increasing domestic tensions in small spaces, burdening women with household chores, derailed online education due to limited access to technology, and damaged mental health due to stigma and fear. However, compliance remained high, with many people, particularly the less educated, appreciating government efforts. These opinions emphasize their health benefits in the face of sociocultural stressors in resource-limited environments.

Theme 3: Psychological and Emotional Dimension

There have been conflicting and inconsistent findings from studies on the effects of social media use on people's social and psychological health during the COVID-19 pandemic (Ahmad & Murad, 2020; Drouin et al., 2020). Research indicates that social media can be a source of social support (Drouin et al., 2020) as well as anxiety and dread (Ahmad & Murad, 2020).

According to the study participant, during COVID-19,

"people faced intense anxiety from constant infection fears—worsened by social media's barrage of alarming updates and bogus cure videos—grief over loved ones lost without farewells, and deep loneliness as lockdowns blocked family gatherings. Irritability, sleeplessness, job-loss depression hit hard, with kids fearful and withdrawn from routine chaos; disease stigma on Facebook fueled paranoia, though family WhatsApp chats, virtual prayers, and home comforts offered some relief amid turmoil."

Accordingly, social media use during the COVID-19 pandemic affects subjective well-being in both positive (Yang et al., 2020) and negative (Pennington, 2021) ways.

According to another research participant,

"Lockdowns during COVID-19 caused cabin fever, dissatisfaction, fear of distant hospitals, and hopeless despair from unemployment. Social media exacerbated panic by spreading false remedy recommendations and viral death toll stories. Children got anxious and belligerent in the absence of playmates, although gardening, religious Facebook live healings, and group WhatsApp conversations were consoling".

The study findings revealed that there was significant psychological upheaval during the COVID-19 lockdowns in District Malakand. Social media exacerbated anxiety through constant alarming updates, phony cure videos, and viral death tolls, which made people feel even more alone from their broken family ties, grieve over untimely losses, and be depressed about losing their jobs. Facebook stigma fueled paranoia about infection, while cabin fever bred irritability, insomnia, and child aggression amid routine disruptions. However, digital platforms provided crucial lifelines through Facebook Live religious healings, WhatsApp family chats, and basic home comforts like gardening, highlighting social media's paradoxical role as both an emotional aggravator and a resilience builder in rural, low-resource settings.

Conclusion

This paper examines the complex aftermath of the COVID-19 pandemic in District Malakand, Khyber Pakhtunkhwa, as an Infodemic of conspiracy theories eroded trust in the population and reduced compliance. Social distancing became a necessary evil, weighed against the positive health outcome of lower transmission, and against the adverse outcomes of social isolation and economic pressure. The impacts of educational interruptions revealed their deep-seated digital inequalities, and the psychological issues were

presented by overwhelming grief and worry. In addition, the variation in health outcomes was between increased vulnerability and proven community resilience. Altogether, these themes show that low-literacy rural settings exhibited adaptive capacity by leveraging religious networks and social solidarity, and at the same time exposed them to the vulnerability of the pandemic by disseminating misinformation, infrastructural deficiencies, and cultural heuristics that prioritize traditional solutions over governmental instructions. On the whole, the results highlight the effectiveness of social distancing in combating transmission under sociocultural trade-offs, making the necessity of context-specific interventions under resource constraints apparent.

Recommendations

According to the thematic conclusions, the main recommendations to take into account when dealing with pandemics, including COVID-19, in areas like Malakand are as follows.

1. Anti-Infodemic efforts are necessary in the modern context. Based on this, the use of mosques, local clerics, and influencers to deliver specific health-literacy programmes to dispel existing myths and emphasize empirically proven studies through Pashto-language YouTube channels and WhatsApp should be facilitated. As a means to bridge the existing digital divide, the hilly Khyber Pakhtunkhwa should invest in hybrid learning facilities- such as solar-powered internet connection, special teacher training, and subsidized computers.
2. There must be mental health integration. To do this, we ought to provide community-based counseling by the mosques and the elders, and we ought to train lay counselors who will offer psychosocial support to bereaved, stigmatized, and isolated individuals in a culturally sensitive manner. We must also widen testing, add bed space, and provide services in remote areas, rationalize community networks for aid dispensing, and integrate conventional medicine with contemporary medical care.
3. There should be a holistic policy framework. Provincial regulations need to promote maximum local resilience to future epidemics by ensuring false information is monitored, imposing strong social distancing protocols, and requiring post-crisis evaluations.

References

- Abdalla, M. J., Said, H., Ali, L., Ali, F., & Chen, X. (2021). COVID-19 and unpaid leave: Impacts of psychological contract breach on organizational distrust and turnover intention: Mediating role of emotional exhaustion. *Tourism Management Perspectives*, 39, Article 100854. <https://doi.org/10.1016/j.tmp.2021.100854>
- Agius, S., Grech, A., & Grech, V. (2020). The way in which COVID-19 changed behaviour on social media in Malta. *Early Human Development*, 105255. <https://doi.org/10.1016/j.earlhumdev.2020.105255>
- Ahmad, A. R., & Murad, H. R. (2020). The impact of social media on panic during the COVID-19 pandemic in Iraqi Kurdistan: Online questionnaire study. *Journal of Medical Internet Research*, 22(5), e19556. <https://doi.org/10.2196/19556>
- Ali, M., Gasca, V., Schrier, R., Pensa, M., Brockman, A., Olson, D. P., et al. (2021). Social determinants and COVID-19 in a community health center cohort. *Journal of Immigrant and Minority Health*, 24, 10–17. <https://doi.org/10.1007/s10903-021-01320-6>
- Ankrah, D. A., Agyei-Holmes, A., & Boakye, A. A. (2021). Ghana's rice value chain resilience in the context of COVID-19. *Social Sciences & Humanities Open*, 4, 100210. <https://doi.org/10.1016/j.ssaho.2021.100210>
- Van Bavel, J. J., Baicker, K., Boggio, P. S., Capraro, V., Cichocka, A. M. C., Crockett, M. J., et al. (2020). Using social and behavioural science to support the COVID-19 pandemic response. *Nature Human Behaviour*, 4(5), 460–471. <https://doi.org/10.1038/s41562-020-0884-z>
- Bilal, M., Simons, M., Rahman, A. U., Smith, Z. L., Umar, S., Cohen, J., et al. (2020). What constitutes urgent endoscopy? A social media snapshot of gastroenterologists' views during the COVID-19 pandemic. *Endoscopy International Open*, 8(5), E693–E698. <https://doi.org/10.1055/a-1153-9014>
- Bruns, A., Harrington, S., & Hurcombe, E. (2020). "Corona? 5G? or both?": The dynamics of COVID-19/5G conspiracy theories on Facebook. *Media International Australia*, 177(1), 12–29. <https://doi.org/10.1177/1329878X20946113>
- Carr, C. T., & Hayes, R. A. (2015). Social media: Defining, developing, and divining. *Atlantic Journal of Communication*, 23(1), 46–65. <https://doi.org/10.1080/15456870.2015.972282>
- Carvalho-Alves, M. O., Petrilli-Mazon, V. A., Brunoni, A. R., Malbergier, A., Fukuti, P., Polanczyk, G. V., et al. (2022). Dimensions of emotional distress among Brazilian workers in a COVID-19 reference hospital: A factor analytical study. *World Journal of Psychiatry*, 12(6), 843–852. <https://doi.org/10.5498/wjp.v12.i6.843>
- Centers for Disease Control and Prevention. (2020). *Social distancing: Keep a safe distance to slow the spread*. <https://stacks.cdc.gov/view/cdc/90522>
- Chen, Q., Min, C., Zhang, W., Wang, G., Ma, X., & Evans, R. (2020). Unpacking the black box: How to promote citizen engagement through government social media during the COVID-19 crisis. *Computers in Human Behavior*, 106380. <https://doi.org/10.1016/j.chb.2020.106380>
- Chimunya, L., & Igwebuike, E. E. (2021). From COVID-19 to COVID-666: Quasi-religious mentality and ideologies in Nigerian coronavirus pandemic discourse. *Journal of African Media Studies*, 13(3), 399–416. https://doi.org/10.1386/jams_00056_1
- Chouhan, V., Vasita, M. L., & Goswami, S. (2020). The impact and role of social media for consciousness of the COVID-19 pandemic. *Journal of Content, Community & Communication*, 12(6). <https://doi.org/10.31620/JCCC.12.20/23>
- Coroiu, A., Moran, C., Campbell, T., & Geller, A. C. (2020). Barriers and facilitators of adherence to social distancing recommendations during COVID-19 among a large international sample of adults. *PLoS ONE*, 15, e0239795. <https://doi.org/10.1371/journal.pone.0239795>
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). SAGE Publications.

- Deshpande, D. D., & Mhatre, C. K. (2021). A study of the impact of online education on the mental health and academic performance of children of project-affected people studying at the undergraduate level in Navi Mumbai. *Revista Gestão & Inovação Tecnológica*, 11(4), 3866–3875. <https://doi.org/10.47059/revistageintec.v11i4.2412>
- Dost, B., Koksai, E., Terzi, O., Bilgin, S., Ustun, Y. B., & Arslan, H. N. (2020). Attitudes of anesthesiology specialists and residents toward patients infected with the novel coronavirus (COVID-19): A national survey study. *Surgical Infections*, 21(4), 350–356. <https://doi.org/10.1089/sur.2020.097>
- Drouin, M., McDaniel, B. T., Pater, J., & Toscos, T. (2020). How parents and their children used social media and technology at the beginning of the COVID-19 pandemic and associations with anxiety. *Cyberpsychology, Behavior, and Social Networking*, 23(11), 727–736. <https://doi.org/10.1089/cyber.2020.0284>
- Eghtesadi, M., & Florea, A. (2020). Facebook, Instagram, Reddit, and TikTok: A proposal for health authorities to integrate popular social media platforms in contingency planning amid a global pandemic outbreak. *Canadian Journal of Public Health*, 111(3), 389–391. <https://doi.org/10.17269/s41997-020-00343-0>
- Fuchs, C. (2021). Bill Gates' conspiracy theories as ideology in the context of the COVID-19 crisis. In *Communicating COVID-19* (pp. 91–144). Emerald Publishing Limited. <https://doi.org/10.1108/9781801177207>
- Gerts, D., Shelley, C. D., Parikh, N., Pitts, T., Watson Ross, C., Fairchild, G., et al. (2021). “Thought I’d share first” and other conspiracy theory tweets from the COVID-19 infodemic: Exploratory study. *JMIR Public Health and Surveillance*, 7(4), e26527. <https://doi.org/10.2196/26527>
- Gough, A., Hunter, R. F., Ajao, O., Jurek, A., McKeown, G., Hong, J., et al. (2017). Tweet for behavior change: Using social media for the dissemination of public health messages. *JMIR Public Health and Surveillance*, 3(1), e14. <https://doi.org/10.2196/publichealth.6313>
- Häkkinilä, J., Karhu, M., Kalving, M., & Colley, A. (2020). Practical family challenges of remote schooling during the COVID-19 pandemic in Finland. In *Proceedings of the 11th Nordic Conference on Human-Computer Interaction: Shaping Experiences, Shaping Society* (pp. 1–9).
- Hamzah, F. B., Lau, C., Nazri, H., Ligot, D. V., Lee, G., Tan, C. L., Shaib, M., Zaidon, U. H. B., Abdullah, A. B., & Chung, M. H. (2020). CoronaTracker: Worldwide COVID-19 outbreak data analysis and prediction. *Bulletin of the World Health Organization*.
- Imran, S., Sarir, S., Khattak, M. K., Alam, I., & Zubair, S. (2021). Analysis of the multidimensional impacts of the coronavirus disease-2019 (COVID-19) pandemic. *Humanities & Social Sciences Reviews*, 9(1), 96–105. <https://doi.org/10.18510/hssr.2021.919>
- Jayawardena, A. D. L., Romano, S., Callans, K., Fracchia, M. S., & Hartnick, C. J. (2020). Family-centered information dissemination: A multidisciplinary virtual COVID-19 “town hall.” *Otolaryngology–Head and Neck Surgery*. <https://doi.org/10.1177/0194599820935419>
- Kouzy, R., Abi Jaoude, J., Kraitem, A., El Alam, M. B., Karam, B., Adib, E., et al. (2020). Coronavirus goes viral: Quantifying the COVID-19 misinformation epidemic on Twitter. *Cureus*, 12(3), e7255. <https://doi.org/10.7759/cureus.7255>
- Leelawat, N., Tang, J., Saengtabtim, K., & Laosunthara, A. (2020). Trends of tweets on the coronavirus disease-2019 (COVID-19) pandemic. *Journal of Disaster Research*, 15(4), 530–533. <https://doi.org/10.20965/jdr.2020.p0530>
- Lewnard, J. A., & Lo, N. C. (2020). Scientific and ethical basis for social-distancing interventions against COVID-19. *The Lancet Infectious Diseases*, 20(6), 631–633. [https://doi.org/10.1016/S1473-3099\(20\)30190-0](https://doi.org/10.1016/S1473-3099(20)30190-0)
- Li, H., & Cao, Y. (2021). Facing the pandemic in the dark: Psychopathic personality traits and life history strategies during the COVID-19 lockdown period in different areas of China. *Current Psychology*, 1–9. <https://doi.org/10.1007/s12144-021-01549-2>

- Mazzolee, J. (2020). Mental health effects of school closures during COVID-19. *The Lancet Child & Adolescent Health*, 4, 421. [https://doi.org/10.1016/S2352-4642\(20\)30109-7](https://doi.org/10.1016/S2352-4642(20)30109-7)
- Mohamad, S. M. (2020). Creative production of COVID-19 social distancing narratives on social media. *Tijdschrift voor Economische en Sociale Geografie*, 111(3), 347–359.
- Motta, Z. G., Gentile, E., Parisi, A., & Spasiano, D. (2020). A preliminary evaluation of the public risk perception related to the COVID-19 health emergency in Italy. *International Journal of Environmental Research and Public Health*, 17(9). <https://doi.org/10.3390/ijerph17093024>
- Newby, J. M., O'Moore, K., Tang, S., Christensen, H., & Faasse, K. (2020). Acute mental health responses during the COVID-19 pandemic in Australia. *PLoS ONE*, 15(7), e0236562. <https://doi.org/10.1371/journal.pone.0236562>
- Ngai, E. W. T., Poon, J. K. L., & Chan, Y. H. C. (2007). Empirical examination of the adoption of WebCT using TAM. *Computers & Education*, 48, 250–267. <https://doi.org/10.1016/j.compedu.2004.11.007>
- Nguyen, H. M., Gruber, J., Fuchs, J., Marler, W., Hunsaker, A., & Hargittai, E. (2020). Changes in digital communication during the COVID-19 global pandemic: Implications for digital inequality and future research. *Social Media + Society*, 6(3). <https://doi.org/10.1177/2056305120948255>
- Nisar, S., & Shafique, M. (2019). Framework for efficient utilization of social media in Pakistan's healthcare sector. *Technology in Society*, 56, 31–43. <https://doi.org/10.1016/j.techsoc.2018.08.002>
- Pennington, N. (2021). Communication outside of the home through social media during COVID-19. *Computers in Human Behavior Reports*, 4, Article 100118. <https://doi.org/10.1016/j.chbr.2021.100118>
- Pulido, C. M., Villarejo-Carballido, B., Redondo-Sama, G., & Gómez, A. (2020). COVID-19 infodemic: More retweets for science-based information on coronavirus than for false information. *International Sociology*, 35(4), 377–392. <https://doi.org/10.1177/0268580920914755>
- Rinken, S., Domínguez-Álvarez, J. A., Trujillo, M., Lafuente, R., Sotomayor, R., & Serrano-del-Rosal, R. (2020). Combined mobile-phone and social media sampling for web survey on social effects of COVID-19 in Spain. *Survey Research Methods*, 14(2), 165–170. <https://doi.org/10.18148/srm/2020.v14i2.7738>
- Rosenberg, H., Ophir, Y., & Asterhan, C. S. C. (2018). A virtual safe zone: Teachers supporting teenage students' resilience through social media during war. *Teaching and Teacher Education*, 73, 35–42. <https://doi.org/10.1016/j.tate.2018.03.011>
- Shahsavari, S., Holur, P., Wang, T., Tangherlini, T. R., & Roychowdhury, V. (2020). Conspiracy in the time of corona: Automatic detection of emerging COVID-19 conspiracy theories in social media and the news. *Journal of Computational Social Science*, 3(2), 279–317. <https://doi.org/10.1007/s42001-020-00086-5>
- Smith, J., Guimond, F. A., Bergeron, J., St-Amand, J., Fitzpatrick, C., & Gagnon, M. (2021). Changes in students' achievement motivation in the context of the COVID-19 pandemic: A function of extraversion/introversion? *Education Sciences*, 11, Article 30. <https://doi.org/10.3390/educsci11010030>
- Vincent, A., Mamzer, H., Ng, Z., & Farkas, K. J. (2020). People and their pets in the times of the COVID-19 pandemic. *Society Register*, 4, 111–128. <https://doi.org/10.14746/sr.2020.4.3.06>
- Woodward, S. D. (2021). *Will the COVID-19 vaccine become the mark of the beast?* <https://faith-happens.com/uploads/2021/02/Will-the-COVID-19-VaccineBecome-the-Mark-of-the-Beast.pdf>
- World Health Organization. (2021). *Coronavirus disease (COVID-19) pandemic.* <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>
- Ye, Z., Yang, X., Zeng, C., Wang, Y., Shen, Z., Li, X., et al. (2020). Resilience, social support, and coping as mediators between COVID-19-related stressful experiences and acute stress disorder among college students in China. *Applied Psychology: Health and Well-Being*, 12, 1074–1094. <https://doi.org/10.1111/aphw.12211>

- Zhao, N., & Zhou, G. (2021). COVID-19 stress and addictive social media use (SMU): Mediating role of active use and social media flow. *Frontiers in Psychiatry, 12*, Article 635546. <https://doi.org/10.3389/fpsyt.2021.635546>
- Zhong, B., Huang, Y., & Liu, Q. (2020). Mental health toll from the coronavirus: Social media usage reveals Wuhan residents' depression and secondary trauma in the COVID-19 outbreak. *Computers in Human Behavior, 114*, 106524. <https://doi.org/10.1016/j.chb.2020.106524>