

Dynamics of Cognitive and Spiritual Communication through Social Media during COVID-19

Dr. Prerna Kumar

Assistant Professor International Institute of Professional Studies, Devi Ahilya University, Khandwa Road, Indore, India

Article Type: Article

Article Citation: xxx. 2022; 7(02), 40-50. DOI: 10.52184/isbrmj.v7i02.000

Received date: October 15, 2022

Accepted date: November 28, 2022

***Author for correspondence:**

Dr. Prerna Kumar Assistant
Professor International Institute of
Professional Studies, Devi Ahilya
University, Khandwa Road, Indore, India

Abstract

During the outbreak of Corona Virus in 2019, lockdowns were imposed in all nations of the globe to curb the spread of the infectious virus. The virtual medium was the only means to stay connected with one's social and professional circle. The rapid adoption of social media and staying connected with friends and peers has been highly beneficial to people across the nations, during the pandemic, to network, and to seek emotional support. Digital technologies and Social media were used for professional purposes, through work-from-home methods. Likewise, extensive communication between peers, friends, and relatives were also achieved through this social media, whatsapp became highly extensively used and popular. The paper qualitatively discusses the nature of Cognitive and Spiritual messages that were extensively in circulation through the Whatsapp application during the pandemic. It enhances understanding of the role of emotional contagion through the whatsapp messages, to reduce stress and alleviate the fear.

Keywords: Social media, Whatsapp communication, Cognitive messages, Spiritual messages, Emotional contagion, COVID-19

1. Introduction

The world has witnessed one of the worst pandemics of the modern century, the novel coronavirus SARS-CoV-2 since December 2019, declared as a global pandemic by the World Health Organisation as very infectious and mutating strains have emerged thereafter. The health authorities advised people to follow social distancing norms, propagating the idea "Stay home, Stay Safe". Staying connected with each other is vital for the communities to share details and information related to any disaster, in this study the COVID-19 pandemic. Mass-mediated one-to-many communication has the power to influence emotions that was earlier through print media, radio, and television further progressing lately through the internet. Social media is also a form of mass-mediated tool.

Sharing information and messages is a central feature of modern social networking services like Whatsapp. Social media also allowed users to perceive environmental risks (Kryvasheyev et al., 2016). Social Media allows relationship forming between users of distinct groups and backgrounds. People rely on the daily news and updates, and the information from social media to network and also seek social support. During the lockdown, travel restrictions were imposed domestically and internationally as well. In such times, social media was the only means of communication used for commercial and personal communication. For all forms of social media communication during disasters, Zhang, Hamilton, Danescu, Jurafsky, & Leskovec (2017) has concluded that people seek reliable information from their trusted users and also further forward them to their contacts.

Earlier research on humorous messages has reported that, same have helped to diffuse the frustration levels of people, and creating positivity through these messages to decrease depression, anxiety, and stress (Kumar, 2022). Despite several researches on commercial applications of social media, there is a limited study on social media communications during times of crisis. Yet, it is pertinent to note that cognitive and spiritual messages had an emphasizing role in assuaging times of stress, and loneliness; which has not been covered in literature to date. To address this gap, the objective of this study is to analyze the nature and form of online cognitive and spiritual messages in circulation during the COVID-19 that influenced the relationship dynamics of online communities.

2. Objective

This study aims to contribute to this research area by qualitatively studying the various social media messages through whatsapp application. This study involves user behavioral analysis on social media that is used to address the issues related to coping and communication strategies used by the users of social media. This work studies the nature and theme of the emotions expressed through the online whatsapp messages during the COVID-19 pandemic.

3. Research

Methodology This study is qualitative in nature, and is used to study the nature of cognitive and spiritual messages that were in circulation during COVID-19. The selection of the messages was done based on the criterion of maximum feedbacks, comments, and likes. The structure of this research is designed to first lay the foundation of the social media; leading to the theory of Emotional Contagion through social media. The study further progresses to analyze the content of whatsapp communications. Secondary data in the form of whatsapp messages, were analyzed to be of Cognitive and Spiritual based and their role in alleviating the fear was studied.

4. Discussion

This section analyzes and discusses the social media, communication, and the various forms of cognitive and spiritual messages exchanged. It studies the role of emotional contagion through social media thereby leading to the importance of being digitally connected with positive vibes during the pandemic.

4.1. Social Media

Social media is a form of electronic Word-of-mouth (henceforth referred to as e-WOM), that is more powerful than traditional word of mouth due to the former's immediacy, high reach, credibility, and is publicly available (Hennig-Thurau, Gwinner, Welsh, & Gremler, 2004). Social media mainly comprises of messages and conversations based on user generated content (Pitt, 2012). The content in these messages strive to adapt to the changing social environment (Kietzmann & Canhoto, 2013).

There are several recent studies on the importance of social media during times of crisis and the pandemic. There are studies related to the importance of social media tools to rapidly disseminate situational information and on extent of user engagement over online social networks (Sutton et al., 2015; Zhang et al., 2017). Researchers in online communication during crisis have also emphasized on cooperative human actions (Jackson et al., 2018). Cooperative human actions strengthen the online user groups as concluded by Woodruff (2018) on the existence of homophily phenomenon whereby regular online users connect to each other, that was necessitated by the conditions created due to the pandemic.

Literature abounds with studies that are related to the understanding of social behavior and network dynamics in disasters. In its earliest form, the Network Reticulation Theory (NRT) as proposed by Corman and Scott (1994), develops a conceptual framework for explaining the relationship between external events, activities in social networks, communication instances, and performance in social networks. The COVID-19 period has resulted in critical situations that had direct and indirect effects on daily psychological and social functioning of human beings. Literature also reports that though human beings have more time, when in isolation, they are under the effects of sadness and boredom which has a direct bearing on their emotional state (Droit-Volet, Gil, Martinelli, & Andant, 2020).

4.2. Emotional Contagion through the Social Media

Communications can be humorous, emotional, satirical, or cognitive based. All messages have the ability to generate desired responses from their customers. The effectiveness of each message depends on the elements used in message formation. Messages are a reflection of the thoughts that cross the peoples' minds during their daily lives. All messages and communication, formal, and informal, owe their origin to the conditions and circumstances in the internal environment (family members) and the external environment that includes society, neighborhood, workplace, and the macro-environment. Changes in the economic, political, and social environment influence the nature of

messages exchanged between organization and customers, between individuals and amongst the various stakeholders. Messages take shape from thoughts. In the prevailing pandemic scenario, people have been inundated with a variety of thoughts arising out of emotions of fear, of withdrawal, sometimes acceptance through rational thinking. Emotions arise in response to the appraisal of an event that is perceived as relevant and important to an individual (Bagozzi, Gopinanth, & Nyer, 1999). Extant literature posits the importance of emotions as a powerful tool that can influence our beliefs and attitudes to guide our thinking, decision making, and actions (Gratch & Marsella, 2004). Several previous studies have reported that emotions can be passed online via social networks, just like there is emotional contagion in the real world involving groups of people (Garcia, Kappas, Kuster, & Schweitzer, 2016). Moreover, emotional contagion occurs online even in the absence of non-verbal cues. There is empirically researched evidence that is postulated by the appraisal tendency framework (ATF) that each emotion results in decision making and carries with it the motivation that can affect the ability to appraise the surrounding circumstances and subsequent events (Lerner & Tiedens, 2006). These range of emotions and thoughts have taken the shape of messages of different types like Humorous and Sarcasm, Cognitive (Rational), and Spiritual to lessen the fear.

4.3. Cognitive Messages

Cognitive Messages provided immense information and details on the new form of virus along with the transmission and precautionary measures that need to be taken. These messages were related to the cognition and understanding of the pandemic. Cognition is a process where conceptual comprehension of reality takes place (Chernikova, 2014). Pandemics and crisis situations bring with them false news, and rumors that need to be addressed logically, in order to keep the situation under control. Rational messages communicate information in a straight-forward manner. There have been several rational/information-related messages about the pandemic, how it spreads, and the biological constitution of the virus.

Many messages were related to the “types of masks and the level of virus, bacterial, and pollen protection that could be provided by them. Messages were related to the ICMR guidelines on Threshold (Ct) values, that indicate the range of the viral antigen from lower risk to higher risk”. These messages are related to the level of the infection from the virus, and are of informative purposes for the masses. It brings clarity on the levels at which the virus can become life threatening, which aids in understanding the implications from the same. This is evidenced in academic works that when message content is processed carefully, strong, and valid arguments may result in cognitive understanding of the idea behind the message (Rosselli, Skelly, & Mackie, 1995). Message cognition always impacts the emotions of an individual. Arousal in emotions of participants by engaging in online communications has also been reported in earlier studies; thereby increasing the chances of feedback and engaging in further participation (Garcia et al., 2016). Participants engage in discussion, express concerns and fears, clarifying doubts that lead to reassuring themselves on the threats from the pandemic. Affective interactions in e-communities help to understand and reinforce social relations in the online context. The authors

posit that the emotions expressed by a participant depend on the emotions of the other participants. So if a participant expresses positive emotions, then it is reciprocated by affiliative responses from the others, thereby indicating the importance of positivity spread through Cognitive and Spiritual messages. Further negative emotions-laced messages only damage cooperation between community members (Chmiel et al., 2011).

The informative messages were helping the socially connected groups in cognitive reappraisal, by developing an understanding of the virus, and how it transmits from an infected person to others. So, this is subjective evaluation based on the information received to dispel the myths related to the virus.

As the number of COVID cases increased across the country, the medical and health facilities were facing extreme pressure on their resources and facilities, as all government and private hospitals were full beyond capacity. Doctors and state, started advocating Home Quarantine for less severe cases. An informative message “Home Quarantine Schedule that clearly depicts the schedule of exercise, diet, natural boosters like Vitamin C for all home isolation infected patients”, was in circulation. The message was highly detailed, informative, and beneficial for participants with any mild flu problems. Academic literature also posits that the effect of rational messages sharing is such that it leads to an increase in solidarity within the “in-group”, and thus with participants in social groups becoming more charitable and supportive of each other (Lin & Margolin, 2014). Sharing of useful information about home isolation schedule corresponds to the group members being supportive of each other.

Another highly useful message was circulated from Tata Digital Health providing free online consultation through chats from doctors. The message shared the link to take doctors consultation from the safety of home. Looking at the pressure and strain on the health facilities, and the spread of the infectious virus, promoting the usage of the virtual mode of consultation will be safe for both the doctors and the patients. This is a characteristic feature of the social media where in it provides interactivity, and accessibility irrespective of the physical boundaries, and can be used for the benefit of masses. The importance of a rational message, is in sharing for optimistic receptivity to them and in generating positive emotions. Emotions guide decision making and current human behavior. Emotions have a profound effect on the society, as individuals share their emotions with others, giving rise to collective emotions (Von & Ismer, 2013). These collective emotions influence the daily behavior with families. Further corroboration from literature states that participatory online social communities allow social sharing of emotions, which are sourced from informational messages (Garcia et al., 2016). It can be concluded that reading and sharing the right information related to the virus is highly beneficial for self, family, and society. Moreover, several rational messages were designed around the safety procedures that can be followed while performing the daily routine.

Health-centric information can also be communicated using fear appeals, in rational mode. During crisis and stressful situations arising out of calamities, or a pandemic, rational messages with detailed information on a prevailing grave situation may create fear (unintentionally). When direct mode of rational communication doesn't work, messages with fear-stimulating tones can also leave impact on the group participants. Messages communicating the severity of the situation, the high number of infected people, and

high mortality rate have fear inducing tones. Inducing fear has also worked in making people take safety measures. We find supporting evidence from the academic literature that high threat appeal messages with high response efficacy and high self-efficacy can produce significant behavioral changes (Witte and Allen, 2000). Threat appeals refer to a persuasive message that attempts to arouse the threat of danger and harm; influences message recipients to adopt recommendations of the message (Maddux & Rogers, 1983). The same is clearly evidenced in messages detailing snapshots of interviews of specialist doctors from reputed hospitals, to quote, that “Corona should not at all be taken lightly, looking at its pace of increasing infection. Recovered patients also have to later deal with problems of heart and lung ailments, which could be fatal. It is highly imperative for all to wear masks in order to save oneself, one’s family, and one’s contacts. Take necessary precautions to stay away from crowds at all costs. Any kind of careless attitude will bring the infection inside house that may be risky for the elders and kids”. Academic literature posits the importance of threat appeals based fear message as a clear case of controlled cognitive processing that leads to the desired behavior through arguments of severity of consequences of non-action (De Hoog et al., 2007). Moreover, the impact of fear elicited through threat appeals, results in cognition of the situation at hand (Carey, McDermott, & Sarma, 2013). Literature further suggests that threat appeals influence message recipients to take the recommended desirable actions, to prevent feelings of future regret (Koch, 2014).

Therefore, psychological literature also provides sufficient evidence on the importance of Cognitive Reappraisal that helps people to reduce the emotional impact of an event by changing their subjective evaluations of this event (Gross, 2001).

4.4. Spiritual Messages

Spirituality is defined as one’s innate feeling on beliefs and values (Krishnakumar & Neck, 2002). Literature shows an earlier definition of spirituality based on religious views of beliefs and actions for a moral purpose (Bruce, 1996). Several messages with values as emotional healing, wisdom, altruistic calling, service to others (Barbuto & Wheeler, 2006; Liden, Wayne, Zhao, & Henderson, 2004) were widely in circulation. The essence was also to foster relationships through spiritual connections in the virtual world.

This was a period where there was a growth in spiritual qualities and their wide dissemination to emphasize empathy, to have a healing touch towards developing the community, and towards spiritual growth. Spirituality drives people towards creating trust, and integrity for the benefit of lives, family, and society.

Many audio and text messages propagated the idea of reading holy-scriptures, also based on select verses of “Bhagwad Gita”, “Guru Granth Sahib”. All the messages from different scriptures and the theme therein was to propagate faith and remember the Divine (in any form). Social media enabled people to be connected to GOD during these troubled times. This is also supported from literature references with the theory of spiritual intelligence (S-intelligence) that is cognitive and motivating for problem solving in everyday life (Kadkhoda, Mirsanei, & Jahani, 2013). Online written interactions, with linguistic cues have the power to elicit emotions in the users of online media (Garcia et al., 2016). Writing

and forwarding of such spiritual and religious messages developed an essence and an ability to overcome the challenges and to guide the mind towards developing empathy with your family members, when confined to home with curbs in place for social gatherings and restrictions.

In a world of digital technology, it was imperative to maintain mind peace and to alleviate the agony being generated due to negative news. A wonderful and best usage of the social media was in sharing religious messages, and of verses from different scriptures. The verses laid emphasis on reciting the shlokas and “aarti” (prayer) to regenerate hope, faith, and rekindle the positive spirit. Extant literature also suggests that emotion regulation is for the benefit of maintaining mental health (Gross & Muñoz, 1995), physical health (Sapolsky, 2007), and for developing healthy relations (Murray, 2005). It therefore seemed imperative for the social media users to persistently follow the messages on spiritual theme that evidently could help in managing the emotions.

The verses from the scriptures and holy books have the aura to create positive thoughts. Thoughts, whether positive or negative, are powerful electromagnetic waves that have their independent existence in the surroundings. All our thoughts, feelings, intentions, and emotions are released out in the form of electromagnetic waves in the surroundings (Yadav, 2015). Researches also emphasize the concept of Spiritual leadership that aims towards building community, and trust among employees of an organization; which is clearly indicated through the messages circulated (Reddy, 2019) on reciting shlokas, gurbani, and hanuman chalisa. It was in these tough times to create strong interpersonal relations and a spiritual generative culture. Reading and forwarding such noble messages and videos with spiritual content has aided in maintaining mental peace, harmony, and positivity during one of the most challenging phases of the COVID-19.

Reading and viewing the news on fatalities, due to the COVID, about the pandemic reaching community transmission stages, has created many fearful thoughts, fear of insecurities in life. Spiritual messages are soothing, and calm down the emotions to have a positive impact on people's thoughts, feelings, and emotions that can result in harmonious and peaceful existence. The motive in the spiritual messages was to propagate the values of harmonious living, sharing, and tolerance amongst family members so that there is cohesiveness in the family unit to fight the challenges being raised by the COVID scenario. Literature supports the theory on development of positive emotions (Fredrickson, 2004) that broaden the mindset to make us more adaptable. It helps individuals to respond to and learn from situations.

Spirituality centered messages were threaded around a positive spiritual orientation theme that conveyed the central idea that there is a Supreme Almighty who takes care of all living beings on earth. Reading and sharing (via forwards) such messages generates a positive feeling that is widely dissipated amongst all group participants leading to emotional contagion in the online medium. Literature gives immense support to the above findings that positive emotions are prone to contagion, and that online users are significantly affected by the positive emotions (Ferrara & Yang, 2015).

Earlier researchers posit the importance of compassionate communication based on spiritual theme and empathy for others. According to Miller (2007), compassion is developed through the sub-processes of noticing, feeling, and responding. Empathizing

is the most critical component especially during times of pandemic. In the last half of the century, human beings have been driven by materialistic goals, competing against each other and pushing back each other in fulfilling materialistic desires. These were also accelerated by growth in consumerism and the digital revolution. But the sudden onset of the COVID-19 pandemic that spread its tentacles across the globe, brought rich and poor, highly qualified and illiterate, all at par. Thus the need of the hour was for circulation of spiritual messages and for compassionate communication, as they enabled the generation of positive emotions. We find supporting references from literature that experiencing positive emotions, broadens the individual's mindsets, and enables to build personal resources through an enhanced sensitivity (Frederickson, 2001). Such has been the lasting effect of positive and spiritual messages that could supersede the negativity and fear aroused through disturbing news related to the fatalities due to the pandemic.

In these Work-from-home times, the positivity in the spiritual messages, also helped in achieving work performance, positive work outcomes, and in creating a perceived virtual social support with colleagues (Lyubomirsky, 2001), in the absence of any social and personal interactions between colleagues.

5. Conclusion, Limitations, and Future Scope

The first purpose of the present study was to examine the importance of communication through social media, during the pandemic times. The second purpose of the present study was to understand the nature and content of the social media messages. The study analyses the social media messages on how they affected the emotional states of group members during the pandemic period. The study leads us to conclude that though social distancing had been advised during the pandemic times, but yet, virtual mode of communication through social media was extensively used. The emotions in messages are communicated to each other in the group. These whatsapp messages were humorous, cognitive, and spiritual based. Humorous messages, have helped to diffuse the frustration levels of people, by correlating real-life situations in fun and satirical manner. Cognitive messages are rational in nature, and information oriented on the ways to deal with the pandemic. Messages with spiritual theme were also intensively in circulation, to generate a positive aura amongst the group participants.

This research provides a theoretical foundation to examine and analyze the nature of messages that were in circulation since the beginning of the pandemic. The present study contributes to the existing literature on the nature and role of emotions communicated through whatsapp messages. These messages have cues that impact the emotions of the group members. The study could be extended further in order to experimentally assess the effectiveness of social media messages in aiding the group members to ease the stress levels.

The study faces constraints in terms of its qualitateness. The study is constrained as it is limited to a content analysis of the messages during the pandemic period. Generalizability of the findings is limited due to non-inclusion of the quantitative data. The study could be further extended to examine the effects of anxiety levels during and after the pandemic. Further studies could be conducted to quantitatively assess the emotions felt during the lockdown and compare them before the lockdown.

References

- Bagozzi, R. P., Gopinanth, M., & Nyer, P. U. (1999). The role of emotions in marketing. *Journal of the Academy of Marketing Science*, 27, 184–206. Downloaded from <http://dx.doi.org/10.1002/mar.20905>
- Barbuto, J. E. & Wheeler, D. W. (2006). Scale development and construct clarification of servant leadership. *Group and Organisation Management*. 31, 300–326 doi: 10.1177/1059601106287091
- Bruce, S. (1996). “Religion in the modern world”, *Oxford: Oxford University Press* cited in Reddy A.V.(2019). Servant Leadership and Spirituality at Workplace: A Critical Review. *International Journal on Leadership*, 7, 8–12 downloaded from <https://global.oup.com/academic/product/religion-in-the-modern-world-9780198781516>
- Carey, R. N., McDermott, D. T., & Sarma, K. M. (2013). The impact of threat appeals on fear arousal and driver behavior: A meta-analysis of experimental research 1990–2011. *PLoS One*, 8, e62821. doi: 10.1371/journal.pone.0062821
- Chernikova, I. (2014). Cognition as a subject of research in cognitive science. *Procedia - Social and Behavioral Sciences*, 154, 309–313, DOI: 10.1016/j.sbspro.2014.10.169
- Chmiel, A., Sienkiewicz, J., Thelwall, M., Paltoglou, G., Buckley, K., Kappas, A., et al. (2011). Collective emotions online and their influence on community life. *PLoS One*, 6, e22207. <https://doi.org/10.1371/journal.pone.0022207>
- Corman, S. R. & Scott, C. R. (1994). Perceived networks, activity foci, and observable communication in social collectives. *Communication Theory*, 7, 171–190. Downloaded from <http://dx.doi.org/10.1111/j.1468-2885.1994.tb00089.x>
- De Hoog, N., Stroebe, W., & De Wit, J. B. (2007). The impact of vulnerability to and severity of a health risk on processing and acceptance of fear-arousing communications: A meta analysis. *Review of General Psychology*, 11, 258–268 downloaded from <https://doi.org/10.1037/1089-2680.11.3.258>
- Droit-Volet, S., Gil, S., Martinelli, N., & Andant, N. (2020). Time and COVID19 stress in the lockdown situation, Time free, «Dying» of boredom and sadness. *PLoS One*, 15, e0236465 downloaded from <https://doi.org/10.1371/journal.pone.0236465>.
- Ferrara, E. & Yang, Z. (2015). Measuring emotional contagion in social media. *PloS One*, 10, e0142390 downloaded from <https://doi.org/10.1371/journal.pone.0142390>
- Frederickson, B. L. (2001). The role of positive emotions in positive psychology:the broaden-and-build theory of positive emotions. *American Psychologist*, 56, 218–226. <https://doi.org/10.1037/0003-066X.56.3.218>
- Frederickson, B. L. (2004). The broaden-and-build theory of positive emotions. *Philosophical Transactions of the Royal Society B:Biological Sciences*, 359, 1367–1377. <http://dx.doi.org/10.1098/rstb.2004.1512> cited in Bridekirk, J.,Turcotte, J. & Oddson, B. (2016). Harmonious passions support cognitive resources. *Journal of Motivation and Emotion*.
- Garcia, D., Kappas, A., Kuster, A., & Schweitzer, F. (2016). The dynamics of emotion in online interactions. *Royal Society OpenScience*, 3. <https://doi.org/10.1098/rsos.160059>
- Gratch, J. & Marsella, S. (2004). A domain-independent framework for modeling emotion. *Cognitive Systems Research*, 5, 269–306 downloaded from <https://psycnet.apa.org/doi/10.1016/j.cogsys.2004.02.002>
- Gross, J. J. & Muñoz, R.F. (1995). Emotion regulation and mental health, *Clinical Psychology: Science and Practice*, 2, 151–164 downloaded from <https://psycnet.apa.org/doi/10.1111/j.1468-2850.1995.tb00036.x>.
- Gross, J. J. (2001). Emotion regulation in adulthood: Timing is everything. *Current Directions in Psychological Science*, 10, 214–219 cited in Koole, S. L. (2009). The psychology of emotion

- regulation: An integrative review, *Cognition and Emotion*, 23, 4–41 downloaded from <https://doi.org/10.1111/1467-8721.00152>
- Hennig-Thurau, T., Gwinner, K. P., Welsh, G., & Gremler, D. D. (2004). Electronic word of mouth: consequences of and motives for reading customer articulations on the internet. *Journal of Interactive Marketing*, 8, 51–74, DOI: 10.1080/10864415.2003.11044293
- Jackson, J. C., Jong, J., Bilkey, D. Whitehouse, H., Zollmann, S., McNaughton, C., ... Halberstadt, J. (2018). Synchrony and physiological arousal increase cohesion and cooperation in large naturalistic groups. *Scientific Reports*, 8, 1–8. Retrieved from <https://doi.org/10.1038/s41598-017-18023-4>.
- Kadkhoda, M., Mirsanei, S. A., & Jahani, H. (2013). A Teamwork communication model based on spiritual intelligence by fuzzy logic. In Presented in 13th Iranian Conference on Fuzzy Systems.
- Kietzmann, J. & Canhoto, A. (2013). Bittersweet! Understanding and managing electronic word of mouth. *Journal of Public Affairs*, 13, 146–159 downloaded from <https://papers.ssrn.com/abstract=2519362>
- Koch, E. J. (2014). How does anticipated regret influence health and safety decisions? A literature review, *Basic Applied Social Psychology*, 36, 397–412 downloaded from <https://doi.org/10.1080/01973533.2014.935379>
- Krishnakumar, S. & Neck, C. P. (2002). The “what”, “why” and “how” of spirituality in the workplace. *Journal of Managerial Psychology*, 17, 153–165 downloaded from Servant Leadership and Spirituality at Workplace: A Critical Review | Reddy | International Journal on Leadership (i-scholar.in)
- Kryvasheyev, Y., Chen, H., Obradovich, N., Moro, E., Hentenryck, V. P., Fowler J, ... Cebrian, M. (2016). Rapid assessment of disaster damage using social media activity. *SciAdv*, 2, 1–11. downloaded from <https://doi.org/10.1126/sciadv.1500779>
- Kumar, P. (2022). Exchange of humour through social media during COVID-19, *International Journal of Research and Analytical Reviews (IJRAR)*, 9, 294–299 downloaded from <https://www.ijrar.org/papers/IJAR22A1992.pdf>, E-ISSN 2348-1269, P- ISSN 2349-5138
- Lerner, J. S. & Tiedens, L. Z. (2006). Portrait of the angry decision maker: How appraisal tendencies shape anger's influence on cognition, *Journal of Behavioral Decision Making*, 19, 115–137 (Special Issue on Emotion and Decision Making) downloaded <https://doi.org/10.1002/bdm.515>
- Liden, R. C., Wayne, S. J., Zhao, H., & Henderson, D. (2008). Servant leadership: Development of a multidimensional measure and multi-level assessment. *The Leadership Quarterly*, 19, 161–177 downloaded from <https://doi.org/10.1016/j.leaqua.2008.01.006>
- Lin, Yu-Ru & Margolin, D. (2014). The ripple of fear, sympathy and solidarity during the Boston bombings. *EPJ Data Science*, 3, 1–28 downloaded from <https://doi.org/10.1140/epjds/s13688-014-0031-z>
- Lyubomirsky, S. (2001). Why are some people happier than others? The role of cognitive and motivational processes in well-being, *American Psychologist*, 56, 239–249 066X.56.3.239 cited in Subjective Happiness and Compassion Are Enough to Increase Teachers' Work Engagement? Downloaded from <https://www.researchgate.net/deref/https%3A%2F%2Fdoi.org%2F10.1037%2F0003>
- Maddux, J. E. & Rogers, R. W. (1983). Protection motivation and self-efficacy: A revised theory of fear appeals and attitude change, *Journal of Experiential Social Psychology*, 19, 469–479. [https://doi.org/10.1016/0022-1031\(83\)90023-9](https://doi.org/10.1016/0022-1031(83)90023-9)
- Miller, K. (2007). Compassionate communication in the workplace: Exploring processes of noticing, connecting, and responding, *Journal of Applied Communication Research*, 223–245 downloaded from <https://doi.org/10.1080/00909880701434208>.

- Murray, S. L. (2005). Regulating the risks of closeness: A relationship-specific sense of felt security. *Current Directions in Psychological Science*, 14, 74–78 downloaded from <https://doi.org/10.1111/j.0963-7214.2005.00338.x>
- Pitt, L. F. (2012). Web 2.0, social media and creative consumers implications for public policy”, introduction to the special edition, *Journal of Public Affairs*, 12, 105–108 downloaded from <https://doi.org/10.1002/pa.1411>
- Reddy, A. V. (2019). Servant leadership and spirituality at workplace: A critical review, *International Journal on Leadership*, 7, 8–12, downloaded from https://www.academia.edu/42899761/Servant_Leadership_and_Spirituality_at_Workplace_A_Critical_Review
- Rosselli, F., Skelly, J. J., & Mackie, D. M. (1995). Processing rational and emotional messages: The cognitive and affective mediation of persuasion. *Journal of Experimental Social Psychology*, 31, 163–190 downloaded from <https://doi.org/10.1006/jesp.1995.1008>
- Sapolsky, R. M. (2007). Stress, stress-related disease, and emotional regulation. In J. J. Gross (Ed.), *Handbook of emotion regulation*. New York: Guilford Press cited in Koole, S. L. (2009). The psychology of emotion regulation: An integrative review, *Cognition and Emotion*, 23, 4–41 downloaded from Stress, Stress-Related Disease, and Emotional Regulation. - PsycNET (apa.org)
- Sutton, J., Gibson, C. B., Phillips, N. E., Spiro, E. S., League, C., & Johnson, B. (2015). A cross-hazard analysis of terse message retransmission on twitter. *Proceedings of the National Academy of Science*, 112, 14793–14798. <https://doi.org/10.1073/pnas.1508916112>
- Von, S. C. & Ismer, S. (2013). Towards a theory of collective emotions. *Emotion Review*, 5:406–413. <https://doi.org/10.1177/1754073913484170>.
- Witte, K. & Allen, M. (2000). A meta-analysis of fear appeals: Implications for effective public health campaigns. *Health Education & Behaviour*, 27, 591–602. DOI: 10.1177/109019810002700506 downloaded from <http://heb.sagepub.com/cgi/content/abstract/27/5/591>
- Woodruff, S. C. (2018). City membership in climate change adaptation networks. *Environment Science Policy*, 84, 60–68. <https://doi.org/10.1016/j.envsci.2018.03.002>
- Yadav, S. (2015). Biophysical energy: A Spiritual tool in Fostering Advanced interpersonal communication and Healthy ambience. In *Proceedings of National Seminar on Ancient and Spiritual Sciences* (pp. 662–669) (ISBN: 978-93-81212-22-6).
- Zhang, J., Hamilton, W. L., Danescu, C., Jurafsky, D., & Leskovec, J. (2017). Community identity and user engagement in a multi-community landscape. In: *Proceedings of the International AAAI Conference on Weblogs and Social Media* p. 377 cited in Fan, C., Shen, J., Mostafavi, A. & Hu, X. (2020). Characterizing reticulation in online social networks during disasters. *Applied Network Science*, 5, 29.

Webliography

WHO details on SARS downloaded in June 2020 from <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>