Journal of Computers, Mechanical and Management

Journal homepage: www.jcmm.co.in

Volume 2 Issue 1

Leveraging Hofstede's Cultural Dimensions for Devising COVID-19 Control Strategies

Dasharathraj K Shetty[a], Chetana Balakrishna Maddodi[b], BM Zeeshan Hameed[c,j], Milap Shah[d,j], Sufyan Ibrahim[*e,j], Anshika Sharma[f], Rahul Paul[g,j], Piotr Chłosta[h], and Bhaskar Soman[i,j]

[a]Department of Data Science and Computer Applications,, Manipal Institute of Technology,, Manipal, Karnataka, India 576104
[b]School of Management, Manipal Academy of Higher Education,, Manipal, Karnataka, India 576104
[c]Department of Urology, Father Muller Medical College,, Mangalore, Karnataka, India 575002
[d]Robotics and Urooncology, Max Hospital and Max Institute of Cancer Care,, New Delhi, India 110024
[e]Department of Neurosurgery, Mayo Clinic,, Rochester, United States 55902
[f]Department of Psychology, Amity University,, Noida, Uttar Pradesh, India 201313
[g]Department of Radiation Oncology, Massachusetts General Hospital,, Harvard Medical School,, Boston, United States MA 02115
[h]Department of Urology, Jagiellonian University in Krakow,, Kraków, Poland 31-008
[i]Department of Urology, University Hospital Southampton NHS Trust,, Southampton, United Kingdom SO16 6YD
[j]*International Training and Research in Uro-oncology and Endourology(iTRUE) Group,*, Manipal, Karnataka, India 576104

Abstract

The COVID-19 Pandemic has caused unprecedented global challenges, including significant socioeconomic disruptions and the closure of schools and universities in almost all countries. Understanding the role of culture in shaping individual and societal responses to the Pandemic is crucial. This review article examines the applicability of Hofstede's cultural dimensions framework in devising effective COVID-19 control strategies. The article provides an overview of each dimension and its impact on the implementation of COVID-19 control strategies. It also includes a case analysis of four countries - India, the United Kingdom, the United States of America, and Poland - to illustrate the interplay between culture and COVID-19 control strategies. The insights provided by Hofstede's framework and the case analysis demonstrate that cultural differences can significantly impact the success of COVID-19 control strategies. By taking these differences into account, governments and public health authorities can improve the effectiveness of their COVID-19 control measures.

Keywords: COVID-19; Cultural Dimensions; Hofstede's Model; Cultural Backgrounds; Pandemic Handling

1 Introduction

The coronavirus disease, commonly known as COVID-19, has been making headlines every second since its emergence in Wuhan, China, and was declared a pandemic by the World Health Organization [1]. The COVID-19 Pandemic has forced employers to alter

*Corresponding author: sufyan.ibrahim2@gmail.com
Received: 22 November 2022; **Accepted:** 23 February 2022; **Published:** 28 February 2023

DOI: 10.57159/gadl.jcmm.2.1.23032.

individual work styles to ensure good communication, work-life balance, and flexibility for employees and maintain optimal work productivity levels while also influencing economic decisions [2–4].

As of February 21, 2023, the number of infected people worldwide, including 6.8 million COVID-19-associated deaths, was approximately 757 million [5]. The manifestations of COVID-19 vary, and its severity is affected by age and preexisting medical conditions. Children and adolescents are usually asymptomatic or have mild symptoms, while older adults may experience severe illness and disproportionately elevated mortality. Among those who survive, some may experience enduring deficits. The viral load is particularly high in saliva and the oropharynx, which can be potential sources of infection. The diagnosis of the disease may be complicated by factors related to the virus's replicating cycle, viral load, and sensitivity of the diagnostic method used. Vaccines have been developed to prevent the spread of COVID-19 [6], with approximately 65.1 % of the total global population administered with the second dose and 71 % with the first dose [5]. The Pandemic has led to extreme socioeconomic disruptions and the cancellation or postponement of political, sports, cultural, and religious events worldwide [7]. It has also caused a shortage of essential goods due to panic buying among citizens [8]. The Pandemic is gradually leading the planet to one of its most significant recessions, with more than one-third of the global population in lockdown, limiting the scales of production [9, 10]. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), the education sector is sustaining significant losses as schools, colleges, and universities are closed in 197 countries, also affecting about 99 % of the global student population [11]. In these dire conditions, understanding individual behavior patterns and the cultures of different regions of the world would help analyze the virus's spread.

Culture can be defined as a set of traits shared by a group, where traits are characteristics of human societies potentially transmitted by non-genetic means and can be owned by an agent [12]. Humans are both cultural and biological entities, and as a pandemic sweeps through vast segments of the world, humans tend to cope both culturally and biologically. People of different social groups tend to reflect different cultural reactions. Such responses differ according to the nature of their societies, lifestyle, and the economic system of their country [13, 14]. Human behavior has influenced the spread of infectious diseases over the years. In 1918, during World War I, censorship of the media and demographic transitions due to war constraints adversely affected the influenza pandemic, causing a rise in the number of cases [15]. The rise of anti-vaccination movements in the United States and Western Europe caused many deaths during the measles outbreak [16]. Thus, one of the factors hindering the control of the pandemic disease is the behavior and actions of humans in a group or as an individual. It is essential to study cultural behaviors when analyzing the spread of infectious diseases like COVID-19 in humans. In this context, Hofstede's cultural dimensions framework, developed by Dutch social psychologist Geert Hofstede, is believed to provide a valuable lens for understanding how socio-cultural factors can influence the success of control strategies. The framework identifies five dimensions that can help explain cultural differences: power distance, individualism versus collectivism, masculinity versus femininity, uncertainty avoidance, and long-term versus short-term orientation. Based on the short theoretical discussion in this introductory section of the article, it is evident that these cultural dimensions play a crucial role in shaping individual behavior and societal responses during pandemics like COVID-19. The following section of this paper provides a brief overview of Hofstede's cultural dimensions and explains their impact on the implementation of COVID-19 strategies. Additionally, the article includes a small case analysis to help readers better understand the interrelationship between cultural dimensions and the success of control strategies.

2 Hofstede's Cultural Dimensions

Hofstede's cultural dimensions (HCD) framework is a tool that can help explain cultural differences between societies. The framework identifies five dimensions that can provide an understanding of how socio-cultural factors can influence the success of control strategies in tackling infectious diseases such as COVID-19. Understanding these cultural differences can help individuals navigate cross-cultural interactions and build effective relationships with people from different backgrounds [17]. This section explains the details of each of the five dimensions and how they influence COVID-19 control strategies.

2.1 Power Distance

The concept of power distance refers to the degree to which people in a culture or society accept and expect that power and status are distributed unequally among individuals and groups [18, 19]. In societies with high power distance, people tend to accept and even expect that some individuals or groups will have more power, wealth, or status than others. Conversely, in societies with low power distance, people tend to strive for an equal distribution of power and status. High power distance cultures often value respect for authority and hierarchy, and individuals are expected to defer to those in positions of power or authority [20–24]. For instance, in many Asian countries, elders and those in positions of authority are given great respect and deference [25]. This respect can also extend to workplace dynamics, where superiors are seen as having more authority and knowledge than their subordinates [26, 27]. In contrast, in low power distance cultures, individuals may question or challenge authority figures and may have a greater sense of personal agency and empowerment [28]. These cultures tend to emphasize the importance of individual rights, and the distribution of power and status is often more equalized. In such cultures, people may be more likely to engage in open discussions and debates with authority figures, and workplace hierarchies may be flatter [18]. It is important to note that power distance is not necessarily a value judgment about a culture but rather an observation of the way power and status are perceived and distributed within that culture [29]. Each culture has its own unique values and beliefs that influence its attitudes toward power distance.

2.2 Individualism vs. Collectivism

The concept of individualism versus collectivism refers to the extent to which people in a culture prioritize their personal interests versus the interests of the group or community [30, 31]. In individualistic cultures, individuals tend to prioritize personal goals, autonomy, and independence. They value individual achievement, success, and self-reliance [32, 33]. Conversely, in collectivistic cultures, people place greater emphasis on the goals and needs of the group or community over their own personal interests [34, 35]. Individualistic cultures typically place value on personal freedom, choice, and self-expression, and place a premium on competition and individual achievement. In such cultures, individuals may prioritize their own needs and desires over those of the community as a whole [36, 37]. For instance, in the United States, individualism is commonly emphasized, and people are encouraged to pursue their own dreams and goals [38]. In contrast, collectivistic cultures tend to stress social harmony, cooperation, and interdependence [39]. People in such cultures may prioritize the goals and needs of the group over their own individual interests. They may be more inclined to seek consensus and harmony and may prioritize maintaining social relationships and avoiding conflict [40]. For instance, in many Asian cultures, collectivism is emphasized, and people are encouraged to prioritize the needs of the family or community over their own personal desires [41]. It is important to note that individualism versus collectivism is not a value judgment about culture but rather an observation of how individuals in that culture prioritize their interests and relationships with others. Each culture has its own distinct values and beliefs that influence its attitudes toward individualism and collectivism.

2.3 Masculinity vs. Femininity

The cultural dimension of masculinity vs. femininity refers to how a society values and prioritizes traditional masculine or feminine traits [42]. Masculine traits typically include qualities such as competitiveness, assertiveness, and a focus on material success, while feminine traits tend to include values like cooperation, modesty, and quality of life. In societies that emphasize masculinity, men are typically expected to embody these traits, while women are often encouraged to adopt more traditional roles as caretakers and supporters of men's success [43, 44]. There is often a greater emphasis on achievement and material success and less importance placed on qualities like the quality of life or interpersonal relationships [45–47]. In contrast, in societies that prioritize femininity, there may be more emphasis on cooperative relationships and quality of life [45]. Both men and women may be expected to share caregiving and household responsibilities more equally, and traditional gender roles may be less strictly enforced. Success may be defined in terms of personal fulfillment and happiness rather than material wealth or status [48, 49]. It's important to note that these cultural dimensions are not fixed or absolute and can vary widely between different societies and even within the same society over time. Additionally, individuals may embody a mix of traditionally masculine and feminine traits, regardless of their gender identity.

2.4 Uncertainty Avoidance

The cultural dimension of uncertainty avoidance describes the extent to which individuals in a society feel uncomfortable with ambiguity and uncertainty [50]. In high uncertainty avoidance cultures, people tend to value structure, rules, and regulations and prefer to minimize ambiguity in their daily lives [51, 52]. They often have a strong preference for clear and explicit guidelines and rules, which they use to guide their behavior and decision-making. Such societies often have well-established legal systems, bureaucratic procedures, and standardized work practices designed to minimize risk and ensure stability [53]. In contrast, in low uncertainty avoidance cultures, individuals are more comfortable with ambiguity and uncertainty and are more open to change. They tend to be more accepting of risks and uncertainties and may be more willing to experiment with new ideas or ways of doing things. Such societies often value creativity, innovation, and entrepreneurship and may be less reliant on strict rules or regulations to guide behavior [54, 55]. The level of uncertainty avoidance can have a significant impact on many aspects of society, including education, work, and politics.

For instance, in high uncertainty avoidance cultures, education may emphasize memorization and rote learning, while in low uncertainty avoidance cultures, there may be more emphasis on critical thinking and problem-solving [56–59]. In the workplace, high uncertainty avoidance cultures may value seniority, experience, and adherence to established rules, while low uncertainty avoidance cultures may be more receptive to new ideas and approaches and may place greater value on creativity and innovation [60–63]. It's important to note that the level of uncertainty avoidance can vary widely between different societies and may be influenced by a variety of factors, including history, religion, and geography. Moreover, individuals within a given society may vary in their own level of uncertainty avoidance, depending on personal characteristics, experiences, and social context. Understanding the cultural dimension of uncertainty avoidance can help individuals navigate cultural differences and work effectively in diverse settings.

2.5 Long-term vs. Short-term Orientation

The cultural dimension of long-term orientation versus short-term orientation refers to how much emphasis individuals in a society place on long-term planning and investment, as opposed to focusing on short-term gains and immediate gratification [64, 65]. In long-term orientation cultures, individuals value traits such as perseverance, thrift, and respect for tradition and prioritize the achievement of long-term goals over immediate results [66, 67]. These cultures emphasize the importance of hard work and self-discipline and place greater emphasis on education, training, and personal development [65]. In contrast, in short-term orientation cultures, individuals prioritize quick results and immediate gratification over long-term planning and investment. They may be more likely to take risks and make impulsive decisions and prioritize personal enjoyment and satisfaction over long-term goals [68, 69].

Such cultures may place a greater emphasis on entertainment, leisure, and consumerism and may be less inclined to save or invest for the future [65, 70, 71].

The level of long-term orientation can significantly impact many aspects of society, including education, work, and politics. In long-term orientation cultures, education may be viewed as a long-term investment in personal development and future success, while in short-term orientation cultures, education may be seen as a means to obtain quick results, such as a job or promotion. Similarly, in the workplace, long-term orientation cultures may value loyalty, seniority, and hard work, while short-term orientation cultures may prioritize individual achievement and immediate results [65]. It's important to note that the level of long-term orientation can vary widely between different societies and may be influenced by a variety of factors, including history, religion, and geography. Moreover, individuals within a given society may differ in their own level of long-term orientation depending on personal characteristics, experiences, and social context. Understanding the cultural dimension of long-term orientation can help individuals navigate cultural differences and work effectively in diverse settings.

3 COVID-19 Control Strategies

3.1 An Overview

The COVID-19 Pandemic has presented unprecedented challenges and disrupted normal life globally. To mitigate the Pandemic's impact, governments and public health authorities have implemented various control strategies aimed at preventing the virus's spread. These strategies can be broadly classified into several categories [72–75].

The first category of COVID-19 control strategies is lockdowns, where the movement of people is restricted, and non-essential businesses are closed to reduce the virus's spread [76]. Lockdowns can be implemented at different levels, ranging from national to local [77, 78]. During lockdowns, individuals are required to stay at home unless carrying out essential activities, such as buying food or seeking medical care. In some cases, essential workers are allowed to continue working [79, 80].

The second category of COVID-19 control strategies is testing and tracing [81, 82]. Testing involves identifying individuals infected with COVID-19, while tracing involves identifying and monitoring individuals who have come into contact with infected individuals [83, 84]. Testing and tracing programs are crucial for identifying and isolating infected individuals before they spread the virus to others. These programs can also help to identify and break chains of transmission in the community [85, 86].

The third category of COVID-19 control strategies is quarantine measures [87–89]. Quarantine involves separating and restricting the movement of individuals who have been exposed to COVID-19 [90, 91]. Quarantine measures can be voluntary or mandatory and can be implemented at different levels, ranging from individual to national [92]. During quarantine, individuals are required to stay at home or in designated facilities for a specified period to prevent the spread of the virus [93, 94].

The fourth category of COVID-19 control strategies is mask mandates [95–97]. Wearing masks can help prevent the spread of COVID-19 by reducing the transmission of respiratory droplets from infected individuals [98–100]. Mask mandates refer to requirements that individuals wear masks in public places or in specific situations, such as public transport or crowded spaces [101].

The fifth and final category of COVID-19 control strategies is vaccination programs [102–104]. Vaccination is a crucial strategy for preventing the spread of COVID-19 and reducing its impact on public health [105]. Vaccines can help build immunity against the virus, preventing individuals from becoming infected or experiencing severe symptoms if they do become infected [106]. Vaccination programs have been implemented in many countries worldwide, with different approaches to distribution and prioritization [107, 108].

3.2 Successful Implementation in Various Countries

To minimize the impact of COVID-19, governments and public health authorities of various countries have implemented one or more types of control strategies, which were discussed in the article, aiming at preventing the spread of the virus. As seen from the literature comprising the data for 25 different countries, successful control strategies have varied across different cultural contexts, depending on the local context and circumstances.

Countries such as South Korea, Taiwan, Norway, Finland, and Denmark have successfully implemented testing and contact tracing programs, along with mandatory quarantine measures for infected individuals and their close contacts [109–115]. Countries such as Singapore, Iceland, Germany, Switzerland, and Austria have implemented contact tracing programs to identify and monitor individuals who have come into contact with infected individuals [116–121]. Countries such as Taiwan, Singapore, Austria, Israel, and India have implemented mandatory mask-wearing, which has been shown to reduce the transmission of respiratory droplets from infected individuals [123–129]. Additionally, countries such as Singapore, Japan, and Greece have promoted good hygiene practices and encouraged social distancing, which has helped to prevent the spread of the virus [130–132]. Countries such as Australia, Thailand, and Iceland have implemented strict border controls and quarantine measures for travelers, as well as imposing quarantine measures for infected individuals and their close contacts [133–135]. A total of 19 countries out of the selected 25 countries, including Israel, the United Arab Emirates, India, and Brazil, have implemented successful vaccination drives [136–139]. Countries such as India, the United Kingdom, the United States, and Canada have also successfully implemented a combination of lockdowns, contact tracing, and vaccination rollout to control the spread of COVID-19 [140–143].

It is noted from the studied literature that successful control strategies have varied across different cultural contexts, depending on

the local context and circumstances. Though some common elements of successful strategies included early detection and isolation of infected individuals, effective contact tracing, mandatory mask-wearing, quarantine measures, and rapid vaccination rollout, the implementation of these strategies, only when coupled with the cooperation of the public, has been crucial in controlling the spread of COVID-19 globally.

4 Influence of HCD on COVID-19 Control Strategies

Upon critical review of the literature, it is evident that Hofstede's cultural dimensions can offer valuable insights into how cultural differences may impact the development and effectiveness of COVID-19 control strategies.

Power distance, which refers to the acceptance of unequal distribution of power in a society, may influence the effectiveness of COVID-19 control strategies that rely on government authority and enforcement, such as lockdowns and mask mandates. In high power distance cultures, people may be more compliant with these measures, whereas, in low power distance cultures, people may be more resistant.

Individualism vs. collectivism refers to the focus on individual vs. group goals and interests in a society, which may affect the effectiveness of COVID-19 control strategies that require collective action, such as wearing masks and social distancing. In individualistic cultures, people may resist these measures as they may perceive them as infringing on personal freedoms, while in collectivist cultures, people may be more likely to comply as they prioritize the well-being of the group.

Masculinity vs. femininity refers to the degree of emphasis on traditional masculine vs. feminine values in a society, which may impact the effectiveness of COVID-19 control strategies that require sacrifice and cooperation for the greater good, such as lockdowns and social distancing. In cultures with high masculinity, people may be more resistant to these measures as they may perceive them as weak and uncompetitive, whereas in cultures with high femininity, people may be more likely to comply as they prioritize the well-being and safety of others.

Uncertainty avoidance refers to the comfort level with ambiguity and uncertainty in a society, which may influence the effectiveness of COVID-19 control strategies that require adaptation to changing circumstances, such as contact tracing and quarantine measures. In cultures with high uncertainty avoidance, people may be more likely to comply with these measures as they provide a sense of stability and predictability, whereas, in cultures with low uncertainty avoidance, people may be more resistant as they prioritize personal freedom and independence.

Finally, long-term vs. short-term orientation refers to the focus on long-term vs. short-term goals and planning in a society, which may impact the effectiveness of COVID-19 control strategies that require long-term planning and investment, such as vaccination programs. In cultures with a long-term orientation, people may prioritize long-term benefits over short-term costs, whereas in cultures with a short-term orientation, people may resist as they prioritize immediate gratification over long-term benefits.

5 Case Analysis

To minimize the impact of COVID-19, governments and public health authorities in various countries have implemented control strategies based on their unique cultural dimensions. In this analysis, four countries (India, the United Kingdom, the United States of America, and Poland) have been randomly selected to investigate the impact of Hofstede's cultural dimensions on these strategies. The authors have provided their collective discussion on each case based on their experience as residents of these countries. Table 1 summarizes the cultural dimensions of the selected countries [144], which can be correlated with the success rate of each control strategy.

Table 1: Hofstede's cultural dimensions for the selected four countries.

Country	Power distance	Individualism	Masculinity	Uncertainty avoidance	Long-term orientation
India	77	48	56	40	61
UK	35	89	66	35	51
USA	40	91	62	46	26
Poland	68	60	64	93	82

India has a high score in power distance, indicating the prevalence of hierarchical structures in society. This may have contributed to challenges in implementing social distancing measures during the nationwide lockdown. However, the collectivistic nature of Indian society may have facilitated the success of ramping up testing and contact tracing, as people prioritize the greater good. The high score in uncertainty avoidance also played a role in the success of using digital platforms to monitor and track the spread of the virus, as there is a preference for structure and clear rules. The UK has a low score in power distance, suggesting a more egalitarian society. This may have facilitated the implementation of control strategies such as social distancing measures and lockdowns, as individuals may be more willing to comply with guidelines from the government. The high score in individualism may have also contributed to the success of vaccination programs, as individuals prioritize their own health. However, the low score in uncertainty

avoidance may have made it challenging to enforce guidelines, as there is a preference for ambiguity and flexibility. The USA also has a low score in power distance, indicating an egalitarian society. This may have facilitated the implementation of control strategies such as social distancing measures and lockdowns, as individuals may be more willing to comply with guidelines from the government. However, the high score in individualism may have contributed to challenges in enforcing guidelines, as individuals prioritize personal freedoms over public health. The low score in uncertainty avoidance may have also contributed to the challenges in enforcing guidelines, as there is a preference for ambiguity and flexibility. Poland has a high score in power distance, suggesting a hierarchical society. This may have facilitated the implementation of strict measures such as lockdowns and social distancing guidelines. However, the low score in individualism may have contributed to challenges in implementing vaccination programs, as individuals may be less likely to prioritize their own health over the collective. The high score in uncertainty avoidance may have contributed to the success of contact tracing measures and the preference for clear rules and guidelines.

6 Conclusion

The COVID-19 Pandemic has challenged the global community in unprecedented ways, leading to the implementation of a variety of control strategies to curb its spread. However, the success of these strategies has varied across different cultural contexts, highlighting the importance of considering cultural dimensions in their development and implementation. Hofstede's cultural dimensions have been identified as a useful framework for understanding cultural differences and how they influence behavior, including the response to COVID-19. Through analysis of case studies from India, the UK, the US, and Poland, we have seen how power distance, individualism-collectivism, uncertainty avoidance, and long-term orientation dimensions have influenced the implementation of COVID-19 control strategies. India's case study highlighted the challenges of implementing social distancing measures effectively in a society with high power distance and collectivism and the potential reluctance to report COVID-19 symptoms due to the emphasis on family and community. The UK's case study demonstrated the importance of considering uncertainty avoidance in messaging and communication strategies, while the US case study highlighted the impact of individualism on compliance with control measures. Poland's case study showed the influence of long-term orientation on the acceptance of strict quarantine measures while also highlighting the challenges of implementing effective contact tracing in a society with low trust and high uncertainty avoidance. While Hofstede's cultural dimensions have provided valuable insights into the challenges and limitations of COVID-19 control strategies, they are not without their limitations. One of the main challenges is the potential for oversimplification and stereotyping of cultural differences, as cultural values and norms are not always fixed and can vary within and across cultures. Additionally, cultural dimensions may not fully capture the complexity and diversity of cultural contexts, and other factors such as socioeconomic status, age, and gender may also play a role in shaping behavior. To overcome these limitations, a more nuanced and context-specific approach is needed. This may involve engaging with local communities and stakeholders to understand their unique perspectives and needs, tailoring communication strategies to specific cultural contexts, and incorporating a range of cultural factors into the design and implementation of COVID-19 control strategies. In conclusion, the COVID-19 Pandemic has highlighted the importance of considering cultural dimensions in the development and implementation of control strategies. Hofstede's cultural dimensions have provided a useful framework for understanding cultural differences and their influence on behavior, and case studies from India, the UK, the US, and Poland have demonstrated their practical application. However, a more nuanced and context-specific approach is needed to address the challenges and limitations of using cultural dimensions in this context. Future research and policy-making should aim to incorporate a range of cultural factors and engage with local communities and stakeholders to develop effective and culturally sensitive COVID-19 control strategies.

Declaration of Competing Interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Funding Declaration

This research did not receive any grants from governmental, private, or nonprofit funding bodies.

Author Contribution

Dasharathraj K Shetty: Conceptualization, Methodology, Writing - Reviewing; **Chetana Balakrishna Maddodi**: Methodology, Data curation, Writing - Reviewing; **BM Zeeshan Hameed**: Conceptualization, Methodology, Writing - Original draft preparation, Writing - Reviewing; **Milap Shah**: Writing - Reviewing; **Sufyan Ibrahim**: Writing - Conceptualization, Methodology, Original draft preparation, Writing - Reviewing; **Anshika Sharma**: Writing - Reviewing; **Rahul Paul**: Writing - Reviewing; Piotr Chłosta: Methodology, Data curation, Writing - Reviewing; **Bhaskar Somani**: Data curation, Writing - Reviewing.

References

[1] R. Bhat, V. Singh, N. Naik, C. Kamath, P. Mulimani, and N. Kulkarni, "COVID 2019 outbreak: The disappointment in Indian teachers," *Asian Journal of Psychiatry*, 50, p. 102047, 2020.

[2] S. Bhiwaniwala, V. Bansal, B. Singla, N. Malarout, S. Vaz, P. Hegde, N. Tatkar, and A. Sharma, "Impact analysis of work culture and transformation during covid-19: a structural equation modeling approach," *Journal of Computers, Mechanical and Management*, 1 (1), pp. 52–65, 2022.

[3] U. Saxena, P. Sharma, and G. Gupta, "Comprehensive study of machine learning algorithms for stock market prediction during COVID-19," *Journal of Computers, Mechanical and Management*, 1 (2), pp. 14–21, 2022.

[4] S. Pavitra, D. Mahdaviamiri, N. Tatkar, N. Malarout, B. Singla, K. Parthasarathy, S. Vaz, P. Hegde, and A. Duhan, "Impact of COVID-19 on teacher well-being in higher education institutions," *Journal of Computers, Mechanical and Management*, 2 (1), pp. 07–16, 2023.

[5] World Health Organization, *WHO Coronavirus (COVID-19) Dashboard*, 2023.

[6] F. Lamberghini and F. Testai, "COVID-2019 fundamentals," *The Journal of the American Dental Association*, 152 (5), pp. 354–363, 2021.

[7] I. Chakraborty and P. Maity, "COVID-19 outbreak: Migration, effects on society, global environment and prevention," *Science of The Total Environment*, 728, p. 138882, 2020.

[8] T. Islam, A. Pitafi, V. Arya, Y. Wang, N. Akhtar, S. Mubarik, and L. Xiaobei, "Panic buying in the COVID-19 Pandemic: A multi-country examination," *Journal of Retailing and Consumer Services*, 59, p. 102357, 2021.

[9] S. Barua, "Understanding coronanomics: the economic implications of the coronavirus (COVID-19) pandemic," *SSRN Electronic Journal*, 2020.

[10] S. Roy, "Economic impact of covid-19 pandemic -A Preprint," 2022.

[11] UNESCO, *COVID-19 educational disruption and response*, 2020.

[12] A. Birukou, E. Blanzieri, P. Giorgini, and F. Giunchiglia, "A Formal Definition of Culture," 2013, pp. 1–26.

[13] R. Biswas-Diener, J. Vittersø, and E. Diener, "Most People Are Pretty Happy, but There Is Cultural Variation: The Inughuit, the Amish, and the Maasai," 2009, pp. 245–260.

[14] H. Triandis and R. Brislin, "Cross-cultural psychology," *American Psychologist*, 39 (9), pp. 1006–1016, 1984.

[15] B. Beach, K. Clay, and M. Saavedra, "The 1918 influenza pandemic and its lessons for COVID-19," *Journal of Economic Literature*, 60 (1), pp. 41–84, 2022.

[16] A. Hussain, S. Ali, M. Ahmed, and S. Hussain, "The anti-vaccination movement: a regression in modern medicine," *Cureus*, 2018.

[17] E. Morgan, *Navigating Cross-Cultural Ethics*, Routledge, 2012.

[18] R. Merkin, "Power distance and facework strategies," *Journal of Intercultural Communication Research*, 35 (2), pp. 139–160, 2006.

[19] F. Yuan and J. Zhou, "Effects of cultural power distance on group creativity and individual group member creativity," *Journal of Organizational Behavior*, 36 (7), pp. 990–1007, 2015.

[20] A. Terz, "Relationship between power distance and autocratic-democratic tendencies," *Educational Research and Reviews*, 6 (7), pp. 528–535, 2011.

[21] H. Spencer-Oatey, "Unequal relationships in high and low power distance societies," *Journal of Cross-Cultural Psychology*, 28 (3), pp. 284–302, 1997.

[22] C. Wei, X. Sun, J. Liu, C. Zhou, and G. Xue, "High power distance enhances employees' preference for likable managers: a resource dependency perspective," *Frontiers in Psychology*, 7, 2017.

[23] Geert Hofstede, "The cultural relativity of organizational practices and theories," *Journal of International Business Studies*, 14 (2), pp. 75–89, 1983.

[24] K. Winterich and Y. Zhang, "Accepting inequality deters responsibility: how power distance decreases charitable behavior," *Journal of Consumer Research*, 41 (2), pp. 274–293, 2014.

[25] T. White, L. Pye, and A. Chan, "Asian power and politics: the cultural dimensions of authority," *Political Psychology*, 8 (2), p. 249, 1987.

[26] T. Oh, "Understanding managerial values and behaviour among the gang of four: South Korea, Taiwan, Singapore and Hong Kong," *Journal of Management Development*, 10 (2), pp. 46–56, 1991.

[27] Hofstede Geert, "Cultural dimensions in management and planning," *Asia Pacific journal of management*, 1 (2), pp. 88–99, 1984.

[28] M. A. Daniels and G. J. Greguras, "Exploring the nature of power distance," *Journal of Management*, 40 (5), pp. 1202–1229, 2014.

[29] Y. Stedham and R. Beekun, "Ethical judgment in business: culture and differential perceptions of justice among Italians and Germans," *Business Ethics: A European Review*, 22 (2), pp. 189–201, 2013.

[30] M. Brewer and Y. Chen, "Where (who) are collectives in collectivism? toward conceptual clarification of individualism and collectivism," *Psychological Review*, 114 (1), pp. 133–151, 2007.

[31] P. Earley and C. Gibson, "Taking stock in our progress on individualism-collectivism: 100 years of solidarity and community," *Journal of Management*, 24 (3), pp. 265–304, 1998.

[32] E. Rhee, J. Uleman, H. Lee, and R. Roman, "Spontaneous self-descriptions and ethnic identities in individualistic and collectivistic cultures," *Journal of Personality and Social Psychology*, 69 (1), pp. 142–152, 1995.

[33] J. Sosik and D. Jung, "Work-group characteristics and performance in collectivistic and individualistic cultures," *The Journal of Social Psychology*, 142 (1), pp. 5–23, 2002.

[34] P. Gambrel and R. Cianci, "Maslow's hierarchy of needs: does it apply in a collectivist culture," *Journal of Applied Management and Entrepreneurship*, 8 (2), pp. 143–161, 2003.

[35] B. Husted and D. Allen, "Toward a model of cross-cultural business ethics: the impact of individualism and collectivism on the ethical decision-making process," *Journal of Business Ethics*, 82 (2), pp. 293–305, 2008.

[36] S. Spencer, *The self*, 2011.

[37] H. Kim and A. Drolet, "Choice and self-expression: A cultural analysis of variety-seeking," *Journal of Personality and Social Psychology*, 85 (2), pp. 373–382, 2003.

[38] K. Gillespie-Lynch, N. Daou, M. Sanchez-Ruiz, S. Kapp, R. Obeid, P. Brooks, F. Someki, N. Silton, and R. Abi-Habib, "Factors underlying cross-cultural differences in stigma toward autism among college students in Lebanon and the United States," *Autism*, 23 (8), pp. 1993–2006, 2019.

[39] Nickerson Charlotte, "Understanding collectivist cultures - simply psychology," *SimplyPsychology*, 2021.

[40] S. Liu, G. Shteynberg, M. Morris, Q. Yang, and A. Galinsky, "How does collectivism affect social interactions? a test of two competing accounts," *Personality and Social Psychology Bulletin*, 47 (3), pp. 362–376, 2021.

[41] K. Ma, R. Pitner, I. Sakamoto, and H. Y. Park, "Challenges in Acculturation among international students from Asian collectivist cultures," *Higher Education Studies*, 10 (3), p. 34, 2020.

[42] M. Alvesson and Y. Billing, "Questioning the notion of feminine leadership: a critical perspective on the gender labelling of leadership," *Gender, Work and Organization*, 7 (3), pp. 144–157, 2000.

[43] C. Chen, K. Velasquez Tuliao, J. Cullen, and Y. Chang, "Does gender influence managers' ethics? A cross-cultural analysis," *Business Ethics: A European Review*, 25 (4), pp. 345–362, 2016.

[44] A. Marcus, "Cross-cultural user-interface design for work, home, play, and on the way," in *ACM SIGGRAPH ASIA 2010 Courses*, Dec. 2010, pp. 1–160.

[45] P. Central, "The cultural relativity of the quality of life concept," *Academy of Management Review*, 1986.

[46] C. Mok, R. Pine, and A. Pizam, "Work values of Chinese hotel managers," *Journal of Hospitality & Tourism Research*, 21 (3), pp. 1–16, 1998.

[47] F. Brooks, "Masculinity and femininity: the taboo dimension of national cultures," *Social Science & Medicine*, 52 (4), p. 653, 2001.

[48] J. Treas and J. Lui, "Studying housework across nations," *Journal of Family Theory & Review*, 5 (2), pp. 135–149, 2013.

[49] U. Jogulu and G. Wood, "A cross-cultural study into peer evaluations of women's leadership effectiveness," *Leadership & Organization Development Journal*, 29 (7), pp. 600–616, 2008.

[50] R. Merkin, "Uncertainty avoidance and facework: A test of the Hofstede model," *International Journal of Intercultural Relations*, 30 (2), pp. 213–228, 2006.

[51] H. Hasan, S. Wahid, M. Jais, M. Mustapha, and S. Md Pauzi, "The effect of uncertainty avoidance on job performance of government employees in Pahang Darul Makmur: A Regression Analysis Approach," *Communications in Computational and Applied Mathematics*, 2 (2), pp. 13–16, 2020.

[52] S. Joy and D. Kolb, "Are there cultural differences in learning style?," *International Journal of Intercultural Relations*, 33 (1), pp. 69–85, 2009.

[53] A. Bakir, J. Blodgett, S. Vitell, and G. M. Rose, "A Preliminary Investigation of the Reliability and Validity of Hofstede's Cross Cultural Dimensions," in *Developments in Marketing Science: Proceedings of the Academy of Marketing Science*, 2015, pp. 226–232.

[54] Y. Hancıoğlu, Ü. Doğan, and Ş. Yıldırım, "Relationship between uncertainty avoidance culture, entrepreneurial activity and economic development," *Procedia - Social and Behavioral Sciences*, 150, pp. 908–916, 2014.

[55] S. Aurigemma and T. Mattson, "Exploring the effect of uncertainty avoidance on taking voluntary protective security actions," *Computers & Security*, 73, pp. 219–234, 2018.

[56] P. Nguyen, C. Terlouw, and A. Pilot, "Culturally appropriate pedagogy: the case of group learning in a Confucian Heritage Culture context," *Intercultural Education*, 17 (1), pp. 1–19, 2006.

[57] P. Kennedy, "Learning cultures and learning styles: myth-understandings about adult (Hong Kong) Chinese learners," *International Journal of Lifelong Education*, 21 (5), pp. 430–445, 2002.

[58] M. Reimann, U. Lnemann, and R. Chase, "Uncertainty avoidance as a moderator of the relationship between perceived service quality and customer satisfaction," *Journal of Service Research*, 11 (1), pp. 63–73, 2008.

[59] L. Lawter and P. Garnjost, "Cross-Cultural comparison of digital natives in flipped classrooms," *The International Journal of Management Education*, 19 (3), p. 100559, 2021.

[60] Y. Altuncu, Ş. Aktepe, and İ. Güler, "Preliminary study for the development of uncertainty avoidance instrument in Turkey," *Journal of Business, Economics and Finance*, 1 (4), pp. 34–48, 2012.

[61] R. Fischer, "Rewarding seniority: exploring cultural and organizational predictors of seniority allocations," *Journal of Social Psychology*, 148 (2), pp. 167–186, 2008.

[62] G. Warner-Søderholm, "Culture matters: Norwegian cultural identity within a Scandinavian context," *SAGE Open*, 2 (4), pp. 1–12, 2012.

[63] F. Jam, S. K. Singh, B. Ng, and N. Aziz, "The interactive effect of uncertainty avoidance cultural values and leadership styles on open service innovation: a look at Malaysian healthcare sector," *International Journal of Business and Administrative Studies*, 4 (5), 2018.

[64] S. Venaik, Y. Zhu, and P. Brewer, "Looking into the future: Hofstede long term orientation versus GLOBE future orientation," *Cross Cultural Management: An International Journal*, 20 (3), pp. 361–385, 2013.

[65] G. Hofstede and M. Minkov, "Long- versus short-term orientation: new perspectives," *Asia Pacific Business Review*, 16 (4), pp. 493–504, 2010.

[66] M. Minkov and G. Hofstede, "Hofstede's fifth dimension," *Journal of Cross-Cultural Psychology*, 43 (1), pp. 3–14, 2012.

[67] S. Park, "A Critique of Hofstede's fifth national culture dimension," *International Journal of Cross Cultural Management*, 3 (3), pp. 347–368, 2003.

[68] N. Donthu and B. Yoo, "Cultural influences on service quality expectations," *Journal of Service Research*, 1 (2), pp. 178–186, 1998.

[69] M. Gerlich, "How Short-term orientation dominates western businesses and the challenges they face—An Example Using Germany, the UK, and the USA," *Administrative Sciences*, 13 (1), p. 25, 2023.

[70] G. Hofstede, "Dimensionalizing cultures: the Hofstede model in context," *Online Readings in Psychology and Culture*, 2 (1), pp. 493–504, 2011.

[71] M. De Mooij and G. Hofstede, "Convergence and divergence in consumer behavior: implications for international retailing," *Journal of Retailing*, 78 (1), pp. 61–69, 2002.

[72] A. Roziqin, S. Mas'udi, and I. Sihidi, "An analysis of Indonesian government policies against COVID-19," *Public Administration and Policy*, 24 (1), pp. 92–107, 2021.

[73] R. Djalante, J. Lassa, D. Setiamarga, A. Sudjatma, M. Indrawan, B. Haryanto, C. Mahfud, M. S. Sinapoy, S. Djalante, I. Rafliana, L. Gunawan, G. Surtiari, and H. Warsilah, "Review and analysis of current responses to COVID-19 in Indonesia: Period of January to March 2020," *Progress in Disaster Science*, 6, p. 100091, 2020.

[74] H. Lakhani, S. S. Pillai, M. Zehra, I. Sharma, and K. Sodhi, "Systematic review of clinical insights into novel coronavirus (COVID-19) Pandemic: persisting challenges in U.S. rural population," *International Journal of Environmental Research and Public Health*, 17 (12), p. 4279, 2020.

[75] M. Nicola, C. Sohrabi, G. Mathew, A. Kerwan, A. Al-Jabir, M. Griffin, M. Agha, and R. Agha, "Health policy and leadership models during the COVID-19 Pandemic: A review," *International Journal of Surgery*, 81, pp. 122–129, 2020.

[76] M. Jankowicz, "More people under lockdown than were alive in World War II," *Business Insider*, 2020.

[77] X. Ren, "Pandemic and lockdown: a territorial approach to COVID-19 in China, Italy and the United States," *Eurasian Geography and Economics*, 61 (4–5), pp. 423–434, 2020.

[78] G. Bonaccorsi, F. Pierri, M. Cinelli, A. Flori, A. Galeazzi, F. Porcelli, A. Schmidt, C. Valensise, A. Scala, W. Quattrociocchi, and F. Pammolli, "Economic and social consequences of human mobility restrictions under COVID-19," *Proceedings of the National Academy of Sciences*, 117 (27), pp. 15530–15535, 2020.

[79] G. Jacobsen and K. H. Jacobsen, "Statewide COVID-19 stay-at-home orders and population mobility in the United States," *SSRN Electronic Journal*, 2020.

[80] V. Storr, S. Haeffele, J. Lofthouse, and L. Grube, "Essential or not? Knowledge problems and COVID-19 stay-at-home orders," *Southern Economic Journal*, 87 (4), pp. 1229–1249, 2021.

[81] D. Mistry, R. Stuart, K. Rosenfeld, G. Hart, R. Nunez, J. Cohen, P. Selvaraj, R. Abeysuriya, M. Jastrzebski, and L. George, "Controlling COVID-19 via test-trace-quarantine," *Nature Communications*, 12 (1), p. 2993, 2021.

[82] J. Firth, J. Hellewell, P. Klepac, S. Kissler, A. Kucharski, and L. Spurgin, "Using a real-world network to model localized COVID-19 control strategies," *Nature Medicine*, 26 (10), pp. 1616–1622, 2020.

[83] L. Breeher, A. Boon, C. Hainy, M. Murad, C. Wittich, and M. Swift, "A framework for sustainable contact tracing and exposure investigation for large health systems," *Mayo Clinic Proceedings*, 95 (7), pp. 1432–1444, 2020.

[84] S. Rajan, M. McKee, C. Hernández-Quevedo, M. Karanikolos, E. Richardson, E. Webb, and J. Cylus, "What have European countries done to prevent the spread of COVID-19? Lessons from the COVID-19 Health system response monitor," *Health Policy*, 126 (5), pp. 355–361, 2022.

[85] J. Fair, R. LeClaire, L. Dauelsberg, M. Ewers, D. Pasqualini, T. Cleland, and W. Rosenberger, "Systems dynamics and the uncertainties of diagnostics, testing and contact tracing for COVID-19," *Methods*, 195, pp. 77–91, 2021.

[86] S. Whitelaw, M. Mamas, E. Topol, and H. Van Spall, "Applications of digital technology in COVID-19 pandemic planning and response," *The Lancet Digital Health*, 2 (8), pp. e435–e440, 2020.

[87] M. Mandal, S. Jana, S. Nandi, A. Khatua, S. Adak, and T. Kar, "A model based study on the dynamics of COVID-19: Prediction and control," *Chaos, Solitons & Fractals*, 136, p. 109889, 2020.

[88] Z. Memon, S. Qureshi, and B. Memon, "Assessing the role of quarantine and isolation as control strategies for COVID-19 outbreak: A case study," *Chaos, Solitons & Fractals*, 144, p. 110655, 2021.

[89] B. Tang, F. Xia, S. Tang, N. Bragazzi, Q. Li, X. Sun, J. Liang, Y. Xiao, and J. Wu, "The effectiveness of quarantine and isolation determine the trend of the COVID-19 epidemics in the final phase of the current outbreak in China," *International Journal of Infectious Diseases*, 95, pp. 288–293, 2020.

[90] K. Saurabh and S. Ranjan, "Compliance and psychological impact of quarantine in children and adolescents due to COVID-19 Pandemic," *The Indian Journal of Pediatrics*, 87 (7), pp. 532–536, 2020.

[91] A. Stefana, E. Youngstrom, C. J. Hopwood, and A. Dakanalis, "The COVID-19 Pandemic brings a second wave of social isolation and disrupted services," *European Archives of Psychiatry and Clinical Neuroscience*, 270 (6), pp. 785–786, 2020.

[92] R. Kiliç, Ç. Hatipoğlu, and C. Güneş, "Quarantine and its legal dimension," *Turkish Journal of Medical Sciences*, 50 (SI-1), pp. 544–548, 2020.

[93] S. Bauerle Bass, S. Burt Ruzek, L. Ward, T. Gordon, A. Hanlon, A. Hausman, and M. Hagen, "If you ask them, will they come? predictors of quarantine compliance during a hypothetical avian influenza pandemic: results from a statewide survey," *Disaster Medicine and Public Health Preparedness*, 4 (2), pp. 135–144, 2010.

[94] A. Wilder-Smith and D. Freedman, "Isolation, quarantine, social distancing and community containment: pivotal role for old-style public health measures in the novel coronavirus (2019-nCoV) outbreak," *Journal of Travel Medicine*, 27 (2), 2020.

[95] N. Ford, H. Holmer, R. Chou, P. Villeneuve, A. Baller, M. Van Kerkhove, and B. Allegranzi, "Mask use in community settings in the context of COVID-19: A systematic review of ecological data," *eClinicalMedicine*, 38, p. 101024, 2021.

[96] B. Lusch, J. Kutz, and S. Brunton, "Deep learning for universal linear embeddings of nonlinear dynamics," *Nature Communications*, 9 (1), p. 4950, 2018.

[97] J. Howard, A. Huang, Z. Li, Z. Tufekci, V. Zdimal, H. Van Der Westhuizen, A. Von Delft, A. Price, L. Fridman, L. Tang, and V. Tang, "An evidence review of face masks against COVID-19," *Proceedings of the National Academy of Sciences*, 118 (4), 2021.

[98] R. Bhardwaj and A. Agrawal, "Tailoring surface wettability to reduce chances of infection of COVID-19 by a respiratory droplet and to improve the effectiveness of personal protection equipment," *Physics of Fluids*, 32 (8), p. 081702, 2020.

[99] O. Aydin, B. Emon, S. Cheng, L. Hong, L. Chamorro, and M. Saif, "Performance of fabrics for home-made masks against the spread of COVID-19 through droplets: A quantitative mechanistic study," *Extreme Mechanics Letters*, 40, p. 100924, 2020.

[100] Y. Wang, Z. Deng, and D. Shi, "How effective is a mask in preventing COVID-19 infection?," *Medical Devices and Sensors*, 4 (1), 2021.

[101] H. Grzybowska, R. Hickson, B. Bhandari, C. Cai, M. Towke, B. Itzstein, R. Jurdak, J. Liebig, K. Najeebullah, A. Plani, A. El Shoghri, and D. Paini, "Safe transport: wearing face masks significantly reduces the spread of COVID-19 on trains," *BMC Infectious Diseases*, 22 (1), p. 694, 2022.

[102] S. Moola, N. Gudi, D. Nambiar, N. Dumka, T. Ahmed, I. Sonawane, and A. Kotwal, "A rapid review of evidence on the determinants of and strategies for COVID-19 vaccine acceptance in low- and middle-income countries," *Journal of Global Health*, 11, p. 05027, 2021.

[103] G. Murewanhema, G. Musuka, K. Denhere, I. Chingombe, M. P. Mapingure, and T. Dzinamarira, "The landscape of COVID-19 vaccination in Zimbabwe: a narrative review and analysis of the strengths, weaknesses, opportunities and threats of the programme," *Vaccines*, 10 (2), p. 262, 2022.

[104] Z. Lassi, R. Naseem, R. Salam, F. Siddiqui, and J. Das, "The impact of the COVID-19 Pandemic on immunization campaigns and programs: a systematic review," *International Journal of Environmental Research and Public Health*, 18 (3), p. 988, 2021.

[105] M. Honein, A. Christie, D. Rose, J. Brooks, D. Meaney-Delman, A. Cohn, E. Sauber-Schatz, A. Walker, L. McDonald, L. Liburd, and J. Hall, "Summary of guidance for public health strategies to address high levels of community transmission of SARS-CoV-2 and Related Deaths," *Morbidity and Mortality Weekly Report*, 69 (49), pp. 1860–1867, 2020.

[106] S. Ahmad, "A review of COVID-19 (coronavirus disease-2019) diagnosis, treatments and prevention," *Eurasian Journal of Medicine and Oncology*, 2020.

[107] M. Piraveenan, S. Sawleshwarkar, M. Walsh, I. Zablotska, S. Bhattacharyya, H. Farooqui, T. Bhatnagar, A. Karan, M. Murhekar, S. Zodpey, K. Rao, P. Pattison, A. Zomaya, and M. Perc, "Optimal governance and implementation of vaccination programmes to contain the COVID-19 Pandemic," *Royal Society Open Science*, 8 (6), 2020.

[108] J. Chen, S. Hoops, A. Marathe, H. Mortveit, B. Lewis, S. Venkatramanan, A. Haddadan, P. Bhattacharya, A. Adiga, A. Vullikanti, and A. Srinivasan, "Prioritizing allocation of COVID-19 vaccines based on social contacts increases vaccination effectiveness," 2021.

[109] A. Eilersen and K. Sneppen, "Cost–benefit of limited isolation and testing in COVID-19 mitigation," *Scientific Reports*, 10 (1), p. 18543, 2020.

[110] K. Auranen, M. Shubin, E. Erra, S. Isosomppi, J. Kontto, T. Leino, and T. Lukkarinen, "Efficacy and effectiveness of case isolation and quarantine during a growing phase of the COVID-19 epidemic in Finland," *Scientific Reports*, 13 (1), 2023.

[111] F. Methi and E. Madslien, "Lower transmissibility of SARS-CoV-2 among asymptomatic cases: evidence from contact tracing data in Oslo, Norway," *BMC Medicine*, 20 (1), p. 427, 2022.

[112] I. Saunes, K. Vrangbæk, H. Byrkjeflot, S. Jervelund, H. O. Birk, L. Tynkkynen, I. Keskimäki, S. Sigurgeirsdóttir, N. Janlöv, J. Ramsberg, C. Hernández-Quevedo, S. Merkur, A. Sagan, and M. Karanikolos, "Nordic responses to COVID-19: Governance and policy measures in the early phases of the Pandemic," *Health Policy*, 126 (5), pp. 418–426, 2022.

[113] A. Kucharski, P. Klepac, A. Conlan, S. Kissler, M. Tang, H. Fry, J. Gog, W. Edmunds, J. Emery, G. Medley, and J. Munday, "Effectiveness of isolation, testing, contact tracing, and physical distancing on reducing transmission of SARS-CoV-2 in different settings: a mathematical modelling study," *The Lancet Infectious Diseases*, 20 (10), pp. 1151–1160, 2020.

[114] J. Liu, T. Chen, and S. Hwang, "Analysis of imported cases of COVID-19 in Taiwan: a nationwide study," *International Journal of Environmental Research and Public Health*, 17 (9), p. 3311, 2020.

[115] C. Lee, "Contact tracing apps for self-quarantine in South Korea: rethinking datafication and dataveillance in the COVID-19 age," *Online Information Review*, 45 (4), pp. 810–829, 2021.

[116] J. Amann, J. Sleigh, and E. Vayena, "Digital contact-tracing during the COVID-19 Pandemic: An analysis of newspaper coverage in Germany, Austria, and Switzerland," *PLOS ONE*, 16 (2), p. e0246524, 2021.

[117] Y. Saw, E. Tan, J. Liu, and J. Liu, "Predicting public uptake of digital contact tracing during the COVID-19 Pandemic: results from a nationwide survey in Singapore," *Journal of Medical Internet Research*, 23 (2), p. e24730, 2021.

[118] Z. Huang, H. Guo, Y. Lee, E. C. Ho, H. Ang, and A. Chow, "Performance of digital contact tracing tools for COVID-19 response in singapore: cross-sectional study," *JMIR mHealth and uHealth*, 8 (10), p. e23148, 2020.

[119] M. Scudellari, "How Iceland hammered COVID with science," *Nature*, 587 (7835), pp. 536–539, 2020.

[120] S. Altmann, L. Milsom, H. Zillessen, R. Blasone, F. Gerdon, R. Bach, F. Kreuter, D. Nosenzo, S. Toussaert, and J. Abeler, "Acceptability of app-based contact tracing for COVID-19: cross-country survey study," *JMIR mHealth and uHealth*, 8 (8), p. e19857, 2020.

[121] G. Kostka and S. Habich-Sobiegalla, "In times of crisis: public perceptions toward COVID-19 contact tracing apps in China, Germany, and the United States," *New Media & Society*, p. 146144482210832, 2022.

[122] D. Said, S. Brinkwirth, A. Taylor, R. Markwart, and T. Eckmanns, "The containment scouts: first insights into an initiative to increase the public health workforce for contact tracing during the COVID-19 Pandemic in Germany," *International Journal of Environmental Research and Public Health*, 18 (17), p. 9325, 2021.

[123] Y. Chuang and J. Chung-En Liu, "Who wears a mask? gender differences in risk behaviors in the COVID-19 early days in Taiwan," *Economics Bulletin*, 40 (4), pp. 2619–2627, 2020.

[124] J. Summers, H. Cheng, H. Lin, L. Barnard, A. Kvalsvig, N. Wilson, and M. Baker, "Potential lessons from the Taiwan and New Zealand health responses to the COVID-19 Pandemic," *The Lancet Regional Health - Western Pacific*, 4, p. 100044, 2020.

[125] K. Loo, A. Y. Thye, L. Law, and J. Law, "COVID-19: An updated situation from Singapore," *Progress In Microbes & Molecular Biology*, 4 (1), 2021.

[126] L. Vernon J, Calvin J, and K. Wei Xin, Interrupting transmission of COVID-19: lessons from containment efforts in Singapore, *Journal of Travel Medicine*, 2020.

[127] S. Panda, H. Kaur, L. Dandona, and B. Bhargava, Face mask - An essential armour in the fight of India against COVID-19, *Indian Journal of Medical Research*, 153, (1), p. 233, 2021.

[128] F. Fuss, Y. Weizman, and A. Tan, Which preventive control measure initiated the "flattening of the curve," *Wiener klinische Wochenschrift*, 134, (23-24), pp. 831-841, 2022.

[129] S. Amar, Y. Avni, N. O'Rourke, and T. Michael, Prevalence of common infectious diseases after COVID-19 vaccination and easing of pandemic restrictions in Israel, *JAMA Network Open*, 5, (2), p. e2146175, 2022.

[130] K. Pouliakas, Working at home in Greece: unexplored potential at times of social distancing?, *SSRN Electronic Journal*, 2020.

[131] M. Nishi, Jishuku, social distancing and care in the time of COVID-19 in Japan, *Social Anthropology*, 28, (2), pp. 331-332, 2020.

[132] N. Williams, Social distancing in the COVID-19 Pandemic, *Occupational Medicine*, 70, (5), pp. 305-305, 2020.

[133] D. Cook and L. Jóhannsdóttir, Impacts, systemic risk and national response measures concerning COVID-19—the island case studies of Iceland and Greenland, *Sustainability*, 13, (15), p. 8470, 2021.

[134] R. Yorsaeng, N. Suntronwong, I. Thongpan, W. Chuchaona, F. Lestari, S. Pasittungkul, J. Puenpa, K. Atsawawaranunt, C. Sharma, N. Sudhinaraset, A. Mungaomklang, R. Kitphati, N. Wanlapakorn, and Y. Poovorawan, The impact of COVID-19 and control measures on public health in Thailand, 2020, *PeerJ*, 10, p. e12960, 2022.

[135] A. Stobart and S. Duckett, Australia's response to COVID-19, *Health Economics, Policy and Law*, 17, (1), pp. 95-106, 2022.

[136] S. Glied, Strategy drives implementation: COVID vaccination in Israel, *Israel Journal of Health Policy Research*, 10, (1), p. 9, 2021.

[137] D. M. Suliman, F. Nawaz, P. Mohanan, M. Modber, M. Musa, M. Musa, D. El Chbib, Y. Elhadi, M. Y. Essar, M. Isa, D. Lucero-Prisno, and I. Moonesar, UAE efforts in promoting COVID-19 vaccination and building vaccine confidence, *Vaccine*, 39, (43), pp. 6341-6345, 2021.

[138] O. Choudhary, P. Choudhary, and I. Singh, India's COVID-19 vaccination drive: key challenges and resolutions, *The Lancet Infectious Diseases*, 21, (11), pp. 1483-1484, 2021.

[139] M. Silveira, N. Conrad, and F. Leivas Leite, Effect of COVID-19 on vaccination coverage in Brazil, *Journal of Medical Microbiology*, 70, (11), 2021.

[140] M. Mbwogge, Mass testing with contact tracing compared to test and trace for the effective suppression of COVID-19 in the United Kingdom: Systematic Review, *JMIRx Med*, 2, (2), p. e27254, 2021.

[141] A. Lahiri, S. Jha, S. Bhattacharya, S. Ray, and A. Chakraborty, Effectiveness of preventive measures against COVID-19: A systematic review of In Silico modeling studies in Indian context., *Indian journal of public health*, 64, pp. S156-S167, 2020.

[142] D. Skoll, J. C. Miller, and L. A. Saxon, COVID-19 testing and infection surveillance: Is a combined digital contact-tracing and mass-testing solution feasible in the United States?, *Cardiovascular Digital Health Journal*, 1, (3), pp. 149-159, 2020.

[143] L. Humphrey, E. Thommes, R. Fields, L. Coudeville, N. Hakim, A. Chit, J. Wu, and M. Cojocaru, Large-scale frequent testing and tracing to supplement control of Covid-19 and vaccination rollout constrained by supply, *Infectious Disease Modelling*, 6, pp. 955-974, 2021.

[144] Hofstede Insights, Country Comparison, 2017.