

# Mental Health Impacts of the COVID-19 Pandemic: Reflecting on Lockdowns and Social Isolations

Ali Cheshmehzangi<sup>1,2\*</sup>, Zhaohui Su<sup>3</sup>, Tong Zou<sup>2</sup>, Hengcai Chen<sup>2</sup>, Tian Tang<sup>4</sup>, Ayotunde Dawodu<sup>2</sup>

<sup>1</sup>Network for Education and Research on Peace and Sustainability (NERPS), Hiroshima University, Hiroshima, Japan

<sup>2</sup>Department of Architecture and Built Environment, University of Nottingham Ningbo China, Ningbo, China

<sup>3</sup>Center on Smart and Connected Health Technologies, Mays Cancer Center, School of Nursing, UT Health San Antonio, San Antonio, USA

<sup>4</sup>Department of Science and Technology, AVA Engineering Consultants Ltd., Chongqing, China

Email: \*Ali.Cheshmehzangi@nottingham.edu.cn

**How to cite this paper:** Cheshmehzangi, A., Su, Z.H., Zou, T., Chen, H.C., Tang, T. and Dawodu, A. (2022) Mental Health Impacts of the COVID-19 Pandemic: Reflecting on Lockdowns and Social Isolations. *Advances in Infectious Diseases*, 12, 193-202. <https://doi.org/10.4236/aid.2022.122017>

**Received:** March 22, 2022

**Accepted:** May 14, 2022

**Published:** May 17, 2022

Copyright © 2022 by author(s) and Scientific Research Publishing Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

## Abstract

This brief study explores the diverse and long-term mental impacts of the COVID-19 pandemic on societies worldwide. Based on the recent existing literature, six primary categories of mental effects are identified to verify how people are affected by reoccurring lockdowns and social isolations. The study urges holistic research in this field, suggesting that researchers must not neglect the diversity of mental health impacts and context-specific factors. While long-term mental and psychological impacts are mostly hidden for now, we anticipate them to fuel other health issues already experienced by the vulnerable groups, healthcare units, and those fighting the pandemic at the front line. The paper aims to highlight primary mental health impacts of the COVID-19 pandemic due to reoccurring lockdowns and social isolations. This is an opinion paper reflecting on ongoing research related to mental health issues of the ongoing pandemic, some of that could be looked at through case study research or extended research and comparative studies. This brief study suggests further case study-based analysis to evaluate the impacts of lockdowns and social isolations on societal wellbeing and mental health. Globally, the ongoing pandemic has made public health unstable and is expected to continue with its long-term consequences on societies. Research studies should help make governments and policymakers more aware of such long-term consequences to ensure they can respond more effectively to foreseeing public health issues.

## Keywords

COVID-19, Mental Health, Lockdown, Response, Public Health, Social

## 1. Introduction

The ongoing COVID-19 pandemic has caused significant impacts on daily operations and activities that usually occur in our everyday living, working, and social environments. There are also associated mental health impacts [1] [2] [3] that suggest the need to improve and enhance our public health systems [4] [5]. So far, mental health impacts of the pandemic on society are studied from the perspectives of quality of life [6], social media coverage [7], mental health consequences [8], housing and built environments' effects [9] [10], and a wide range of adverse effects [11], social inequalities [12], etc. There are also numerous cases of pandemic-related economic breakdown [13], which has led to major concerns and adversities around the globe. These concerns have increased the eventual mental impacts on people and their consequences [14] [15]. The lockdowns and social isolations, in particular, have played a major part in increasing mental health consequences. Such issues are associated with physical/social distancing [16], the general fear caused by the pandemic [17], and the impacts such fears have on specific sectors or practices [18]. Apart from the health behaviour changes and their potential consequences [19] [20], we see growing cases of changes in social responses, mental health issues of social isolation, physical distancing behaviours, and emotional behaviours. This study aims to discuss these briefly by reflecting on lockdowns and social isolations.

First, this study explores the immediate mental health impacts of the COVID-19 pandemic on people. In doing so, six primary categories of mental health impacts are identified based on the existing literature related to research on the ongoing COVID-19 pandemic. These are then discussed in relation to the lockdown and social isolation measures. Finally, discussions are made concerning long-term psychological issues, which should be studied more holistically. The study illustrates the diverse mental impacts of the pandemic on society, primarily caused by lockdown and social isolation measures. It is essential to confirm the hidden dangers of the ongoing pandemic's long-term mental and psychological impacts on society.

## 2. Methods

This is an opinion paper, and the methods are relatively different from a regular research paper. However, this study benefits from two types of literature review research. The first is to screen existing research related to the pandemic's consequences on mental health impacts, which are identified into six categories. The screening is done through literature-based research related to the topic and only in the context of COVID-19 research. The second part of the literature-based research focuses on correlated matters pertaining to the identified six categories,

allowing us to back up the arguments with case study examples. Again, scholarly research studies from 2020 onwards are mainly used for this analysis. Lastly, viewpoints are raised concerning the main scope and findings of the study. A brief discussion follows the primary evidence provided in the following section. Lastly, conclusions are made to highlight some suggestions according to the research content and future research directions. The study's narrative is based on an overview of the recent existing research, *i.e.*, from the start of the COVID-19 pandemic until now (March 2022), and to provide suggestions for future research. Hence, the study is treated as an opinion piece rather than an extended literature review.

### 3. Mental Health Impacts of the COVID-19 Pandemic

Complementary to what has been studied so far, a significant aspect is the study of mental health impacts on people during the lockdown periods with adverse influences on social behaviour, social inclusion, and social response. So far, the consequences on mental health impacts are summarized in six categories, which include: 1) family or friend loss, 2) anxiety from the pandemic, 3) direct health impacts, 4) loneliness, 5) lack of social life and outdoor activities, and 6) economic breakdown.

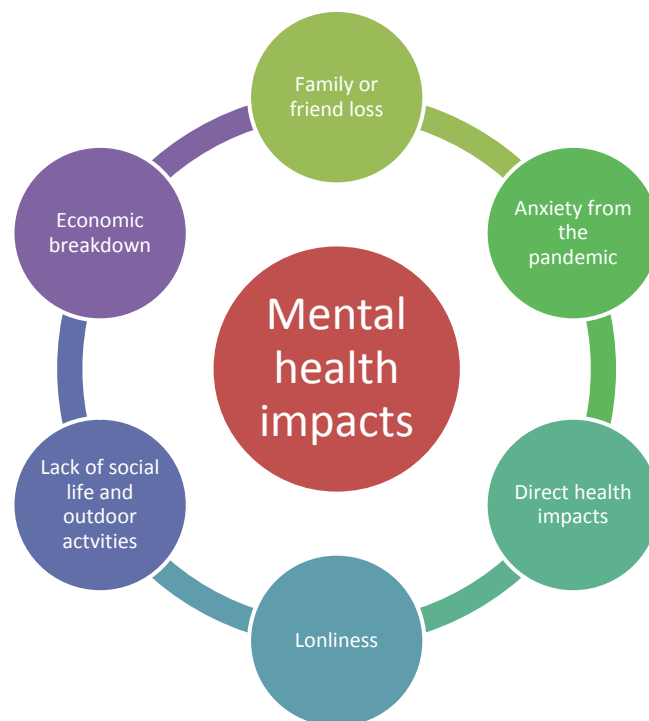
The first category is very much linked with the direct loss of close friends or family members, which affects people's mental health and perception [21]. This also implies the need for a healthy adjustment, seemingly essential after the loss [22]. The second category is related to a range of anxieties, some that form into severe health conditions of depression, insomnia, sadness, fear, adjustment disorder, etc. [11] [23]. This category has been widely studied from the perspectives of psychological impacts and distress [24], to a wide range of disorder conditions [25], moral injury [26], and longer-term mental health effects [27]. The third category is direct health impacts, which generally affect the individuals directly by becoming infected themselves or taking care of (and/or living with) an infected person in their households. Such direct impacts are specifically seen on healthcare workers [28], medical and nursing staff [29], and people who experienced emotional problems or situations [30] [31]. The experiences from such incidents could lead to longer-term emotional conditions. The fourth category is mental health impacts caused by loneliness and self-isolation [32], which seem to be visible in both children and adolescents [33], as well as in older adults [34]. This area is widely studied from the perspectives of psychological wellbeing [34], to increasing psychiatric symptoms [35], and problems of negative behaviour health impacts [36]. The trajectory of loneliness on some common behavioural risk factors [37] is also studied as a major issue concerning social isolation and other indicators that signify wider mental health symptoms [38]. The fifth category is related to the former but, more specifically, concerns the lack of outdoor opportunities [10]. The considerations for the use of outdoor recreational spaces have been verified to improve physical and mental health condi-

tions [39] and our daily emotional wellbeing. Long-term effects suggest the demand to continue research in this area. Lastly, the sixth category comes from the effects of economic uncertainty on mental health [40], which is more harmful than initially anticipated. The main impacts are on increasing suicidal incidents [41], the combination of economic concerns with health worries and social distancing [42], socio-economic difficulties [19], and other variables. The global macroeconomic impacts of COVID-19 have stressed many who have lost their businesses or jobs or struggle to cope with the challenges [43]. Thus, the impacts of the pandemic on socio-economic aspects suggest wider impacts on mental health and psychological effects [44]. **Figure 1** below summarises these six categories.

Apart from the significant health impacts, the novel coronavirus disease has caused considerable damage to us as social beings [45], something that may take us a while to recover from or reverse. The social and psychological impacts of the COVID-19 on our wellbeing have led to a broader understanding of the socio-economic implications of the pandemic [46], as well as negative impacts on quality of life, mental wellbeing, and our trust attitudes towards decision-makers and governments [47]. These are critical factors associated with the mental impacts of regular or prolonged lockdowns and social isolations.

#### 4. Discussions

Research studies related to the mental impacts of the COVID-19 pandemic are



**Figure 1.** Six categories of mental health impacts during the COVID-19 pandemic (source: drawn by the authors, data extracted from various literature research on the topic).

still limited. Ongoing and future research studies should assess the impacts of lockdown and social isolation on people's mental health, social behaviour, and response. These three areas are important to be studied together rather than in isolation, as it is essential to verify how one affects the other. The current literature is limited to evaluating the nexus between the three and mainly focuses on people's mental health. Yet, the enduring situations of lockdown and those reoccurring events could further impact people's social well-being and lifestyles. Those impacts are yet to be seen, and future research may need to consider prolonged analysis of people's health and behaviour affected by the COVID-19 pandemic.

Furthermore, it is crucial to consider evaluating context-specific measures as the impacts could differ between different countries or locations. For instance, the case of the UK is unique as it includes multiple lockdowns at different times and for different timelines. While the UK has decided to open up completely, the prolonged and reoccurring lockdown measures already have psychological impacts on society. The national lockdowns in the UK represent different lockdown modes with different messages. For instance, in the first three national lockdowns, the impacts are considerably different between them. The situation has become a complicated race with many ups and downs, different social behaviours, and changing responses to lockdown measures. The nature of each lockdown is different depending on the general status of the pandemic progression in the country. As we complete this study, when the UK has just ended its restrictions, we foresee further challenges and longer-term impacts on the mental health of the general public. A similar situation exists elsewhere, particularly in the contexts where the lockdowns were prolonged, like in the case of Australia, or they were reoccurring measures against the pandemic, as in the case of China.

In all cases, such measures could severely impact the health of society and the adverse socio-economic consequences that are yet to be seen. Thus, future research should consider evaluating complicating social behavior and response issues. It is important to verify and study changes that have occurred due to the pandemic and their impacts on people's mental health. The complexity of such mental health issues limits some of the studies to only consider one or two consequences, but future research should consider conducting a holistic evaluation of the mental impacts, including both direct and indirect effects caused by the COVID-19 pandemic. In doing so, primary objectives should be related to three factors of assessing differences between different lockdowns and their psychological impacts on the general public, evaluating the consequences of the lockdowns on social behaviour and response, and evaluating diverse mental health impacts associated with different categories mentioned earlier.

## **5. Concluding Remarks**

This brief study aims to open up a new discourse on the longer-term effects of the ongoing COVID-19 pandemic on people's mental health. As highlighted ear-

lier, such impacts could differ from context to context and relate to the type of pandemic's safety and control measures, restrictions, and social (and physical) isolation strategies. While the term 'social isolation' was initially criticised for its negative impact on people's social life and well-being, it continues to be one of the research mainstays related to the COVID-19 pandemic and its mental health issues. However, the consequences of reoccurring lockdowns and social isolation measures are not just short-term, which are affecting the vulnerable groups the most.

We argue that the mental impacts of COVID-19 could last much longer than initially expected. Some countries are criticised due to their lack of capability to respond to the pandemic [48], with significant burdens on healthcare services and facilities. These impacts have weakened the public health response, surgical systems, primary care response, etc. In addition, we foresee longer-term challenges that are mainly psychological and related to the mental wellbeing of society. As suggested by O'Connor *et al.* [49], there is a need for longitudinal analyses of mental health impacts and wellbeing studies, meaning how recent changes have impacted people's social behavior and response. There are also significant risk perceptions and behavioural responses from the general public [50], which should be studied beyond the existing studies of various experiences.

Set aside the large-scale impacts on the healthcare landscape, severe social and mental issues are correlated with lockdown and social isolation measures. Some countries neglect or undermine these impacts while their restricted actions have become added societal pressures. This study is a brief reflection on the ongoing situation to ensure mental impacts of the pandemic are studied more holistically and related to specific contexts. The following steps in policymaking, practice, and research are critical to responding to the psychological impacts of the COVID-19 pandemic on society.

### Conflicts of Interest

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.

### References

- [1] Cullen, W., Gulati, G. and Kelly, B.D. (2020) Mental Health in the COVID-19 Pandemic. *QJM: An International Journal of Medicine*, **113**, 311-312. <https://doi.org/10.1093/qjmed/hcaa110>
- [2] Pfefferbaum, B. and North, C.S. (2020) Mental Health and the COVID-19 Pandemic. *New England Journal of Medicine*, **383**, 510-512. <https://doi.org/10.1056/NEJMp2008017>
- [3] Zhu, S., Wu, Y., Zhu, C.Y., Hong, W.C., Yu, Z.X., Chen, Z.K., Jiang, D. and Wang, Y.G. (2020) The Immediate Mental Health Impacts of the COVID-19 Pandemic among People with or without Quarantine Managements. *Brain, behavior, and Immunity*, **87**, 56-58. <https://doi.org/10.1016/j.bbi.2020.04.045>

- [4] Cheshmehzangi, A. (2020) 10 Adaptive Measures for Public Places to Face the COVID-19 Pandemic Outbreak. *City & Society*, **32**, 1-10. <https://doi.org/10.1111/ciso.12282>
- [5] Mancini, A.D. (2020) Heterogeneous Mental Health Consequences of COVID-19: Costs and Benefits. *Psychological Trauma: Theory, Research, Practice, and Policy*, **12**, S15. <https://doi.org/10.1037/tra0000894>
- [6] Zhang, Y. and Ma, Z.F. (2020) Impact of the COVID-19 Pandemic on Mental Health and Quality of Life among Local Residents in Liaoning Province, China: A Cross-Sectional Study. *International Journal of Environmental Research and Public Health*, **17**, 2381. <https://doi.org/10.3390/ijerph17072381>
- [7] Su, Z., McDonnell, D., Wen, J., Kozak, M., Abbas, J., Šegalo, S., Li, X., Ahmed, J., Cheshmehzangi, A., Cai, Y. and Yang, L. (2021) Mental Health Consequences of COVID-19 Media Coverage: The Need for Effective Crisis Communication Practices. *Globalization and Health*, **17**, 1-8. <https://doi.org/10.1186/s12992-020-00654-4>
- [8] Kumar, A. and Nayar, K.R. (2020) COVID-19 and Its Mental Health Consequences. *Journal of Mental Health*, **180**, 817-818. <https://doi.org/10.1001/jamainternmed.2020.1562>
- [9] Amerio, A., Brambilla, A., Morganti, A., Aguglia, A., Bianchi, D., Santi, F., Costantini, L., Odone, A., Costanza, A., Signorelli, C. and Serafini, G. (2020) COVID-19 Lockdown: Housing Built Environment's Effects on Mental Health. *International Journal of Environmental Research and Public Health*, **17**, 5973. <https://doi.org/10.3390/ijerph17165973>
- [10] Cheshmehzangi, A. (2020) Housing and Health Evaluation Related to General Comfort and Indoor Thermal Comfort Satisfaction during the COVID-19 Lockdown. *Journal of Human Behavior in the Social Environment*, **31**, 184-209. <https://doi.org/10.1080/10911359.2020.1817225>
- [11] Rossi, R., Socci, V., Talevi, D., Mensi, S., Niolu, C., Pacitti, F., Di Marco, A., Rossi, A., Siracusano, A. and Di Lorenzo, G. (2020) COVID-19 Pandemic and Lockdown Measures Impact on Mental Health among the General Population in Italy. *Frontiers in Psychiatry*, **11**, Article No. 790. <https://doi.org/10.3389/fpsy.2020.00790>
- [12] Banks, J. and Xu, X. (2020) The Mental Health Effects of the First Two Months of Lockdown and Social Distancing during the COVID-19 Pandemic in the UK (No. W20/16). IFS Working Papers. <https://doi.org/10.1111/1475-5890.12239>
- [13] Moreno, C., Wykes, T., Galderisi, S., Nordentoft, M., Crossley, N., Jones, N., Cannon, M., Correll, C.U., Byrne, L., Carr, S. and Chen, E.Y. (2020) How Mental Health Care Should Change as a Consequence of the COVID-19 Pandemic. *The Lancet Psychiatry*, **7**, 813-824. [https://doi.org/10.1016/S2215-0366\(20\)30307-2](https://doi.org/10.1016/S2215-0366(20)30307-2)
- [14] González-Sanguino, C., Ausín, B., Castellanos, M.Á., Saiz, J., López-Gómez, A., Ugidos, C. and Muñoz, M. (2020) Mental Health Consequences during the Initial Stage of the 2020 Coronavirus Pandemic (COVID-19) in Spain. *Brain, Behavior, and Immunity*, **87**, 172-176. <https://doi.org/10.1016/j.bbi.2020.05.040>
- [15] Vindegaard, N. and Benros, M.E. (2020) COVID-19 Pandemic and Mental Health Consequences: Systematic Review of the Current Evidence. *Brain, Behavior, and Immunity*, **89**, 531-542. <https://doi.org/10.1016/j.bbi.2020.05.048>
- [16] Galea, S., Merchant, R.M. and Lurie, N. (2020) The Mental Health Consequences of COVID-19 and Physical Distancing: The Need for Prevention and Early Intervention. *JAMA Internal Medicine*, **180**, 817-818. <https://doi.org/10.1001/jamainternmed.2020.1562>
- [17] Fitzpatrick, K.M., Harris, C. and Drawve, G. (2020) Fear of COVID-19 and the



- Mental Health Consequences in America. *Psychological Trauma: Theory, Research, Practice, and Policy*, **12**, S17-S21. <https://doi.org/10.1037/tra0000924>
- [18] Fiorillo, A. and Gorwood, P. (2020) The Consequences of the COVID-19 Pandemic on Mental Health and Implications for Clinical Practice. *European Psychiatry*, **63**, e32. <https://doi.org/10.1192/j.eurpsy.2020.35>
- [19] Aragona, M., Barbato, A., Cavani, A., Costanzo, G. and Mirisola, C. (2020) Negative Impacts of COVID-19 Lockdown on Mental Health Service Access and Follow-Up Adherence for Immigrants and Individuals in Socio-Economic Difficulties. *Public Health*, **186**, 52-56. <https://doi.org/10.1016/j.puhe.2020.06.055>
- [20] Sun, S., Lin, D. and Operario, D. (2020) Need for a Population Health Approach to Understand and Address Psychosocial Consequences of COVID-19. *Psychological Trauma: Theory, Research, Practice, and Policy*, **12**, S25. <https://psycnet.apa.org/fulltext/2020-38567-001.html> <https://doi.org/10.1037/tra0000618>
- [21] Zhai, Y. and Du, X. (2020) Loss and Grief amidst COVID-19: A Path to Adaptation and Resilience. *Brain, Behavior, and Immunity*, **87**, 80-81. <https://doi.org/10.1016/j.bbi.2020.04.053>
- [22] Vegsund, H.K., Reinfjell, T., Moksnes, U.K., Wallin, A.E., Hjemdal, O. and Eilertsen, M.E.B. (2019) Resilience as a Predictive Factor towards a Healthy Adjustment to Grief after the Loss of a Child to Cancer. *PLoS ONE*, **14**, e0214138. <https://doi.org/10.1371/journal.pone.0214138>
- [23] Cheshmehzangi, A., Chen, H., Su, Z., Zou, T., Xiang, Y.T. and Dawodu, A. (2022) How Does the COVID-19 Fuel Insomnia? *Brain, Behavior and Immunity-Health*, **21**, Article ID: 100426. <https://doi.org/10.1016/j.bbih.2022.100426>
- [24] Landi, G., Pakenham, K.I., Boccolini, G., Grandi, S. and Tossani, E. (2020) Health Anxiety and Mental Health Outcome during COVID-19 Lockdown in Italy: The Mediating and Moderating Roles of Psychological Flexibility. *Frontiers in Psychology*, **11**, Article No. 2195. <https://doi.org/10.3389/fpsyg.2020.02195>
- [25] Choi, E.P.H., Hui, B.P.H. and Wan, E.Y.F. (2020) Depression and Anxiety in Hong Kong during COVID-19. *International Journal of Environmental Research and Public Health*, **17**, 3740. <https://doi.org/10.3390/ijerph17103740>
- [26] Abdessater, M., Rouprêt, M., Misrai, V., Matillon, X., Gondran-Tellier, B., Freton, L., Vallée, M., Dominique, I., Felber, M., Khene, Z.E. and Fortier, E. (2020) COVID-19 Pandemic Impacts on Anxiety of French Urologist in Training: Outcomes from a National Survey. *Progrès en Urologie*, **30**, 448-455. <https://doi.org/10.1016/j.purol.2020.04.015>
- [27] Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., McIntyre, R.S., Choo, F.N., Tran, B., Ho, R., Sharma, V.K. and Ho, C. (2020) A Longitudinal Study on the Mental Health of General Population during the COVID-19 Epidemic in China. *Brain, Behavior, and Immunity*, **87**, 40-48. <https://doi.org/10.1016/j.bbi.2020.04.028>
- [28] Shaikat, N., Ali, D.M. and Razzak, J. (2020) Physical and Mental Health Impacts of COVID-19 on Healthcare Workers: A Scoping Review. *International Journal of Emergency Medicine*, **13**, 1-8. <https://doi.org/10.1186/s12245-020-00299-5>
- [29] Kang, L., Ma, S., Chen, M., Yang, J., Wang, Y., Li, R., Yao, L., Bai, H., Cai, Z., Yang, B.X. and Hu, S. (2020) Impact on Mental Health and Perceptions of Psychological Care among Medical and Nursing Staff in Wuhan during the 2019 Novel Coronavirus Disease Outbreak: A Cross-Sectional Study. *Brain, Behavior, and Immunity*, **87**, 11-17. <https://doi.org/10.1016/j.bbi.2020.03.028>
- [30] Ammar, A., Mueller, P., Trabelsi, K., Chtourou, H., Boukhris, O., Masmoudi, L., Bou-



- aziz, B., Brach, M., Schmicker, M., Bentlage, E. and How, D. (2020) Emotional Consequences of COVID-19 Home Confinement: The ECLB-COVID19 Multicenter Study. *PLoS ONE*, **15**, e0240204. <https://doi.org/10.1371/journal.pone.0240204>
- [31] van der Miesen, A.I., Raaijmakers, D. and van de Grift, T.C. (2020) "You Have to Wait a Little Longer": Transgender (Mental) Health at Risk as a Consequence of Deferring Gender-Affirming Treatments during COVID-19. *Archives of Sexual Behavior*, **49**, 1395-1399. <https://doi.org/10.1007/s10508-020-01754-3>
- [32] Hwang, T.J., Rabheru, K., Peisah, C., Reichman, W. and Ikeda, M. (2020) Loneliness and Social Isolation during the COVID-19 Pandemic. *International Psychogeriatrics*, **32**, 1217-1220. <https://doi.org/10.1017/S1041610220000988>
- [33] Loades, M.E., Chatburn, E., Higson-Sweeney, N., Reynolds, S., Shafran, R., Brigden, A., Linney, C., McManus, M.N., Borwick, C. and Crawley, E. (2020) Rapid Systematic Review: The Impact of Social Isolation and Loneliness on the Mental Health of Children and Adolescents in the Context of COVID-19. *Journal of the American Academy of Child & Adolescent Psychiatry*, **59**, 1218-1239.e3. <https://doi.org/10.1016/j.jaac.2020.05.009>
- [34] Groarke, J.M., Berry, E., Graham-Wisener, L., McKenna-Plumley, P.E., McGlinchey, E. and Armour, C. (2020) Loneliness in the UK during the COVID-19 Pandemic: Cross-Sectional Results from the COVID-19 Psychological Wellbeing Study. *PLoS ONE*, **15**, e0239698. <https://doi.org/10.1371/journal.pone.0239698>
- [35] Tso, I.F. and Park, S. (2020) Alarming Levels of Psychiatric Symptoms and the Role of Loneliness during the COVID-19 Epidemic: A Case Study of Hong Kong. *Psychiatry Research*, **293**, Article ID: 113423. <https://doi.org/10.1016/j.psychres.2020.113423>
- [36] Lee, C.M., Cadigan, J.M. and Rhew, I.C. (2020) Increases in Loneliness among Young Adults during the COVID-19 Pandemic and Association with Increases in Mental Health Problems. *Journal of Adolescent Health*, **67**, 714-717. <https://doi.org/10.1016/j.jadohealth.2020.08.009>
- [37] Luchetti, M., Lee, J.H., Aschwanden, D., Sesker, A., Strickhouser, J.E., Terracciano, A. and Sutin, A.R. (2020) The Trajectory of Loneliness in Response to COVID-19. *American Psychologist*, **75**, 897-908. <https://psycnet.apa.org/fulltext/2020-42807-001.html>  
<https://doi.org/10.1037/amp0000690>
- [38] Okruszek, L., Aniszewska-Stańczuk, A., Piejka, A., Wiśniewska, M. and Żurek, K. (2020) Safe but Lonely? Loneliness, Mental Health Symptoms and COVID-19. <https://psyarxiv.com/9njps/download?format=pdf>  
<https://doi.org/10.31234/osf.io/9njps>
- [39] Freeman, S. and Eykelbosh, A. (2020) COVID-19 and Outdoor Safety: Considerations for Use of Outdoor Recreational Spaces. National Collaborating Centre for Environmental Health, Vancouver. <https://ncceh.ca/sites/default/files/COVID-19%20Outdoor%20Safety%20-%20April%2016%202020.pdf>
- [40] Godinic, D., Obrenovic, B. and Khudaykulov, A. (2020) Effects of Economic Uncertainty on Mental Health in the COVID-19 Pandemic Context: Social Identity Disturbance, Job Uncertainty and Psychological Well-Being Model. *International Journal of Innovation and Economic Development*, **6**, 61-74. <https://doi.org/10.18775/ijied.1849-7551-7020.2015.61.2005>
- [41] Bhuiyan, A.I., Sakib, N., Pakpour, A.H., Griffiths, M.D. and Mamun, M.A. (2020) COVID-19-Related Suicides in Bangladesh Due to Lockdown and Economic Fac-

- tors: Case Study Evidence from Media Reports. *International Journal of Mental Health and Addiction*, **19**, 2110-2115. <https://doi.org/10.1007/s11469-020-00307-y>
- [42] Kämpfen, F., Kohler, I.V., Ciancio, A., Bruine de Bruin, W., Maurer, J. and Kohler, H.P. (2020) Predictors of Mental Health during the COVID-19 Pandemic in the US: Role of Economic Concerns, Health Worries and Social Distancing. *PLoS ONE*, **15**, e0241895. <https://doi.org/10.1371/journal.pone.0241895>
- [43] Kar, S.K., Arafat, S.Y., Kabir, R., Sharma, P. and Saxena, S.K. (2020) Coping with Mental Health Challenges during COVID-19. In: *Coronavirus Disease 2019, (COVID-19)*, Springer, Singapore, 199-213. [https://doi.org/10.1007/978-981-15-4814-7\\_16](https://doi.org/10.1007/978-981-15-4814-7_16)
- [44] Sood, S. (2020) Psychological Effects of the Coronavirus Disease-2019 Pandemic. *Research & Humanities in Medical Education*, **7**, 23-26.
- [45] Cheshmehzangi, A. (2020) *The City in Need: Urban Resilience and City Management in Disruptive Disease Outbreak Events*. Springer, Singapore. <https://doi.org/10.1007/978-981-15-5487-2>
- [46] Alradhawi, M., Shubber, N., Sheppard, J. and Ali, Y. (2020) Effects of the COVID-19 Pandemic on Mental Well-Being amongst Individuals in Society—A Letter to the Editor on “The Socio-Economic Implications of the Coronavirus and COVID-19 Pandemic: A Review”. *International Journal of Surgery (London, England)*, **78**, 147-148. <https://doi.org/10.1016/j.ijisu.2020.04.070>
- [47] Sibony, A.L. (2020) The UK COVID-19 Response: A Behavioural Irony? *European Journal of Risk Regulation*, **11**, 350-357. <https://doi.org/10.1017/err.2020.22>
- [48] Majeed, A., Seo, Y., Heo, K. and Lee, D. (2020) Can the UK Emulate the South Korean Approach to Covid-19? *BMJ*, **369**, m2084. <https://doi.org/10.1136/bmj.m2084>
- [49] O'Connor, R.C., Wetherall, K., Cleare, S., McClelland, H., Melson, A.J., Niedzwiedz, C.L., O'Carroll, R.E., O'Connor, D.B., Platt, S., Scowcroft, E. and Watson, B. (2020) Mental Health and Well-Being during the COVID-19 Pandemic: Longitudinal Analyses of Adults in the UK COVID-19 Mental Health & Wellbeing Study. *The British Journal of Psychiatry*, **218**, 326-333. <https://doi.org/10.31234/osf.io/r8cdw>
- [50] Saladino, V., Algeri, D. and Auriemma, V. (2020) The Psychological and Social Impact of Covid-19: New Perspectives of Well-Being. *Frontiers in Psychology*, **11**, Article No. 2550. <https://doi.org/10.3389/fpsyg.2020.577684>