Given the contemporary resources of connectivity, we have gotten used to high levels of social interaction regardless of physical distance. In fact, many offline interactions, though initiated in real life, tend to be maintained online, with occasional meetups interrupting the continuous stream of communication (Scott, Stuart, & Barber, 2021). In turn, this constant flow of sociability allows us to maintain a stable level of mental health, by reducing loneliness, and increases our potential for social support, by increasing social cohesion, independent health empowering behaviors, and resilience factors (Liu, Liu, Niu, & Longobardi, 2020; Kamalpour, Watson, & Buys, 2020). However, we have come to a point where we take these interactive lives for granted, and we give little thought to the possibility of isolation within our globally connected framework.

Catastrophes such as the pandemic bring forth the urgency of a social lifestyle, as the limits imposed by quarantine, or any other interruption in the continuous flow of social interaction, come to affect both our psychological stability and our physical health. In the latter case, numerous studies have found that protracted isolation and low community trust may bring sleep disturbances, poor estimation of health, depression and high suicide risk (Hwang, Rabheru, & Peisah, 2020; Hämmig, 2019; Rauschenberg, Schick, Goetzl, Roehr, Riedel-Heller, Koppe, ... & Reininghaus. 2021). Furthermore, even with healthy individuals, the effect of perceived health on the physical body can bring about stress related illnesses, such as cardiovascular irregularities, dysfunctional health habits and resurgence of chronic illnesses (Kim, 2021; Mohnen, Groenewegen, & Völker, 2011).

In such case, the pandemic represented not only a health crisis, but also a mental health crisis, as studies conducted by Harvard report a staggering 36% of people within a representative sample of 950 U.S. adults has felt lonely by late October 2020 (Weissbourd, Batanova, Lovison, & Torres, 2021). Yet, the worst effects are felt at the ends of the age spectrum as young adults and students felt substantial decreases in the number of social needs being met and a rise in depression morbidity (Towner, Tomova, Ladensack, Chu, & Callaghan, 2022). On the other end, pooling from surveys pre and intra-pandemic, about 22% to 24% of the over 65 and up population felt lonely before the forced social isolation (Cudjoe, Roth, Szanton, Wolff, Boyd, & Thorpe Jr, 2020; DiJulio, Hamel, Muñana, & Brodie, 2018), which then led to substantial rises in perceived isolation; an example being a San Francisco social isolation study which reported around 50% of sampled elderly being abandoned without any form of social support (Kotwal, Holt‐Lunstad, Newmark, Cenzer, Smith, Covinsky, ... & Perissinotto, 2021).

The rise of Information and Communications Technology (ICT) like Zoom, WhatsApp, Facebook and Facetime allowed for some form of coping through this forced isolation, by reestablishing communicative relationships with friends, family, and colleagues, as well as by maintaining an information network connecting us to the outside world (Lee, Malcein, & Kim. 2021, Mander, Buckle, & Moran, 2020). It is not uncommon for Online Communities (OC) to form under these circumstances, much in the way that physical communities act as buffers and resilience mechanism in situations of extreme duress (Bergstrand & Mayer, 2020, Li, Luo, Mu, Li., Ye, Zheng, Xu, Ding, Ling,, Zhou, & Chen, 2021).

Accordingly, reports by the GlobalWebIndex and the Pew Research Center indicate that the growth of internet use was also met with a radical change in the way that we experience the web, with 40% of U.S. adults reporting of having used digital technology in a different way since the pandemic (McClain, Vogels, Perrin, Sechopoulos, & Rainie, 2021). A trend which actually preceded forced social isolation, since online community participation had been growing since 2017 (From 72% to 76% in 2019, Reddit & GlobalWebIndex, 2019). Overall, the increased role of OCs in the U.S. system of social support might have been associated with a resurgence of hope and a decrease in overall loneliness, as the increase in social isolation and mental health mediators such as self-esteem, self-efficacy, and social support has been proven to be significantly associated with increased online communication (Fawcett & Karastoyanova, 2022; Kearns & Whitley, 2019).

Nevertheless, OCs operate differently from physical communities, as associations of proximity and need are substituted by associations of interest and commonality (Groenewegen & Moser, 2014), with online interactions being employed as an auxiliary rather than a surrogate of offline interactions (Scott, Stuart, & Barber, 2021; McCully, Lampe, Sarkar, Velasquez, & Sreevinasan, 2011). Yet, online communication has to exist in a space outside of offline interaction, and often the two act as complementary activities for individuals whose personal characteristics direct to prefer one over the other (Sessions, 2010; Turner, Grube, & Meyers, 2001). What is most worrisome about this phenomenon is the concurrent evolution of the void forming between community members as OCs evolved throughout the 21st century (Wellman, Boase, & Chen, 2002): though advanced connectivity allows for reduced social isolation and loneliness, the quality of the relationship itself is not equivalent to its offline counterpart, sacrificing cohesion, trust, and group identification (Lee & Lee, 2010; Cullen & Sommer, 2010). Further, while mental health might be improved through the reduction of loneliness, activities performed online might actually cancel out OCs’ mediating effect and reduce the quality standards of existing communities (Vacchiano & Bolano, 2021; Gil de Zúñiga & Valenzuela, 2011).

There is little discussion surrounding this multidimensional aspect of Online Communities on loneliness, mental health, and social cohesion, especially compared to studies concerning physical communities and their overall member effect. As such, this paper serves as an exploration of OCs within the context of nationwide events such as the pandemic, given their perceived effectiveness at staving the effects of social isolation across age groups. In particular, the focus will be mediating aspects of mental health, controlling for personal characteristics, and considering online and offline presence, using the 2019-2020 period as a clear separator of remote activity participation. Firstly, the overall effect of Online Communities on mental health will be re-examined and confirmed, through the use of the Pew Center Core Trends Survey, the National Survey on Drug Use and Health, and the National Health Interview Survey; the University of Michigan’s COVID-19 Coping trends study will be used as a baseline for measuring self-reported health, and confirming Depression and Anxiety morbidity:

**H1**: Online Communities and Social Support have a significant negative effect on Loneliness, Depression, and Negative Health Behavior

**H1b**: Online Communities Participation frequency has a significant negative effect on Self-Reported Health

Following this, the relationship between Online Communities and social cohesion should be examined, in order to verify previous studies detailing the diminished role of real community connectedness among online relationships. This will be done through the use of the data within the General Social Survey, the AMES Time Series Study, and the Reddit Use Stats website:

**H2a**: Online Communities and Social Support have a significant effect on Social Cohesion characteristics

**H2b**: Online Communities and Physical Communities have the same effect on Social Cohesion characteristics

Finally, we examine the effects of Online Communities and Online Social Support on the most vulnerable populations: Young Adults and Seniors. Age will be factored through a proportion analysis using Census data:

**H3**: Online Communities and Social Support have a significant effect on Health and Social Cohesion among individuals between 18 to 25 years of age and 65 and up

The paper will be structured as follows: (1) a literature review describing OCs and online relationship types, as well as contextual health frames of the COVID-19 pandemic; (2) a data source and methodology section; (3) an analysis framework and results; (4) a discussion; (5) a conclusion.

References

Bergstrand, K., & Mayer, B. (2020). “The Community Helped Me:” Community Cohesion and Environmental Concerns in Personal Assessments of Post-Disaster Recovery. *Society & natural resources*, *33*(3), 386-405.

Cudjoe, T. K., Roth, D. L., Szanton, S. L., Wolff, J. L., Boyd, C. M., & Thorpe Jr, R. J. (2020). The epidemiology of social isolation: National health and aging trends study. *The Journals of Gerontology: Series B*, *75*(1), 107-113.

Cullen, R., & Sommer, L. (2010, January). Participatory democracy and the value of online community networks: An exploration of online and offline communities engaged in civil society and political activity. In *2010 43rd Hawaii International Conference on System Sciences* (pp. 1-10). IEEE.

DiJulio, B., Hamel, L., Muñana, C., & Brodie, M. (2018). Loneliness and social isolation in the United States, the United Kingdom, and Japan: An international survey. *The Economist & Kaiser Family Foundation*. Retried from <https://www.kff.org/other/report/loneliness-and-social-isolation-in-the-united-states-the-united-kingdom-and-japan-an-international-survey/>

Gil de Zúñiga, H., & Valenzuela, S. (2011). The mediating path to a stronger citizenship: Online and offline networks, weak ties, and civic engagement. *Communication Research*, *38*(3), 397-421.

Groenewegen, P., & Moser, C. (2014). Online communities: Challenges and opportunities for social network research. *Contemporary Perspectives on Organizational Social Networks*.

Hämmig, O. (2019). Health risks associated with social isolation in general and in young, middle and old age. *PLoS One, 14*(7), e0219663.

Hwang, T. J., Rabheru, K., Peisah, C., Reichman, W., & Ikeda, M. (2020). Loneliness and social isolation during the COVID-19 pandemic. *International psychogeriatrics*, *32*(10), 1217-1220.

Kamalpour, M., Watson, J., & Buys, L. (2020). How can online communities support resilience factors among older adults. *International Journal of Human–Computer Interaction*, *36*(14), 1342-1353.

Kim, J. H. (2021). The neighborhood effect of cognitive function on self-rated health: A population-based observational study. *Archives of Gerontology and Geriatrics*, *93*, 104285.

Kotwal, A. A., Holt‐Lunstad, J., Newmark, R. L., Cenzer, I., Smith, A. K., Covinsky, K. E., ... & Perissinotto, C. M. (2021). Social isolation and loneliness among San Francisco Bay Area older adults during the COVID‐19 shelter‐in‐place orders. *Journal of the American Geriatrics Society*, *69*(1), 20-29.

Lee, J., & Lee, H. (2010). The computer-mediated communication network: Exploring the linkage between the online community and social capital. *new media & society*, *12*(5), 711-727.

Lee, Y. C., Malcein, L. A., & Kim, S. C. (2021). Information and communications technology (ICT) usage during COVID-19: Motivating factors and implications. *International journal of environmental research and public health*, *18*(7), 3571.

Li, F., Luo, S., Mu, W., Li, Y., Ye, L., Zheng, X., Xu, B., Ding, Y., Ling, P., Zhou, M., & Chen, X. (2021). Effects of sources of social support and resilience on the mental health of different age groups during the COVID-19 pandemic. *BMC psychiatry*, *21*(1), 16. <https://doi.org/10.1186/s12888-020-03012-1>

Lin, S., Liu, D., Niu, G., & Longobardi, C. (2020). Active social network sites use and loneliness: the mediating role of social support and self-esteem. *Current Psychology*, 1-8.

Mander J., Buckle C., & Moran S. (2020). Social: GlobalWebIndex’s flagship report on the latest trends in social media. *GlobalWebIndex*. Retrieved from <https://amai.org/covid19/descargas/SocialGlobalWebIndex.pdf>

McClain, C., Vogels, E. A., Perrin, A., Sechopoulos, S., & Rainie, L. (2021). The Internet and the pandemic. *Pew Research Center*. Retrieved from <https://www.pewresearch.org/internet/2021/09/01/the-internet-and-the-pandemic/>

McCully, W., Lampe, C., Sarkar, C., Velasquez, A., & Sreevinasan, A. (2011, October). Online and offline interactions in online communities. In *Proceedings of the 7th international symposium on wikis and open collaboration* (pp. 39-48).

Mohnen, S. M., Groenewegen, P. P., Völker, B., & Flap, H. (2011). Neighborhood social capital and individual health. *Social science & medicine*, *72*(5), 660-667.

Rauschenberg, C., Schick, A., Goetzl, C., Roehr, S., Riedel-Heller, S. G., Koppe, G., ... & Reininghaus, U. (2021). Social isolation, mental health, and use of digital interventions in youth during the COVID-19 pandemic: A nationally representative survey. *European Psychiatry*, *64*(1).

Reddit & GlobalWebIndex (2019). The era of We and the rise of online communities. *GlobalWebIndex*. Retrieved from <https://www.redditinc.com/assets/case-studies/TheEraOfWe.1.6.20.pdf>

Scott, R. A., Stuart, J., & Barber, B. L. (2021). Contemporary friendships and social vulnerability among youth: Understanding the role of online and offline contexts of interaction in friendship quality. *Journal of Social and Personal Relationships*, *38*(12), 3451-3471.

Sessions, L. F. (2010). How offline gatherings affect online communities: when virtual community members ‘meetup’. *Information, Communication & Society*, *13*(3), 375-395.

Towner, E., Tomova, L., Ladensack, D., Chu, K., & Callaghan, B. (2022). Virtual social interaction and loneliness among emerging adults amid the COVID-19 pandemic. *Current Research in Ecological and Social Psychology*, *3*, 100058.

Turner, J. W., Grube, J. A., & Meyers, J. (2001). Developing an optimal match within online communities: An exploration of CMC support communities and traditional support. *Journal of Communication*, *51*(2), 231-251.

Vacchiano, M., & Bolano, D. (2021). Online and offline leisure, relatedness and psychological distress: A study of young people in Switzerland. *Leisure Studies*, *40*(3), 338-351.

Weissbourd, R., Batanova, M., Lovison, V., & Torres, E. (2021). How the Pandemic Has Deepened an Epidemic of Loneliness and What We Can Do About It (pp. 1–13). *Harvard University*. Retrieved from <https://static1.squarespace.com/static/5b7c56e255b02c683659fe43/t/6021776bdd04957c4557c212/1612805995893/Loneliness+in+America+2021_02_08_FINAL.pdf>

Wellman, B., Boase, J., & Chen, W. (2002). The networked nature of community: Online and offline. *It & Society*, *1*(1), 151-165.