

UC Berkeley

Parks Stewardship Forum

Title

Mental health benefits of natural spaces and barriers to access in the age of COVID-19

Permalink

<https://escholarship.org/uc/item/5tw7c2gs>

Journal

Parks Stewardship Forum, 37(3)

Authors

Defeo, Shelby
Das, Trina
Trendos, Emily
[et al.](#)

Publication Date

2021

DOI

10.5070/P537354737

Copyright Information

Copyright 2021 by the author(s). This work is made available under the terms of a Creative Commons Attribution-NonCommercial License, available at <https://creativecommons.org/licenses/by-nc/4.0/>

Peer reviewed



Mental health benefits of natural spaces and barriers to access in the age of COVID-19

Shelby Defeo, University of California Merced

Trina Das, Bangabandhu Sheikh Mujibur Rahman Agricultural University

Emily Trendos, University of Guelph

Taylor Hooker, Clemson University

Corresponding author

Shelby Defeo

Beutel Lab

University of California Merced

5200 North Lake Rd.

Merced, CA 95343

sdefeo@ucmerced.edu

Abstract

The COVID-19 pandemic has negatively impacted the mental health of millions of Americans, with communities of color, low-income communities, and women experiencing the greatest hardships of the pandemic. Additional stress has been added due to concern for personal and familial health, unequal access to healthcare, increased financial hardship, and unprecedented uncertainty for daily life. Natural spaces have been proven to deliver positive mental health benefits, including reducing feelings of depression and anxiety. Because access to these benefits is inequitable, the authors recommend replicating existing successful programs and movements for guidance in eliminating barriers. Programs such as Yosemite National Park's bus system reduce structural barriers, and initiatives such as Check Out Washington, both discussed below, reduce financial barriers. In addition, reforming law enforcement operations within natural spaces will increase the perceived safety and comfort of people of color in these areas. The proposed recommendations serve as calls to action to improve access natural spaces so that all people may benefit from them.

Introduction

During the COVID-19 pandemic, the need to social distance forced many facets of our world inside, in droves, for the first time since the Spanish Flu pandemic of 1918–1920. During the opening weeks and months of COVID-19, when little was known about the virology and spread of SARS-CoV-2, managers of natural spaces were conflicted in responding to a significant uptick in visitation and use of public and private parks. At a time when parks, which support social distancing by design, were needed most, many were forced to restrict access during a year of social upheaval, exacerbated public health crises, and economic stressors. The role that parks can play in promoting and sustaining mental health and wellness for our communities is profound, but disproportionate. This article aims to outline several impacts of the inconsistent availability of parks during the COVID-19 pandemic and their relevancy in supporting access and equity to public spaces for mental health.

Mental health challenges of COVID-19

The global pandemic has intensified mental health issues such as chronic depression and anxiety in countries around the world. People of all ages, from children to adults, are experiencing mental stress and physical health problems. In the United States, young adults in particular are experiencing behavioral repercussions as a result of vulnerable socioeconomic and demographic conditions. According to one study, stress and depressive symptoms increase in people who are already dealing with these problems (Holman et al. 2020). People's lives are becoming more complicated as a result of their psychological distress.

As an example, a research study was conducted on undergraduate students in New Jersey to see how much difficulty they were having throughout the time of the Covid-19 pandemic (Kecojevic et al. 2020). According

to results of the study, focusing on academic work has become more challenging and students who lost their part-time work experienced significant emotional stress. Reportedly females are experiencing more stress due to difficulties in obtaining medicinal and household supplies (Keckojevic et al. 2020). Due to the rapid proliferation of the COVID-19 virus among workers and young adults, higher education institutions across the country have quickly transitioned from in-person to e-learning. Many students had difficulty adapting to the online learning platform, leading to increased anxiety.

More broadly, in the United States, an analysis of Census Bureau data found that 42.4% of adults as a whole reported symptoms of anxiety or depressive disorder during the Covid-19 pandemic. When broken down by race/ethnicity, the three groups reporting higher-than-average symptoms were Hispanics, Blacks, and other Non-Hispanics (that is, people of other races and multiple races), while the two groups with lower than average symptoms were whites and Asians (Figure 1). Due to a lack of financial resources and insufficient facilities, Black and Hispanic individuals rarely receive essential primary mental healthcare treatment compared to the overall population (Panchal et al. 2021).

A ready-made solution—but with complications

One solution is already in place in most—but importantly, not all—communities: public green spaces. People from all demographics participate in outdoor activities, which can include the use of neighborhood parkettes, playgrounds, schoolyards, sports fields, and natural areas. The physical and mental health benefits provided by public green (and blue) spaces are actively studied by researchers (e.g., Wood et al. 2017, Liu et al. 2021; Reuben and Himschoot 2021) and have been exploited extensively by the general public in response to the COVID-19

FIGURE 1. Share of adults reporting symptoms of anxiety and/or depressive disorder during the Covid-19 pandemic, by race/ethnicity. Source: KFF analysis of the US Census Bureau Household Pulse Survey, 2020 (published in Panchal 2021). Notes: * indicates a statistically significant difference relative to Non-Hispanic white adults at the $p < 0.05$ level. These adults (ages 18+) report symptoms of anxiety and/or depressive disorder generally occurring more than half the days or nearly every day. “Other Non-Hispanic” includes people of other races and multiple races. Data shown are for December 9–21, 2020.



pandemic. With limited social contact and disruption of habitual daily activities, people have flocked to parks in an attempt to safely venture from their homes. In North America, it has become commonplace for parking lots at green spaces to be overflowing with vehicles with lines of masked individuals marching the trails.

Ironically, all this collided with government-issued stay-at-home orders early in the pandemic. The subsequent social isolation resulting from COVID-19 have brought mental health and access to public green spaces to the forefront of social discussion. As governments shut down campsites and playgrounds, residents sought out new opportunities for outdoor activity, as if there is a compulsion to get outside. During the early months of the COVID-19 pandemic, governments placed restrictions on people’s movement throughout the country, including their ability to access green spaces. Other barriers have emerged as the result of the need for social distancing, including bans on public transport and visits to local parks. Governments has also instituted visiting hour restrictions in some parks. According to a survey, the Hyak Sno Park in western Washington tends to close earlier than usual during the Covid-19 lockdown (Figure 2). Transportation options, like shuttle buses, reduced availability due to concerns with the pandemic (Scruggs 2021). Any public gathering was potentially unsafe for citizens, so the parks that did remain open were required to take extra precautions to ensure that people can enjoy spaces safely.

Another complication, which applies even in the absence of a widespread public health crisis, are structural inequities in access to green spaces. The COVID-19 pandemic has brought to light the interconnected health problems of the Black and Latino communities (Hughes 2020). An absence of sufficient open spaces means people living in densely populated cities experience greater hardship due to lack of physical activity. Since African Americans are less likely to have access to health insurance, their physical condition is influenced due to social inequality. Due to disproportionate health factors, these groups have disproportionately high rates of COVID-19 deaths. COVID-19 outbreaks affect Black Americans at a rate of 2.1 times higher than whites. Latinos are 1.1 times more at risk of death (Hughes 2020). According to federal officials, higher death rates occur due to a shortage of access to treatment, poor infrastructure within, neighborhoods and widespread economic inequality. According to city planners, the lack of park access creates long term economic disparities around the nation (Hughes 2020). Researchers agree that there is a connection to the rise in the infection rates of Coronavirus in the Black and Latino communities due to the lack of access to outdoor spaces.



FIGURE 2. The road along the Gold Creek Sno-Park and Gold Creek Pond access area is completely packed with cars for miles on January 30, 2021.
BETTINA HANSEN | THE SEATTLE TIMES

A third issue is that safety remains another key barrier to accessing natural spaces, particularly for people of color, who may feel threatened by overly rigid and culturally insensitive law enforcement within parks (Hicks 2020). Some park rangers are members of law enforcement in United States national and state parks, but alternative solutions exist, such as dedicated environmental educators, social workers, and guest service liaisons. If law enforcement is not abolished within natural spaces, then the training of these officers must improve to include extensive de-escalation training, education on the racist origins of policing and many protected lands, cultural competency training, and increased engagement with diverse communities.

In light of these interdependent problems, the requirement to plan for public parks within newly developed communities needs to be extended to existing communities that lack them. In planning new or expanded green spaces, accessibility, proximity, size, and community support are all important attributes impacting their positive mental health effects. A greater number of parks or greater area of green space within a neighborhood means more optimistic, confident, happy, and energetic

residents (Wood et al. 2017, Liu et al. 2021; Reuben and Himschoot 2021). The type of park, whether it be a natural area, recreational area, or sports field, does not change the positive health impacts (Wood et al. 2017). Blue spaces (e.g. wetlands, rivers, etc.) have similar effects, with residents exhibiting fewer depressive symptoms, feeling greater satisfaction with their lives, and experiencing lower anxiety (Liu et al. 2021).

The positive mental health benefits of public green spaces can impact different groups of people to varying degrees. Individuals such as women, low-income people, and those with less education have been shown to experience greater positive mental health effects from nearby green and blue spaces (Liu et al. 2021). As noted earlier, underprivileged groups may live in communities with limited access to green spaces and face additional barriers that limit their use of public parks. Ensuring equal access and a feeling of safety for all demographics will allow every individual the opportunity to improve their mental health.

Examples of solutions

Despite the many barriers to accessing the mental health

benefits of natural spaces, documented solutions exist that improve accessibility and may be more broadly applicable. Parking and transportation issues limit the use of natural spaces by individuals, but some parks have been able to create alternative options to personal automobiles. In Yosemite National Park, the Yosemite Area Regional Transport System (YARTS) serves to provide transportation to and from the park by bus, with stops conveniently located in cities such as Merced, Fresno, and Mariposa, as well as smaller towns closer to Yosemite (YARTS 2021). The system has remained operational during the COVID 19 pandemic through enforcement of mask mandates, physical distancing, and regular sanitization of surfaces (YARTS 2021). Public transportation systems using buses may be more widely applicable to other parks and protected areas in remote locations or with limited parking availability.

Cost and the exclusive history of natural spaces also serves to limit their use by some people, particularly those from low-income and other marginalized groups. The state of Washington is addressing this issue through its Check Out Washington program, which allows anyone with a library card to check out state parks passes at their local public library (State of Washington 2021). The passes are able to be checked out for a week at a time and allow the user access to any of Washington's state parks that require a Discover Pass to enter (State of Washington 2021). This system removes the barrier of cost associated with purchasing the \$30 pass and allows access to people who may not otherwise have felt welcome in the outdoors. Due to the ubiquitous nature of libraries, this system may serve as an option for reducing barriers in a variety of places. These two solutions demonstrate only a couple of the possible ways to improve access to natural spaces and their mental health benefits, and the work to diversify who is present and welcomed in the outdoors should continue at all levels of natural space management.

Call to action

We recommend that direct action be taken to improve the general access to natural spaces given their potential to have a positive effect on the mental health of citizens during the COVID-19 pandemic. Cost-reducing projects, such as shared access passes for natural spaces, are important in creating equitable usage and are even more vital in overcoming economic barriers of access as more people face financial insecurity during the pandemic. Ride sharing or public transport is also encouraged to be implemented where possible, given that examples have shown their ability to operate safely with proper health protocols. Finally, as stated earlier, if law enforcement is not simply abolished outright within natural spaces, it will

have to be extensively reformed to account for its racist origins, including retraining of officers in de-escalation, cultural competency, and increased engagement with diverse communities.

Conclusion

The COVID-19 pandemic has placed additional stress on the lives of people throughout the globe through increased financial hardship, inequitable distribution of resources, and personal health concerns. Natural spaces have been shown to have a positive impact on mental health and can alleviate some of the increased depression and anxiety people have been experiencing. Access to these spaces has been disproportionately available to White and wealthy communities though, and therefore action must be taken to equalize the opportunities. It is recommended that costs to access these spaces be reduced through pass sharing initiatives, increasing public transportation to natural spaces and reducing the need for a car, and removing safety barriers for communities of color by removing police presence from these beneficial areas. With these recommendations, more communities may be able to access natural spaces and enjoy their proven benefit to mental health during the stressful times of the Coronavirus pandemic.

References

- Hicks, A.S., S. Mirza, W.L. Rice, J.C. Richards, and M.R. Alarab. 2020. When green is blue: Perspectives on inclusivity and recommendations towards reforming and demilitarizing law enforcement in US national parks. *Parks Stewardship Forum* 36(3): 502–509. <https://doi.org/10.5070/P536349863>
- Holman, E.A., R.R. Thompson, D.R. Garfin, and R.C. Silver. 2020. The unfolding COVID-19 pandemic: A probability-based, nationally representative study of mental health in the United States. *Science Advances* 6(42): eabd5390. <https://doi.org/10.1126/sciadv.abd5390>
- Hughes, T. Segregated parks linked to higher COVID-19 deaths for Black and Latino Americans. *USA Today*, 24 August. <https://www.usatoday.com/story/news/nation/2020/08/22/covid-outbreak-park-access-barrier-black-latino-communities/3291907001/>
- Kecojevic, A., C.H. Basch, M. Sullivan, and N.K. Davi. 2020. The impact of the COVID-19 epidemic on mental health of undergraduate students in New Jersey, cross-sectional study. *PLoS ONE* 15(9): e0239696. <https://doi.org/10.1371/journal.pone.0239696>
- Liu, H., H. Ren, R. Remme, H. Nong, and C. Sui. 2021. The effect of urban nature exposure on mental health—A case

study of Guangzhou. *Journal of Cleaner Production* 304: 127100.

Panchal, N., R. Kamal, C. Cox, and R. Garfield. 2021. *The Implications of COVID-19 for Mental Health and Substance Use*. San Francisco: Kaiser Family Foundation. <https://www.kff.org/coronavirus-covid-19/issue-brief/the-implications-of-covid-19-for-mental-health-and-substance-use/>

Reuben, A., and E. Himschoot. 2021. Nature as a mental health intervention: State of the science and programmatic possibilities for the conservation community. *Parks Stewardship Forum* 37(2): 401–417. <https://doi.org/10.5070/P537253244>

Scruggs, G. 2021. Overcrowding, no parking, long waits: Western Washington's snow accessibility issues were exposed in this COVID-19 winter. *The Seattle Times*, 19 February. <https://www.seattletimes.com/life/outdoors/overcrowding-no-parking-long-waits-western%20washingtons-snow-accessibility-issues-were-exposed-in-this-covid-19-winter/>

State of Washington [State Parks and Recreation Commission, Department of Natural Resources, and Department of Fish and Wildlife], 2021. Check Out Washington. <https://www.discoverpass.wa.gov/148/Check-Out-Washington>

Wood, L., P. Hooper, S. Foster, and F. Bull. 2017. Public green spaces and positive mental health—investigating the relationship between access, quantity and types of parks and mental wellbeing. *Health & Place* 48: 63–71. <https://doi.org/10.1016/j.healthplace.2017.09.002>

YARTS [Yosemite Area Regional Transportation System]. 2021. How to Ride. <https://yarts.com/how-to-ride/>