

Nature and Recreation in a Pandemic: The Impact of COVID-19 on Outdoor Recreation

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ABSTRACT

Community lockdowns to hinder the spread of SARS-CoV-2 significantly altered the daily lives of people around the globe. Shifting from commuting to work to a work-from-home lifestyle compressed daily life into single spaces, such as bedrooms, home offices, and living rooms. The purpose of this study is to understand how COVID-19 lockdown catalyzed reconfiguration of leisure time, specifically outdoor recreation usage and connection to nature. This research conducted in-depth semi-structured interviews with four outdoor recreationists to develop an understanding of changes in outdoor recreation participation using Grounded Theory. Results suggest that individuals experienced a collapsing of their once separated lives into a life that lacked distinctive separate of work and leisure time. This collapsing was catalyzed by their perceptions of COVID-19 and the impact of safety precautions in response to the pandemic. Despite a shift in their separated lives, participants used multiple techniques to adapt to this change, including purposeful recreation, recreation justification, finding nature close to home, and alternative recreation.

Keywords: COVID-19, outdoor recreation, connectedness to nature, recreation coping

Starting in late 2019 and continuing throughout 2020, the globe began addressing a rapidly spreading coronavirus (COVID-19) pandemic. As of writing this proposal, global COVID-19 cases have created 30 million, resulting in an estimated 950,000 deaths worldwide (WHO, 2020). Although the response to COVID-19 has varied at the national level, the response has also varied significantly at the state and local levels in the United States. Some states began mandatory quarantine and shelter-in-place protocols earlier than others, and individual cities have also varied in their response to the pandemic. However, by the end of April 2020, 90% of states in the U.S. had ordered some level of shelter-in-place procedures for residents. The resulting lockdown forced individuals to significantly alter the structuring of their time, and affected how they portioned their work and leisure activities. This study revolves around

understanding changes catalyzed by COVID-19 on the reconfiguring of leisure time, specifically outdoor recreation usage, and connection to nature.

Theoretical Overview

Recreation provides numerous benefits for individuals including psychological, physical, and social benefits (Driver, Brown, & Peterson, 1991). Outdoor recreation, specifically, aid in the development of an individual's views and values about nature (Daigle, Hrubes, & Ajzen, 2002). The type of outdoor activity an individual engages in highlights different aspects in nature (Daigle, Hrubes, & Ajzen, 2002). For example, solo rock climbing may highlight the solitude in nature whereas hiking through the forest may highlight the connectedness of humans and nature. Similarly, benefits from participating in recreation are influenced by type of activity, the context, and environment in which the activity occurs (Whitehead, Haab, & Huang, 2000). One context that affects the benefits derived from recreation is stress. Miller and McCool (2003) suggest that an increased level of stress can be accompanied by increased recreation displacement. In other words, when the location of where a recreation activity typically takes place begins to incorporate high stress, recreationists are more likely to see additional places for engaging in recreational activities. Relating to the current COVID-19 context, many people have experienced the homogenization of their daily activities into singular geographic locations due to mandatory lockdowns. Additionally, this homogenization of daily life has resulted in the stresses associated with work and life, in general, being reduced to a singular location as well. Collectively, the homogenization of daily life into a singularity reflects a location of growing stress. Indeed, recent research on COVID-19 and stress suggest a significant increase in stress related to the rapidly expanding pandemic (Salari et al., 2020). This increase in stress in one geographic location could create a growing pressure for recreation displacement, pushing recreationists into engaging in more outdoor recreation activities outside of the home.

Results of the impact of COVID-19 on outdoor recreation are still being defined. For instance, Venter et al. (2020) reported an outdoor recreation activity increase 291% in March of 2020 relative to the 3-year average in Norway. Conversely, results from a study in the U.S. by Rice et al. (2020) suggest the

opposite—outdoor recreation has declined significantly. Similar discrepancies in findings can be found in multiple areas of recreational research. Such discrepancies may be attributed to the infancy of the COVID-19 literature emerging on recreational participation.

Purpose

The purpose of this study is to expand the existing body of literature on the impacts of COVID-19, specifically in terms of recreation and nature values. To this end, this study seeks to, first, explain the relationship between COVID-19 and recreation usage and, second, to explore the relationship between nature values and COVID-19. This study was initially guided by three research questions:

RQ1: How have COVID-19 lockdown procedures impacted outdoor recreation usage?

RQ2: How has the meaning of outdoor recreation changed since COVID-19 lockdown?

RQ3: How have views of nature during outdoor recreation experiences changes since COVID-19 lockdown?

As part of an emergent design, after initial surveys, a fourth research questions was added.

RQ4: How has COVID-19 impacted engagement with nature?

Methods

Qualitative research designs allow for the rich understanding of social phenomena (Hesse-Biber, 2017). This study employed an interpretive strand of qualitative research, grounded theory, to explore the effects of COVID-19 on recreational experiences and connections to nature and natural areas. Grounded theory has been noted as a viable approach to research in areas where there is little known about the topic of study. Here, due to the novel nature of COVID-19, as well as the continuing effects of the virus on our daily lives, the context of this exploration is well-suited for a grounded theory approach. Specifically, a constructivist grounded theory (Charmaz, 2000) approach was used to provide a deep understanding of the meanings and experiences associated with recreation during the COVID-19 pandemic.

Constructivist Grounded Theory

The grounded theory method is a theory generation tool that inductively develops mid-range theories from data instead of imposing pre-existing theory to understand data (Charmaz, 2000; Glaser &

Strauss, 1967). Constructivist grounded theory (CGT) emphasizes the role of the viewer in creation of meaning and interpretation of the data (Charmaz, 2000). Further, CGT necessitates that the voices and experiences of participants be heard and taken as their perception of reality (Bryant & Charmaz, 2007). Instead of challenging this notion of reality, this approach seeks to further understand these unique perspective (Charmaz, 2000). “Data do not provide a window into reality. Rather, the ‘discovered’ reality arises from the interactive process and its temporal, cultural, and structural contexts” (Charmaz, 2000, p.524). For research, this places the research as simply a recorder, organizer, and narrator of the multitude of voices, perspectives, and meanings associated with a phenomenon. Additionally, CGT positions the researcher and participants as co-constructors of meaning. As such, the resulting understanding of the impacts of COVID-19 on recreation and nature outlined here is through my arrangement of the participants voices regarding their experiences and associated meanings. Therefore, to best contextualize the results, a greater understanding of my own positionality as a researcher and individual is necessary.

Positionality

The methodology informing the methods taken in research is underpinned by a paradigm which implies ontological and epistemological assumptions about the nature of reality and knowing. Accompanying the CGT approach is the constructivist paradigm. In terms of ontology and epistemology, the constructivist paradigm takes a relativist ontological position and subjectivist epistemological position (Mills, Bonner, & Francis, 2006). The constructivist paradigm and the follow CGT was chosen because it aligns with my view of reality and knowledge. I am a relativist in that there is no one “true” reality, instead there are multiple views of reality that are strongly influenced by context. Further, I am a subjectivist that recognizes the interactive nature of our realities. As researchers, we are not just objective viewers, instead we are humans that interact with other individuals’ realities and co-construct meanings and understandings from these interaction. These positional also align with my views of nature and recreation. Nature is socially constructed (Cronon, 1996). That is, our interpretations, preferences, and ultimately our experiences of what we individually define as nature vary. Similarly, leisure and recreation also are states of mind. Our individual preferences and perceptions of what constitutes leisure and

recreation vary based on experience, culture, and social contexts. Beyond my positionality and assumptions as a researcher, there are undoubtedly other personal characteristics and values that shape my understanding and approach to this research.

First, I am a former recreation and natural resource manager, as well as an environmental educator. During these experiences I advocated for increased accessibility to natural spaces and environment- and nature-oriented programming. As such, I was able to witness the individualized experiences nature and recreation can create for people. Second, I have a close connection to nature and reject dualism between humans and nature. That is, I see humans as part of nature and we should function within those boundaries. Third, I am currently in an advanced degree in recreation and parks focusing on natural resource management. This understanding of the relationship between natural resources, recreation, and wellbeing largely influences my personal views. Fourth, as many have experienced during the global pandemic, my “normal” life has been interrupted significantly. My work, recreation, and homelife have all been reduced to one geographic location and I have struggled with this homogenization. Ultimately, these values and characteristics lead me to see the COVID-19 pandemic as a potential catalyst for changes in our values of nature, our recreation experiences, and our type of engagement with nature.

Participants

Purposive sampling was used to identify four potential participants that represents a variety of outdoor recreationist types. Previous research suggests that values about nature vary among different recreationist groups and activities (Daigle et al., 2002), therefore a variety of outdoor recreationists was purposefully sought to best explore the research questions. Specifically, the four participants represented the follow recreation groups: one participant classified herself as a serious recreationists, those that purposefully make time for recreation within their day; two classified themselves as casual recreationists, those that engage in recreation on occasion or when time allows; and one classified herself nature-based recreationist, those that engage in recreation specifically for nature and the connection to nature they derive from the activity. Demographically, 2 participants self-identified as female and 2 participants as

male, 3 self-identified as white and 1 self-identified as Hispanic 3 participants have worked full-time during the pandemic while 1 is still a student in higher education.

Participants were recruited through known networks of outdoor recreation groups. This ensures that the individuals recruited have some level of recreation experience and have history of engaging in outdoor and nature-related activities. Further, since the primary investigator (PI) is an active member of these outdoor recreation groups, the sample represents a convenient sample as the participants were known and had some form of relationship with the PI prior to the research being conducted. This provided a prior established level of trust between the PI and the participants and allowed for the interview to be more conversational. There were two inclusion criteria for the sample: (1) the participant must have engaged in some type of outdoor activity since the COVID-19 pandemic began, (2) the participant complied with local or state government issued shelter-in-place orders.

Data Collection & Procedures

Data was collected primarily through semi-structured interviews and memo-writing. The interviews were conducted via online conference call software (Zoom) to ensure the safety of both the participants and the interviewer. The interview followed a semi-structured interview protocol (Appendix A) that allowed participants to freely guide the discussion around topics they saw as aligning with the goal of the project. Majority of the guided questions revolved around or connected to three topics: (1) experiences during COVID-19; (2) outdoor recreation motivations and history; (3) views of nature. Interviews were recorded through the online conference call software and transcribed using Otter.io—an online transcription software. Transcripts were exported from Otter.io and compared to audio recordings of interviews to ensure accuracy and correctness of the transcript, corrections were made where necessary. As part of the emergent design of grounded theory, additional interviews were conducted to clarify meanings and understanding after initial coding was completed ensuring accuracy of meanings represented in initial codes. Memos were taken throughout the research process by the PI and were used to audit the research process as well as aid in the development of theoretical relationships. Further, these

memos provided a growing narrative from the PI's perspective and maintained the participants voice throughout the research process.

Analysis

After the transcripts were assessed for correctness, transcripts were coded using Atlas.ti qualitative analysis software. Following the grounded theory approach (Charmaz, 2000), data collection and analysis happened concurrently in an iterative process. Initial coding of the transcripts was conducted using line-by-line coding and frequently used *in vivo* codes and action verb codes to ensure codes stayed close to original data. Categories began to emerge during initial coding of the second transcript. These categories were constantly compared back to raw transcript data to ensure the original voice and meanings were incorporated throughout the analysis and to later enrich the relationship between categories across contexts. After initial coding of all interviews and 9 rough categories formed (table 1), member checking was conducted with the participants to ensure meanings associated with emergent categories and initial codes aligned with the participant's views of nature, recreation, and COVID-19. After confirmation of emergent categories from the participants, focused coding aided by memoing and diagramming (Appendix B) began to develop categories properties and relationships among emergent categories. Key gaps in the sampling were identified. Most notably, a need was identified for theoretical sampling of the political right, more students in higher education, and more nature-based recreationist. Further, additional data collection of participant observations of outdoor recreation engagement and focus groups revolving around working from home and nature perceptions would be beneficial to fully develop emergent categories and relationships.

Table 1. Emergent Categories

Category Name	Summary of Category
Work exaggeration	Participants reported that work time was exaggerated. That is, either work would take longer to complete due to various reason or that they would focus extra time on work to feel productive at working from home.
Outdoor desire	Most participants reported an increase in desire to be outside during the COVID-19 lockdown. They noted wanting to get out of their workspace and be outside.

Safety	Participants mentioned safety of outdoor recreation spaces and the measures taken by others, the government (local, state, or national), and precautionary measures depicted in the media in their determination of where and when to participate in outdoor recreation.
Free Time	Participants suggested that free time has changed for them during the pandemic. Some reported a lack of free time, while others reported a perception of growing free time.
Escapism	Participants reported engaging with nature as a means to escape from the current situation, and to reflect on themselves in the current situation.
Nature at home	All participants discussed bringing nature closer to home as a way to develop that connection with nature in times of isolation.
Purposeful recreation	Most participants noted a shift in scheduling for recreation. Specifically, they reported that recreation become a part of their schedule or routine, instead of a byproduct of their daily activities.
Justification	Most participants reported justification for going outdoors (e.g. to walk the dog, to get away from work, to exercise) and they reported needing this justification during lockdown.
Adaption	Most participants discussed the idea of adapting to the circumstances they were facing. This occurred primarily through changing recreation behaviors, recognizing everyone was struggling, and focus on the positives.

Theoretical coding led to the emergence of theoretical concepts that subsumed some emergent categories. Theoretical coding led to the development of a network of relationships between categories and concepts that together create a mid-level theory that explains the impacts of COVID-19 on outdoor recreation experiences, engagement with nature, and nature values. However, as outlined by Charmaz (2000) and Bryant and Charmaz (2007) the theoretical process does not end with this study. The resulting theory defined here is contextually based and therefore open to further development through re-examining current contexts or exploring these meanings, relationships, and concepts in different contexts to further refine theory.

A note on Emergent Categories

With respects to emergent categories, this study examined change in social constructs and activity; this change was catalyzed by COVID-19. Therefore in the developed theory and theoretical concepts, COVID-19 represents a theoretical concept with emergent properties that enabled that change. Further, each of the emergent categories, to some extent, have a pre- and post-COVID-19 aspect due to the nature of the study and questioning guide. This complexity is indicated throughout the memos and the diagrams associated with theoretical and focused coding (Appendix B). However, the complexity is difficult to capture in the analysis and emergent category discussion above.

Results

The purpose of this study was to examine the impact of COVID-19 shelter-in-place orders on outdoor recreation, experiences with the outdoors, and values in nature. Below, I explain the five theoretical constructs that frame the impact of COVID-19 on outdoor recreation and other prominent aspects of participant's lives (Figure 1). Further, the dimensions and properties of these theoretical constructs are described. Dimensions of some theoretical constructs occurred both before and after COVID-19 lockdown. However, the interaction of these dimensions with other dimensions of the construct changed through time. The interaction between different aspects of people's lives in before and during COVID-19 lockdown is complex and further exploration of these constructs is needed.

Separated Lives

To accurately frame the impacts of COVID-19, there must first be an understanding of the lives and recreation experiences of individuals prior to COVID-19. *Separated Lives* is the theoretical construct that encompasses the experiences of individuals prior to COVID-19. This construct is highlighted by a clear separation in various aspects of the participants' lives. The most prominent dimensions of separated lives here were individuals' work life, their outdoor life, and their social life.

Prior to COVID-19, participants' work lives occurred in a specific place with specific people working on specific tasks during outlined times. One participant, Tony, a newly employed casual recreationist noted:

“Before COVID hit, my work life was really structured – like I would have specific times, usually 9 to 5, that I would work and my employees knew I wouldn’t be available outside of those hours. Work stays at work and home stays at home. If you don’t have that separation you’ll never stop working.”

Similarly, for many participants their outdoor time was also fairly structured. Laura, a nature-based recreationist, discussed her view of recreation and outdoors prior to COVID-19 as, “being about grandeur, and going somewhere big, like the mountains, for a weekend or time off.” The purpose of outdoor recreation for the participants was largely about from their everyday lives. Zander, a serious recreationist, described using outdoor recreation as, “therapy, basically to get away—reflect on my own self, but also just more to have a refreshing time, away from society and people.” All participants noted a primary goal and benefit of outdoor recreation prior to COVID-19 was being healthy. In terms of nature, outdoor recreation was not necessarily seen as a connection-building opportunity for nature. Instead, participants mainly received nature through their everyday lives, simply as a byproduct of their routines. Elise notes this when she says, “outdoor times, outside of hiking, was just a product of what I was doing in my life back then.” Social lives of the participants were highlighted by diverse groups of people and a variety of spaces.

Collectively, these dimensions pre-COVID were completely separated. More importantly, there was a balance between these dimensions. That balance can be clearly noted in Tony’s except above when he says “if you don’t have that separation you’ll never stop working.” Creating separation in the aspects of their lives and balancing those separations throughout the day was a main aspect of the *Separation Lives* construct prior to COVID 19.

COVID-19

The opinions of COVID-19 varied along the lines of political party. There was a stark contrast in the perceptions and characteristics of COVID-19 along these lines. For instance, one participant noted

“I’m not saying it doesn’t exist but I don’t know anyone with it, it’s supposed to be getting passed around like crazy, but if that’s true when why don’t I know anyone with

it? So no, I'm not too concerned now, but when it first was coming out, I was more cautious.”

Whereas other participants noted the lockdown being a positive thing and a necessary precaution to take to ensure the safety of the public. Despite this difference in opinion of COVID-19, there were consistent dimensions found in the perceptions of COVID-19: concern for personal goals, concern for close relationships, lack of knowledge, and awareness of others.

When COVID-19 shelter-in-place orders first began, all participants noted a concern for their personal goals. The resulting “shake up,” as Tony describes it, from lockdown measures made personal goals seem unachievable. Elise provides a strong example of this concern:

“For my daily life, going to class on campus was a concern because no one was sure how that was going to work. And I was about to graduate so I thought it could interfere with graduation. Not like the ceremonies, but if classes stopped I wouldn't have been able to graduate. And I was volunteering at the time too, and I need those hours for professional school, so again, if I didn't get those hours, my professional school could be delayed.”

The concern about personal goals led most participants to work harder and longer on their goals while limiting their time for participation in other parts of their life. Closely related to concern about personal goals was concern about friends and family or close relationships. One participant noted, “it was close to Easter and graduation and one of my main concerns was how my family from Dallas and I would interact for those holidays.” When later asked about the concern for her family she responded, “I worried about my parents the most. Making sure they were being smart and knowing what the rules meant and following those rules.” Then when discussing how she coped with this worry Elise noted, “just checking in with them frequently and making sure they were staying mentally okay and following the rules for physical safety.”

Due to the novelty of COVID-19, as well as the novelty of the precautions that should be taken to stop the spread of the virus, there was some uncertainty about a path forward when lockdown first began. This lack of knowledge led to some confusion in how to handle life during the pandemic. Zander

repeatedly noted that he “doesn’t know much about viruses” and that this lack of knowledge led him to be skeptical of interacting with others at first. Further, he said “there’s no way they can shut down a whole city” and that when shelter-in-place orders first occurred he didn’t understand how that was possible.

Laura discussing her thoughts right after lockdown highlights this lack of knowledge:

“Right after lockdown happened I did not think about going outside. Cause I personally didn’t know—we didn’t know anything. I was thinking towards like, the extreme, I didn’t know what we would be able to do.”

Compounding the impacts of lack of knowledge was a greater awareness of others. They would notice things like the number of people outside, if they were wearing masks, and how close they were. During the onset of COVID-19 shelter-in-place orders, awareness of others interacted with lack of knowledge to create a perception of safety that ultimately deterred most participants from engaging in outdoor recreation. When discussing going outside right after lockdown, Elise states:

“I think that its hard now to get outside because there’s so much mixed interpretations of the ‘rules’ and so being outside can almost be like scary because I don’t trust the people around me to do what I expect them to do. But I will say they when I go outside to walk around or something, I definitely do see other people. Probably more than I did before, wearing masks and distancing most of the time.”

This increase in awareness was largely focused on rule compliance and therefore intimately tied to perceptions of safety.

Collapsed Lives

These dimensions of COVID-19 ultimately led to the collapsing of participants lives into a relatively small geographic location. The dimensions of participants lives during lockdown were similar to those pre-lockdown in their separated lives, however, there were struggles and interactions that ultimately hindered participants participation in outdoor recreation.

Most prominent was work exaggeration. Work exaggeration manifests itself in two different ways. First, and most common form here, is an increase in the effort to undertake traditional work tasks while simultaneously navigating the new virtual work environment. Tony states work exaggeration when discussing work schedule and flow as:

“you’re not communicating with people the you used to be able to walk over to their desk and talk to about projects and what not. And now you had to schedule a zoom call, jump on the call or chat them. So the biggest hurdle was communication and the extra time it took to do basic tasks that used to be simple.”

Work exaggeration also manifests through a lack of motivation and therefore taking longer to complete tasks. Elise struggled with this type of work exaggeration and this exchange clearly shows the impact of motivation on work exaggeration:

Elise: “I have found it a lot harder to focus and get things done. Big motivation drop.

Interviewer: “And how has that impacted your ability to get outside?”

Elise: “Its prolonged the amount of time I’m studying. Previously an hour of study time I could get through the amount of material I needed to but not with a lack of focus I need double the amount of study time. Which really adds up.”

With work taking longer and being in the same space, there was an increase in desire to be outside. Elise when asked about how she would characterize her outdoor activity said:

“I have always wanted to be outside more frequently than I can be... usually that’s not feasible. I took outdoors for granted in that sense that I understand that getting fresh air is important, and when I was able to walk around on campus, getting fresh air wasn’t something that I had to schedule in. But now, with COVID, I do, otherwise I would just sit inside all day.”

She further clarifies this when discussing how she saw her outside time change:

“I usually got a daily dose of fresh air walking around campus, but since that wasn’t happening and since I was staying in my room most of the time, that time outside

decreased and with that the desire to be outside went up. I really realized I took being outside for granted.”

For others, the desire to go outside simply manifested itself through noticing that the time they were outside as a byproduct of their daily lives would be missing. Laura when asked about changes in her daily life said, “ I couldn’t go to indoor places anymore, and I was unsure of the outdoor places, so I was just kind of stuck. Not being able to be inside anywhere beyond my room or outside because of COVID.” Further, when acknowledging the outdoors, many participants would seek that escapism that outdoor recreation brought them. Tony, when asked about his experiences with recreation during COVID said, “it’s a way for me to like, de stress and kind of just forget about what’s going on in the world.”

Participants’ personal lives diminished significantly in the wake of COVID-19 lockdown. There was noticeable changes reported by all participants in a lack of personal time activities. Collectively they noted a lack of time spent with friends, less invitations to do things with others, and less time going to new places. When explaining her typical Friday night prior to COVID, Laura discusses this change in personal life:

“Pre-COVID if we had a Friday night and we didn’t know what to do, we would get with our friends and have a game night or go to the movies, or basically do something inside.

But once COVID... I definitely miss the interaction with my friends and activities...”

This lack of personal life activity created more free time during the day. However, this extra time generally was not transferred into outdoor recreation time. Instead, it was used to accommodate the exaggerated workload.

The collapsing of life into a general singular geographic location changed the perceptions of the dimensions of participants lives and altered the interactions between those dimensions. Instead of having a clear separated life, participants noted a convergence of aspects of their life. Instead of work being a strict and regulated task, it now was exaggerated taking more time, either because of lack of focus or because of extra effort in navigating new work norms. Further, their personal life was significantly diminished. That is, the activities and interactions they would normally engage in outside of work no

longer happened resulting in an increase in free time. This free time was generally used to supplement the exaggerated work schedule. Participants also noted an increase in the desire to be outside and experience the “therapy” and “de stress” qualities they associated with outdoor recreation. However, since their extra time was being allotted to work this desire was generally not fulfilled at first.

Adaptation

Much of the change caused by COVID-19 shelter-in-place orders occurred in the time directly after the orders were put in place. Searching for this return to “normal,” all participants noted adaptation as a key aspect that restored some of the balance from their pre-COVID life. In terms of recreation, adaptation manifested itself in four different ways: purposeful recreation, justifying recreation, finding nature close to home, and alternative forms of recreation.

Where engaging in outdoor recreation prior to COVID was a byproduct of their daily lives in some cases, some participants coped with the desire to be outdoors by purposefully scheduling outdoor recreation time into their days. This was a drastic change to experiencing the outdoors simply through the context of their daily schedule but it was overall beneficial. Elise discusses this type of adaptation when discussing her daily routine:

Elise: “I just did it because I had to leave the room, where as now I have to do it to stay sane.”

Interviewer: “So you are actively making time for that outdoor time now?”

Elise: “Yeah. It is more of like a purposeful activity... it’s a nice stretch to get out of the house and get fresh air, even if it’s to do chores or something. It gives me a reason to get out of my PJs and do something with my day.”

Participants also noted a need to justify the recreation that they were engaging in. Specifically, the recreation that they would do during times where they would normally have structured work. Laura noted that she needed to justify getting outdoors when lockdown first started. She said, “I used walking Cleo as kind of justification for being outside because I knew I

needed to go outside, and that wasn't something I could just stop so I kind of rationalized going outside with that.”

A major point that most of the participants noted about their connection to nature during lockdown was that they brought nature to them instead of seeking nature in other places. This included, walking around their home, bringing plants indoors, putting pictures up of natural places, and exercising at home but outside. Elise most notably discussed this with her in-home gardening.

“I also have a lot of plants in my room, purposely, that I tend to kind of like keep me connected... it has kind of allowed me to see green stuff every day all day. Which has really been good for me since I can't get outside... They provide nature in my room. They are a source of grounding and connection since I can't be outside as much as I want.”

Other participants noted that they found nature closer to home because of COVID-19 lockdown. Laura said, “I just realized I can get the same benefit – or I can find the enjoyment in it here. Just exploring the area that I'm in rather than feeling like I have to be somewhere else.”

Lastly, participants found alternative forms of outdoor recreation. Where recreation prior to COVID-19 was usually a byproduct of their day or a trip that they engaged in specifically for seeking outdoor adventures. During COVID-19 lockdown they would find things to do outside that would fulfill that recreation need; for Tony, that was through running. For Elise, she filled that recreation need through gardening and through walks with her boyfriend. For Laura, she would workout outside with her boyfriends. For Zander, he would open the window and look at the mountains from his home. All of these represent recreation as a state of mind, and were alternatives to the classic recreation that they were usually engaging in prior to COVID-19.

Safety

Underpinning both the collapse of scheduled life and their adaptation was participants perception of safety. Safety was intimately connected to the opinions and perceptions of COVID-19. Safety encompassed three dimensions: trust in others, rules, and public figures' portrayal of COVID-19.

Trust in others was a primary dimension of safety and directly related to the awareness of others dimension of COVID-19. Laura notes her trust in others when discussing safety at parks:

“At first, I think I had a lot of trust in the general public because I thought this would be something that we would all gang up on together. But as it kind of turned into more of a political thing, I would say I have 50% trust that people are doing the right things and 50% trust that people are intentionally not doing the right things just to prove a point. So previous I think my trust was high because everyone was taking it seriously and doing what they need to do.”

Elise also mentioned trust in the people around her as a determining factor in her perceptions of safety when she said she doesn't “trust the people around me to do what I expect them to do.” At first, this trust in others deterred participants from going outside. However, as they recognized a lack of trust in others, participants moved towards alternative forms of recreation and recognizing nature closer to home to minimize the contact with others during recreation.

Rules played a large role in the understanding of COVID-19 and safety measures to protect themselves and others around the participant. The primary rules noted by the participants were wearing masks and social/physical distancing. Following the rules helped foster trust in others, however, when rules were not followed, this created the lack of trust in others previous discussed. Rules also guided their outdoor recreation participation through complying with rules during their outdoor recreation activity. Zander noted, “in a nature park or anything like that, I think, for me, socially, I'm going to be socially distanced anyway. So I'm not getting close to these people.” Rules played a role in perceptions of overall safety of outdoor recreation activities.

Most participants noted how public figures portrayed COVID-19 as a matter of safety as well, and it was closely tied to trust in others. Laura stated, “we also have a president who kind of downplays the issue quite frequently and with the polarization of parties already that supports those people who are not following the rules and guidelines.”

Collectively, trust in others, rules, and public figure portrayal of COVID-19 influenced the extent of collapse that occurred in participants lives. For instance, Zander that has a general distrust in the media and the overall credibility of COVID-19 has less collapse of his life, whereas Elise, who trusts the CDC and the severity portrayed by the CDC has a complete collapse of her life into a singular location. This difference in collapse ultimately led to a difference in time usage, work exaggeration, and adaption techniques utilized.

Conceptualizing COVID-19 and Outdoor Recreation

In grounded theory, story lines can be used to help the integration of theoretical concepts into a cohesive theory (Corbin & Strauss, 2008). “ A story line provides a descriptive narrative of grounded theory data and illustrates how concepts relate to each other” (Stough, Ducey, & Holt, 2017, p.427). The following is a story line of the theoretical concepts outlined above to fully integrated the theoretical concepts into the impacts of COVID-19 on outdoor recreation.

Before COVID-19 shelter-in-place orders by state or local officials, these participants had clear and distinct *separated lives*. Their *work life*, their *social life*, and their *outdoor recreation experiences* were all distinct in location, people, time, and purpose. The onset of COVID-19 lockdown protocols had significant impacts on this separation. The lockdown procedures moved these previously separated lives into a singular location, the home. Accompanying *COVID-19* was a shift in the perceptions of participants lives. Specifically, there was an increased *awareness of others* and their actions related to the virus, *concern for personal goals* and goal attainment, *concern for close relationships* and the quality and quantity of interaction, and a *lack of knowledge* about how to navigate the pandemic. These perceptions of *COVID-19* led to the development of the participants’ perceptions of *safety*. *Awareness of others* either fostered or undermined *trust in others*, depending on the level of compliance with *rules* and guidelines. *Rules* were judged related to an individual’s alignment with *public figures’ portrayal of COVID-19*. That is, aligning with public figures that discredited the severity of COVID-19 was viewed as associated with lack of rule compliance, and vice versa, in these participants. *Lack of knowledge* and *awareness of others* created skepticism of the safety of recreation spaces during the immediate onset of COVID-19 lockdown.

Further, *lack of knowledge* and *public figures' portrayal of COVID-19* created uncertainty in *rules* and guidelines regarding COVID-19 protocol. Collectively, the perceptions of **COVID-19** and *safety* led to the collapse of these participants lives in lockdown through uncertainty about COVID-19 and their personal safety. The **collapsed lives** of these participants shifted from *separated lives* by, first, removing the variability of physical places in their lives, and second, by shifting the allocation of time in the day. Participants' work lives changed through *work exaggeration* making work take more time of the day, while their *social lives* decreased creating extra time for that increased work time. However, the lack of outside time as a byproduct of their daily routine created a *desire to be outdoors* that was not fulfilled initially by the extra time created by a diminishing *social life*. After continuation of COVID-19 lockdown, participants began to *justify* their recreation and outside time leading ultimately to identifying ways to adapt to their "new normal." **Adaptation** looked different for each participant. That is, some participants moved to *purposeful recreation* where they specifically made time for recreation in their day despite growing work time. Others chose to *find nature close to home* through walking near their home, exercising outside, or bringing nature into the home. Some participants identified *alternative recreation* activities such as landscape viewing, gardening, and extended dog walking that redeveloped their view of recreation as an activity that can occur in situ. **Safety** underpinned **adaptation** through evaluating possible recreation opportunities through *trust in others* based on *rule* compliance.

Conclusion

This study has presented a grounded theory that explains the impacts of COVID-19 on outdoor recreation usage and meaning (Figure 1). The data collected here comes directly from participants

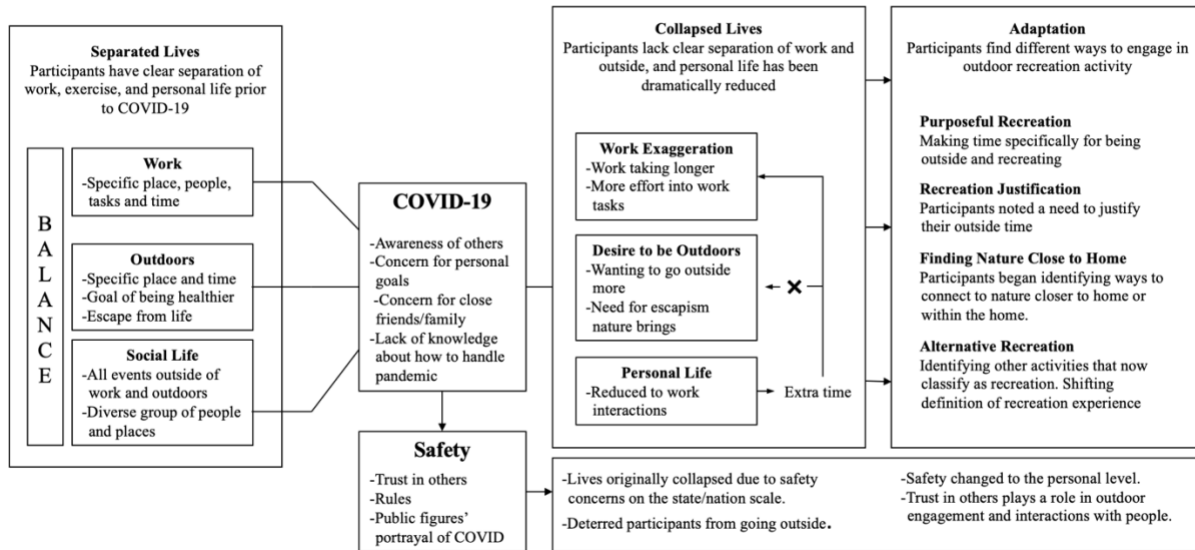


Figure 1. The impacts of COVID-19 on recreation experiences and prominent aspects of participants' daily lives.

impacted by COVID-19, that have recreation experience during the lockdown. Prior to COVID-19 shelter-in-place, participants had a clearly separated life. However, COVID-19 collapsed their lives into a single physical space that forced them to find other ways to recreate. These adaptations changed their initial views of recreation from activities in unique far-away places to purposeful experiences outside that are rooted in nature close to them. Beyond their perceptions of recreation, most participants found realizations about nature through the adaptation process. Specifically, participants' meanings in nature shifted in two ways. First, it moved from experiencing nature and viewing nature as a constant byproduct of their day to a meaningful experience that is all around them. Second, the lockdown highlighted the resilience in nature and the connectedness of people and nature.

These findings collectively indicate that COVID-19 did have an impact on the perception and usage of outdoor recreation and views of nature. Further, my findings that suggest an adaptation in recreation following the collapse of participants lives into a single space suggests that recreation is a significant and meaningful aspect of these people's lives. This furthers research that suggests recreation is essential to well-being, even in a challenging time such as COVID-19 (Chalip, Thomas, & Voyle, 1996). Findings that suggest a political divide in the perception of COVID-19 and the evaluation of rules and

guidelines is concerning. Laura stated that “I thought we would all gang up on this together,” and that is indeed what we need to successfully combat COVID-19. However, the divide highlighted here indicates that there is not a unified front in addressing the impacts of COVID-19. Despite these concerning findings, the overwhelming finding that participants are identifying and appreciating nature in their own backyards is a step forward and could have implications for conservation actions (Cronon, 1995).

Although COVID-19 had a significant impact on our lives, and is continuing to do so, it is important to remember, as Elise stated best, “we’re all in this together.”

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