Article

The Importance of Outdoor Spaces during the COVID-19 Lockdown in Aotearoa—New Zealand

Bruno Marques [1,*], Jacqueline McIntosh [1], Chitrakala Muthuveerappan [1] and Krzysztof Herman [1,2]

1   Wellington School of Architecture, Faculty of Architecture and Design Innovation,
    Victoria University of Wellington, Wellington 6140, New Zealand; jacqueline.mcintosh@vuw.ac.nz (J.M.);
    chitrakala.muthuveerappan@vuw.ac.nz (C.M.); krzysztof_herman@sggw.edu.pl (K.H.)
2   Department of Landscape Art, Institute of Environmental Engineering,
    Warsaw University of Life Sciences, 02-787 Warsaw, Poland
*   Correspondence: bruno.marques@vuw.ac.nz; Tel.: +64-4-463-4718

Abstract: The novel Coronavirus (COVID-19) outbreak and its extensive variants have caused drastic changes to people's habits and routines in many countries worldwide, including Aotearoa—New Zealand. The levels of lockdown and/or movement limitations affected how people used outdoor spaces, often keeping them away from nature's benefits. The COVID-19 pandemic and the measures adopted to control it provide an interesting experiment investigating the links between nature exposure, recreational use of outdoor spaces, and people's health and wellbeing under extreme conditions. Using an online survey distributed during lockdown and based on 212 responses, this article explores the different typologies of the outdoor spaces that people had access to during lockdown and the associated physical activities practised. It investigates how outdoor space affects our emotional response and how such space and related activities can help us cope with confinement. The results of this study enable us to better understand those spatial elements and characteristics of outdoor spaces that are essential to people's wellbeing, especially in unusual circumstances where access is restricted.

Keywords: Coronavirus; COVID-19; nature; outdoor spaces; green-blue infrastructure; health and wellbeing; recreation; lockdown; landscape architecture; urban design

1. Introduction

The novel Coronavirus (COVID-19) outbreak and its extensive variants have caused profound changes to urban life and people's habits and routines in many countries around the world [1,2]. Globally, governments and agencies have acted to contain the spread of the virus by introducing restrictions to minimise travel and close contact at home, work, and in public spaces [3], primarily through social distancing [4]. On 30 January 2020, the World Health Organization (WHO) declared the coronavirus outbreak a Public Health Emergency of International Concern (PHEIC). By 15 February 2020, more than 760 million people in China were in lockdown or had travel restrictions in place. Italy declared a nationwide lockdown on 9 March 2020, followed by many other European countries. New Zealand went into its first lockdown from 25 March to 15 May 2020. During this period, people from the same household were permitted to visit local green areas for limited periods of time, observing that physical distancing would be maintained.

The ongoing impacts of the global pandemic are wide-ranging. Most importantly, in terms of wellbeing, as people fear for their own health, they avoid others, and they become obsessed with the number of deaths, the number of cases, and information on new strands. As a result, the impacts go beyond deterioration and physical condition due to lack of exercise in outdoor spaces, but also a decline in mental health, especially in the urban realm. In the current context, where more than half of the world's population lives

in urban centres, cities become the main stage for the proliferation of the virus, drawing the attention of policymakers and designers to re-think our urban environments.

Extended periods of social isolation and lockdowns emphasised the importance of green areas and outdoor spaces, drawing to our attention their limited numbers, their inadequacy for physical exercise, and their limitations for mental relief. Their importance was enhanced with the closures of other exercise venues and the hazards associated with outdoor exercise, focusing everyone's attention on anything green. As new social behaviour protocols became second nature, people tried to enjoy green areas, but more noticeably, they sought to expand their opportunities for accessing green areas. As a result, the COVID-19 pandemic and the measures adopted to control it provide an exciting opportunity for experimentation, investigating the links between nature exposure, recreational use of outdoor spaces, and people's health and wellbeing under extreme conditions.

This article explores the different typologies of outdoor spaces that people accessed during lockdown and the associated physical activities practised. It aims to better understand those spatial elements and characteristics of outdoor spaces that are essential to people, especially in unusual circumstances where access is restricted.

2. Health Benefits of Nature and Public Spaces

Cities are complex but also vulnerable systems that require transformation if they are to face new and uncertain challenges that influence the quality of life of their citizens. The chaos of the global pandemic, combined with the damaging effects of extreme weather events, worries of climate change, political outcry, and strained mental health, affected how people use and interact with the urban environment. Stories of overwhelmed medical staff and stretched facilities continue to be in the daily news, yet at the same time, the overall public health response to disease outbreaks has remained nearly unchanged in the last 100 years [5]. The devastating H1N1 "Spanish flu" outbreak of 1918–1919 was one of the most catastrophic pandemics on record, eradicating almost 100 million people. The view at the time was that little could have been done to prevent the "Spanish flu" from spreading or to treat those infected, stories that we also hear in response to new COVID strains. However, evidence suggests that some patients and staff were spared the worst of the outbreak through a combination of fresh air, sunlight, scrupulous hygiene practices, and reusable face masks [6].

The world is currently in the process of gathering information about the effects of the pandemic on the health and wellbeing of people. Designing the built environment to allow people to cope with the pressures of nationally imposed lockdowns has come to focus on the idea of the 'person–environment fit' [7–9]. Research carried out over the last decades attests that the relationship in the person–environment fit can be summarised in three themes: accessibility, usability, and inclusive design [10,11]. Accessibility brings together the personal component with the environmental aspects where an individual can function independently. Usability permits individuals to perform daily activities within the built environment, adding an activity component to the personal and environmental components. Finally, inclusive design or design for all looks at the built environment to cater to our population's wide range of characteristics and abilities. Despite the efforts to redefine our urban environments, design guidelines that specifically deal with people's health and wellbeing of people and their interaction with the built environment are relatively recent.

The person–environment system theories express three important postulates. First, the environment affects the person's wellbeing; and not all environments are equal in terms of the life quality they afford. Second, people affect the environment; they select their environments and shape them to their needs. Third, the relationship between person and environment is less often a matter of the person being either reactive or proactive, as in the first two postulates, as it is that of a transactional system in which the processes are dynamic and reciprocal. In this study, we adopt the logic of the person–environment fit model to understand the link between people and outdoor spaces and their responses to the

COVID-19 lockdown. As such, overarching themes were identified throughout the boon of literature explored throughout the period between March 2020 to March 2022 (Table 1).

Table 1. Summary of the key themes identified through the literature review.

Theme	Studies
Fresh air and green space as an old, tested (urban design) remedy in pandemics.	[12,13]
Well-documented benefits to health and wellbeing from exposure to green and blue spaces, including mental health.	[12,14–19]
Urgent need to invest, reclaim, innovate in the "realm" of green infrastructure as a response to the pandemic.	[2,13,20–22]
Access to urban greenery, a matter of environmental justice, social equality, and so on	[2,5,15,23]
New designs, practices, ideas, and potential to accelerate real change with existing but not implemented (or slowly implemented ideas) as a result of the pandemic and associated quarantine and lockdown practices.	[2,24–26]
Fear of global economic crisis—low-budget urbanity, tactical changes, informal green spaces. A possible path for green infrastructure.	[27–29]
Closures of parks as a wrong answer to the pandemic, role of large green spaces for social distancing. Decisions (also regarding green space) made under pressure, not evidence-based.	[13,26,30,31]
The number of green spaces matters as it leads to better health, especially in urban environments. The government should pay more attention to the quality of green space to improve the physical activities of residents, ensure enough sanitary facilities.	[16,19,21,32–34]
Importance of green spaces for a wide range of activities from exercise to birding and reported values related to reducing stress in a time of global chaos—respite and relaxation in a time of distress.	[5,21,35–39]
Increase in the number of visitors to parks during the pandemic.	[19,26,40]

Access and abundance of green spaces have been proven to be an essential factor in the health and wellbeing of urban dwellers [41–43], and research shows us that gardens, parks, natural areas, and other types of open spaces provide many environmental and health benefits [44–46]. Opportunities for recreation and exercise [47,48], improved mood [49], and decreased anxiety and stress [50] are just some of the aspects that equally contributed to the health and wellbeing. Closures of playgrounds and social and green spaces limited physical activity options and were deemed to affect vulnerable populations more than others, such as those with immune deficiencies, compromised respiratory systems, older adults, cancer recovery, comorbidities, and any health conditions that could be exacerbated [19]. While urban dwellers reduced the frequency of visits to outdoor spaces during the pandemic, green spaces played and continue to play an even more critical role.

Urban parks and large outdoor, open spaces provide residents with a place for safe outdoor activities and distanced social interaction in a green environment and serve as a buffer to maintain favourable health and quality of life [13,26,33]. An average increase of 60% in the use of city parks, urban and peri-urban forests, and other natural areas was recorded during the first COVID-19 pandemic wave across many studies [37]. Both pedestrians (walking, running, hiking) and cyclists appeared to intensify activity on trails with higher green views and tree canopy cover that allowed them to maintain social distancing preferences [40]. Other studies reported that 25% of the users either never or rarely accessed their local natural areas before the pandemic [35,39]. In contrast, other studies mentioned that most first-time users reported that having access to these areas during COVID-19 was very important [14,38,51]. Access to public open spaces at a time when distancing becomes necessary to reduce the risk of contagion among the population thereby became a central theme in discussions about the future of our cities.

Preliminary research on the pandemic effects on urban environments identified four major themes: impacts on environmental quality, socio-economic impacts, governance

and management, and urban design and transportation [2]. Some of the negative aspects of the associated factors can be mitigated by integrating green infrastructure solutions that directly improve or maintain people's health and wellbeing [12], and in particular, urban horticulture and crop cultivation have emerged as potential ways to expand to new locations through urban green infrastructure [29]. Adopting such design solutions improved access to green space, food production, and activity while safely encouraging longer durations in small green areas [24]. It demonstrated a need to establish better protocols with related health disciplines to deploy strategies and actions that address the issues associated with the current pandemic [30].

The growing interest in public health has also become a factor supporting the tactical approach to transforming the urban environment [28]. Many studies note that dwellers near urban forests or other vegetated spaces report fewer mental health days, evidencing how green spaces affect the relationship between natural environments and mental health [40,52]. These findings shed light on the value of urban nature as a resilience infrastructure during times of crisis [21,53]. In addition to establishing new parks, innovative ideas are also needed, such as integrating greenways into transportation corridors or allowing access to informal greenspaces [54], like naturally revegetated vacant lands [22].

3. Materials and Methods

Commencing in early-May 2020, an online questionnaire (using Qualtrics) was distributed to the New Zealand general public. The questionnaire aimed to map the importance of maintaining direct and/or indirect contact with outdoors spaces before and during the lockdown and how contact helped respondents better cope with the restrictions. It also aimed at understanding if respondents had fewer symptoms of poor mental health (i.e., depression and anxiety) and better maintenance of positive mood during the confinement period. The questionnaire was divided into twelve sections and contained 50 questions. The sections covered questions related to dwelling characteristics, frequency of outdoor exposure, visual elements, outdoor spaces, outdoor activities and sports, indoor activities and sports, physical condition, character and mood, behaviour and actions, demographics (age, gender, marital status), education and employment, and pets. A preliminary questionnaire was developed and pre-tested to ensure clarity and readability of the questions and the overall structure adopting a Cronbach alpha method. The Cronbach alpha coefficient was significant, indicating the items measuring the variables in the questionnaire were acceptable and reliable.

Questions were grouped into two main areas: the characteristics of the participants and the characteristics of the environment. Participant characteristics were age, gender, ethnicity, education, marital and employment status, character, everyday mood, and COVID mood. Characteristics of the environment were dwelling characteristics, visual elements, indoor activities, and outdoor spaces.

Respondents were asked for informed consent before they participated in the survey, according to the Human Ethics Committee regulations of Te Herenga Waka—Victoria University of Wellington (ethics approval 0000028575). A weblink was provided to participants with information on the survey; what data would be collected; how the data would be stored, analysed, and reported; and the respondents' rights regarding the provided data. Participation was voluntary, and participants had the right to leave the questionnaire at any point.

3.1. Sampling

Data collection started on 1 May and ended on 15 May 2020, when a relaxation of the restrictive measures to contain the COVID-19 outbreak was declared in New Zealand. Samples were obtained through an unrestricted self-selected survey [55]. Distribution of the online questionnaire initially started through professional networks and the personal contacts of the researchers, by e-mail and through social media (Facebook, WhatsApp, and so on) or posts on websites. Participants were kindly asked to fill in the questionnaire and

distribute it further to their own contacts. Thus, the distribution proceeded according to a convenience and snowball approach and did not allow for the personal identification of individual respondents.

3.2. Description of the Sample

Collected data (*n* = 275) were checked for consistency, and records that were missing essential information were excluded (*n* = 63). We filtered responses for analysis to those that had completed at least 72% of the survey questions to cover the questions addressed in this study. The final sample thus consisted of 212 responses. The vast majority of the participants (98%) completed this survey during lockdown or self-isolation, while only 2% of the respondents were not in lockdown as they were considered essential workers by the government. At the time of this survey, 73% of the participants did not have COVID-19-related symptoms.

The regression formula applied to measure the multi-linear parametric relationship of the independent variables on the dependent variable is as follows:

$$Y = a + \sum_{i=1}^{n} b_i\, X_i + e$$

where
   Y = dependent variable
   a = intercept coefficient value
   b_i = coefficient of X_i
   X_i = dependent variable
   e = residual (error)

Microsoft Excel was used to perform the regression and the output was used to analyze and formulate the relationship according to the selected dependent variable on multiple independent variables.

3.3. Analysis

Descriptive statistical analysis was used to identify central tendencies, utilising frequency and percentage to analyse the data. Next, a series of linear regressions were applied to the quantitative dataset. As each explanatory dataset is multifactor, the mean value of the multifactored explanatory variable was considered in the regression analysis to understand the overall relationships. As demographic factors are highly influential and influenced by external factors, this study is willing to understand the influence of demographic factors on the environment, outdoor space, and outdoor activities. Hence, the response variables, namely environment, outdoor space, and outdoor activities, were regressed on the explanatory variable, demographics. As outdoor space influences outdoor activities, the dependency relationship of outdoor space on outdoor activities was studied.

4. Results

The findings were sorted into two categories, person and environment, to establish the individual characteristics and ground the results from combining the two to verify fit (Figure 1). Many participants identified the importance of the environmental fit of the outdoor spaces with their personal characteristics. These included the physical condition of the participant, their mood, as well as their intended behaviours and actions.
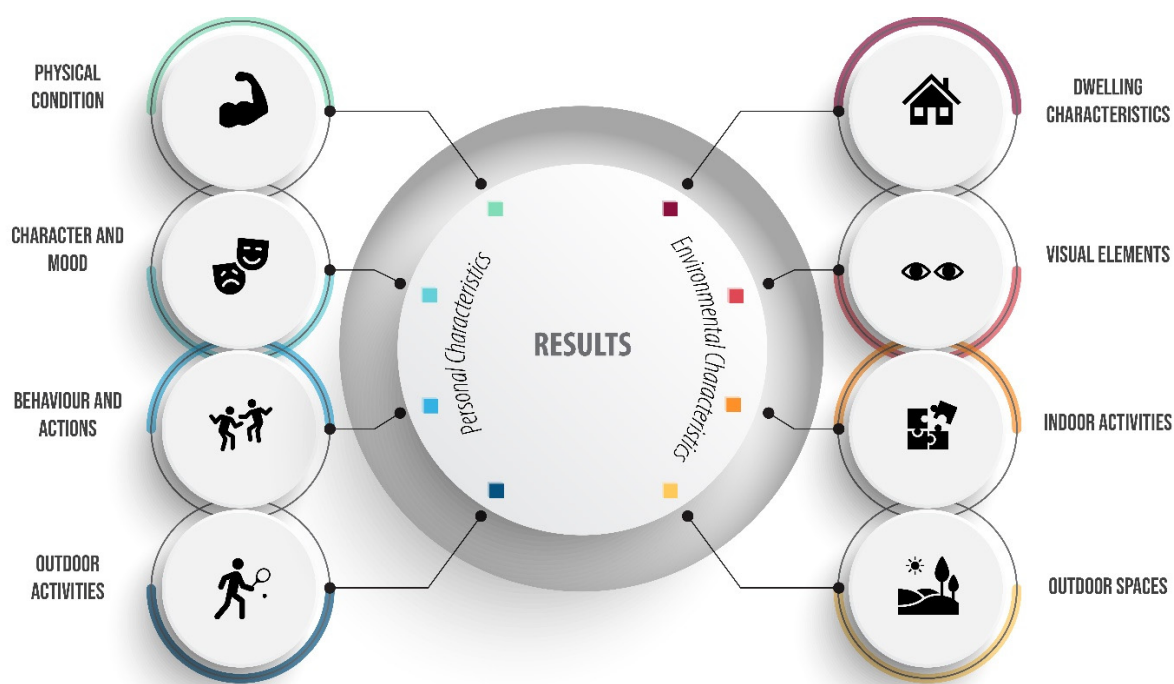
Figure 1. Infographic identifying the two categories and associated themes on how the results were reported.

4.1. Personal Characteristics

The majority of the participants were female (76.6%). Participants were mostly adults in the age range of 18–25 years old (33.8%) and 46–55 years old (21.1%). The vast majority of the participants were either married (33.3%) or single (32.7%) and had completed some form of tertiary education (48.4%). The large majority were employed full-time (37.6%) or were students (22.5%). Most participants reported living in urban areas (63.3%), which primarily relates to the capital city of Wellington and Auckland (84.2% combined). More than half of the participants (54.5%) reported having a pet, with less than half of the pets needing to be walked daily (41.8%).

4.1.1. Physical Condition

In terms of their physical condition, participants mostly described it as good (49.7%) or fair (32.6%) before the coronavirus outbreak. Following the lockdown period, participants reported that their physical condition either got worse (34.4%) or improved (19.5%). However, about a third of the participants (33.9%) reported that their physical condition remained the same. The vast majority (80.5%) reported that they had no long-standing illness or disability.

4.1.2. Character and Mood

Conventional scientific wisdom recognises six "classic" emotions: anger, disgust, fear, happiness, sadness, and surprise [56,57]. Respondents were asked to report on their overall mood during the lockdown (seven weeks of lockdown at the time of the survey). Responses were split between positive (43%) and negative (57%). The positive respondents reported being 'happy' overall. The respondents reported more negative emotions ranging from feeling 'bad' (23.5%), feeling 'sad' (13.9%), to feeling 'fearful' (11.05%). These emotions were compared with pre-lockdown feelings, where most respondents (61.3%) reported being 'happy', while fewer reported feeling 'bad' (16.4%), 'sad' (7.2%), or 'fearful' (6.9%). Figure 2 reports the frequency of the participants' mood during the lockdown period based on the statements provided.
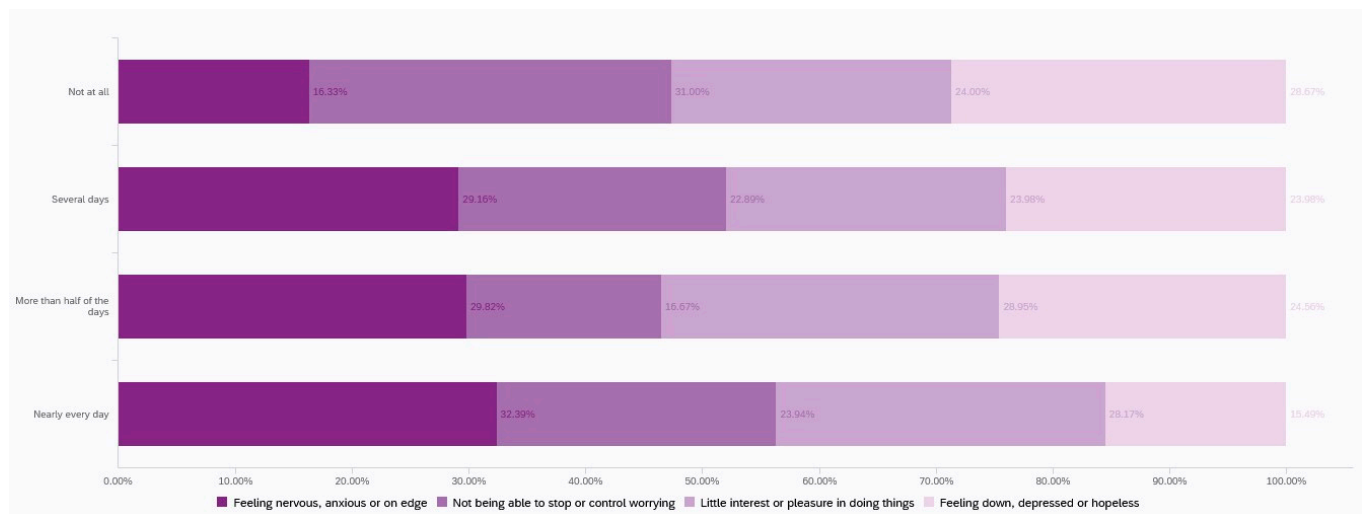
Figure 2. Graphic reporting the frequency of participants' mood during the lockdown.

To establish a sense of the duration for which participants were feeling negative emotions, they were asked to report the frequency of days that a particular emotion manifested itself. Responses were then grouped into those who experienced unwellness for several days and those who did not experience unwellness for this duration. From the results, 50.2% reported several days of feeling nervous, anxious, and on edge. Further, 43.7% reported that they had not experienced the feeling of not being able to stop or control worrying, while 39.4% reported that for several days. Moreover, 41.3% reported several days where they felt little interest or pleasure in doing things and 33.8% did not share this experience. Finally, 41.3% of the respondents reported several days of feeling down, depressed, or hopeless, compared with 40.4% who did not report feeling this way. We classified the emotional states before and after into seven categories and grouped all respondents' results as previous and during confinement, which are accounted for under each category. Then, these data were used for analysis. Compared with pre-confinement days, the mood variation during confinement shows a strong positive indicator and a highly significant relationship to environmental factors (Tables 2 and 3). The relationship between COVID-19 mood and normal mood is formulated and shown in Equation (1).

$$\text{COVID Mood} = -16.47 + 1.23 \text{ Normal mood} + e. \tag{1}$$

**Table 2.** Regression results of character and mood before and during the lockdown period.

Multiple R	0.94749
R Square	0.89773
Adjusted R Square	0.87728
Statistical Error	23.7758
Observations	7
Significance	0.00117

Table 3. Regression coefficient of character and mood before and during the lockdown period.

	Coefficient	*p-Value*
Intercept (a)	−16.467	0.2598
Normal Mood (X1)	1.22739	0.0011

4.1.3. Behaviour and Actions

Participants were asked to characterise their behaviour and actions based on the statements shown in Figure 3. Very similar answers (3.74 out of 5) were identified across the four statements.
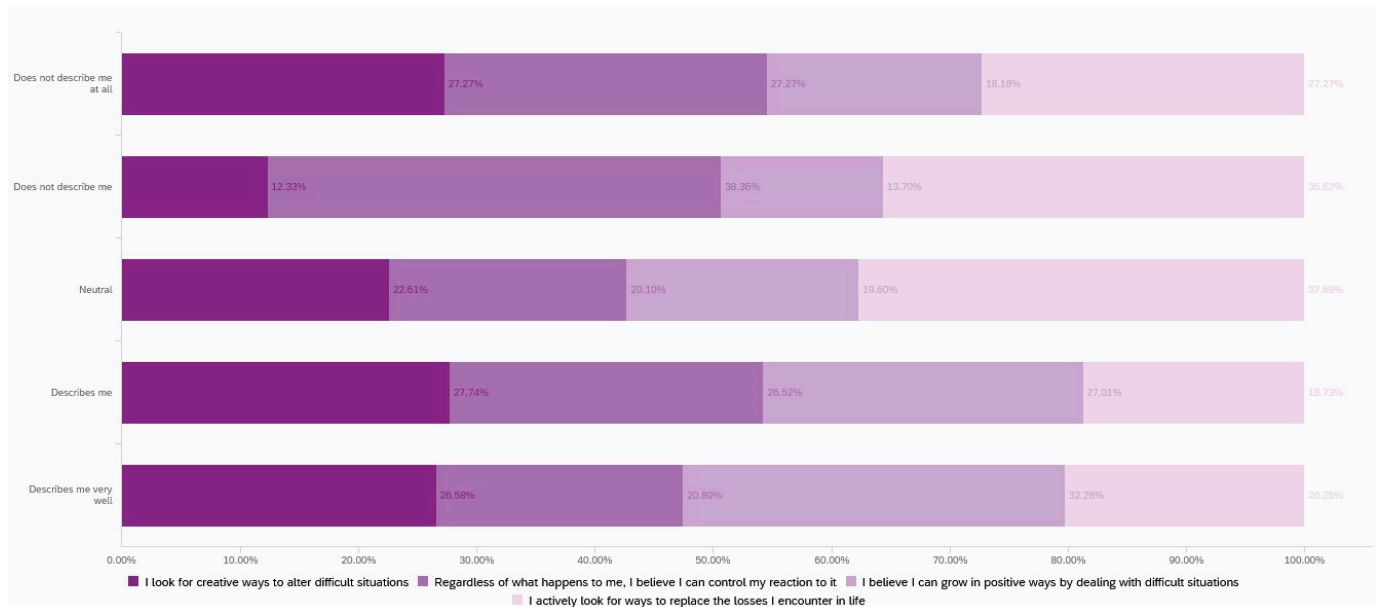
Figure 3. Graphic reporting on the self-characterisation of behaviour and actions during the lockdown.

When asked about how creatively individuals look at difficult situations positively, 53% agreed that the statement described them, while 19.7% believed it describes them very well and 21.1% remained neutral about the statement. When asked about having control over a situation or reaction regardless of the context, 51.2% agreed that the statement describes them, while 18.78% remained neutral. Only 15.5% thought that it described them very well. When asked if difficult situations made them grow positively, 52.1% reported that it described them and 23.9% felt that it described them very well, while 18.31% remained neutral about this statement. Regarding whether people proactively found ways to overcome losses, the respondents had more split views. Here, 36.2% thought that the statement described them, while 15.1% thought that it described them well. Further, 35.2% remained neutral and 12.2% agreed that the statement did not describe them at all.

4.1.4. Outdoor Activities

In terms of frequency, 24.8% went out every day following lockdown, while 34.4% went out nearly every day and only 23.2% went out 2–3 days per week. In total, 72% were able to maintain both their essential daily movements and regular exercise in outdoor spaces. Only 17.7% maintained their essential daily movements, but did not exercise in outdoor areas.

Compared with pre-lockdown, 77.3% of the respondents had a very active lifestyle and regularly undertook sports or physical activities outdoors; for example, walking, running, swimming, fishing, cycling, and other team sports. Most of these activities were practised in urban settings (32.1%) like urban parks and streets, while others preferred green spaces (24.2%) like forests and mountains. As most respondents were based in major waterfront cities, namely Wellington or Auckland, other preferred places related to marine blue spaces (21.2%) like the seafront, beach, or harbour. In terms of the frequency of sports or physical activities, most participants reported that, before COVID-19, they maintained regular activities at least 2–3 days a week (35.5%) or nearly every day (29.1%). Compared with the lockdown period, most participants agreed that they have the same level of physical

activity as before (29.9%), but with some space and/or restrictions. Others reported a higher level of physical activity than before (24.9%). In addition, other respondents said that their physical activity decreased, and it is now practised indoors (17.1%). Similarly, other participants corroborated that their physical activity stopped completely (15.2%).

For those that reported a decrease in or absence of physical activity, most participants said that their mood was negatively affected (49.1%), while the other half reported that it had no impact (45.4%). Tables 4 and 5 shows the relationship between outdoor activities and demographics. The r-value of 0.2141 indicates a weak positive relationship between outdoor activities and demographics, meaning that none of the outdoor activities were significantly associated with demographic characteristics such as age, gender, marital status, and employment. From this, we find that variables other than demographics impact the relationship between mood and outdoor activities. The relationship between outdoor activities and demographic is formulated and shown in Equation (2).

$$\text{Demographics} = 3.61 - 0.03\,X1 - 0.27\,X2 - 0.02\,X3 + 0.05\,X4 - 0.05\,X5 + 0.06 + e. \quad (2)$$

Table 4. Regression results of outdoor activities and demographics during the lockdown period.

Multiple R	0.2141
R Square	0.045839
Adjusted R Square	0.018048
Statistical Error	0.748956
Observations	213
Significance	0.0031

Table 5. Regression coefficient of outdoor activities and demographics during the lockdown period.

	Coefficients	*p-Value*
Intercept (a)	3.611858	1.06×10^{19}
Q30 Outdoor Area (X1)	−0.02516	0.025944
Q31 Sports (X2)	−0.26715	0.067592
Q32 Outdoor Sports (X3)	−0.0174	0.095787
Q33 AVG (X4)	0.050176	0.024265
Q34 Outdoor Frequency (X5)	−0.0457	0.032845
Q35 Outdoor Activities (X6)	0.05893	0.087323

Person characteristics ranged from age 18 upwards with a gender difference of 76.6% women to 23.4% men. Ethnicity was grouped by 64% NZ European, 9.9% Māori and Pasifika, 0.8% Asian, and 8.9% other. Marital status was grouped by either 30% singles or 56% couples and 14% other. The physical condition included changes to exercise patterns and the location (indoors or outdoors) of activity. Education and employment were grouped by years of education and employed or not. Finally, households were grouped by those who were pet owners and those who were not.

4.2. Environmental Characteristics

The person's environment was categorised into four areas: dwelling characteristics, visual elements, indoor activities, and outdoor spaces.

4.2.1. Dwelling Characteristics

The experience of personal environments during lockdown varied significantly by individual. Most (77%) participants were at their primary residence during the lockdown, with only 9.9% of the respondents reporting being in a second home. The average size of the household dwelling was 157 m^2, with the largest at 600 m^2 and the smallest at 36 m^2. This equates to 36 m^2 to 122 m^2 per person for a single dwelling. The average number of rooms was 4.98, with 12 rooms at the high end (including living room, kitchen, and 2 bathrooms) and only 1 at the lowest. The number of householders per dwelling varied

from one-person dwellings (18) to ten-person dwellings (2), with an average number of three people in their household, corresponding with the national average household size. Finally, 37.5% of the respondents had dependents (minors) with them in their households.

4.2.2. Visual Elements

From their household, most respondents could see other houses or streets (20.3%), roads (16.5%), parks or trees (11.6%), mountains or hills (16.8%), or forests and woodlands (9.9%). In total, 60% of respondents thought that having a view from their household, especially of nature, helped them to better cope with the lockdown.

"Being up high and being able to see a long way is always calming."

"It helps me gain perspective."

"Wouldn't cope very well without nature and mountains and the sky to look at all day long."

"Made us feel like we were never 'stuck at home'."

The remaining 40% of the participants thought that having a view from their household had no impact in their mood.

"Makes no difference" or *"very little impact."*

"It's getting boring to look at."

When participants were asked to choose what they would prefer to see most from their household, the vast majority mentioned the importance of blue infrastructure: 21.9% for marine blue spaces (beaches, harbours, sea), 12.5% for rivers, and another 12.5% for lakes. Some respondents (18.7%) preferred the hills and mountains, while 14.7% particularly appreciated forests or woodlands. When participants were asked if the desired or preferred views would help them to have a more positive mood or attitude during the lockdown, 46.3% strongly agreed, while 36.5% only agreed. Less than 12% neither agreed nor disagreed with that statement.

Tables 6 and 7 shows the regression of visual elements on demographics. The r-value of 0.270284 shows a weak relationship, which indicates that the effect of scenic views (a key element of visual elements) were not influenced by demographics. While scenic views influenced mood positively, the benefits were not affected by age, gender, marital status, or employment. Everyone benefitted from a scenic view. The relationship between visual elements and demographic is formulated and shown in Equation (3).

$$\text{Visual Elements} = 3.83 + 0.38\ X1 + 0.58\ X2 - 0.03\ X3 + 0.06\ X4 + 0.23\ X5 - 0.13\ X6 + e. \quad (3)$$

Table 6. Regression results of environmental characteristics and demographics during the lockdown period.

Multiple R	0.270284
R Square	0.073053
Adjusted R Square	0.046055
Statistical Error	2.478408
Observations	213
Significance F	0.0327

Table 7. Regression coefficient of environmental characteristics and demographics during the lockdown period.

	Coefficients	*p-Value*
Intercept (a)	3.825722	0.01611
48.1 Age (X1)	0.381103	0.001989
48.2 Gender (X2)	0.575115	0.125379
48.3 Marital (X3)	−0.02594	0.892469
48.4 Ethnicity (X4)	0.058794	0.697767
48.5 Education (X5)	0.233871	0.322882
48.6 Emp. Status (X6)	−0.12531	0.155632

4.2.3. Indoor Activities

Respondents were asked if they practiced any sport or physical activity indoors, like swimming in a pool or going to the gym, before the Coronavirus outbreak. More than half of the respondents reported regular indoor activity (53.7%). Compared with the pre-lockdown period, only 40.3% of the respondents maintained indoor physical activities, while the vast majority (59.7%) stopped it. When asked about the level of indoor physical activity during the lockdown, 33.8% responded that, instead of having their activities indoors, they were now doing them outside. Similarly, 21.8% of the participants reported that they maintained the same level of physical activity indoors as before lockdown. A further 23.6% of the participants said that their indoor physical activity had stopped completely. With that, 31.1% reported that having no physical activity indoors had negatively affected their mood, while the vast majority said they had not noticed any mood changes (60.5%). A weak relationship (r = 0.26) was found between demographic and indoor activities, which is insignificant to the indoor parameters (Tables 8 and 9). The relationship between indoor activities and demographic is formulated and shown in Equation (4).

$$\text{Demographic} = 3.49 - 0.19\,X1 + 0.19\,X2 - 0.07\,X3 \qquad (4)$$

Table 8. Regression results of indoor activities and demographics during the lockdown period.

Multiple R	0.264827
R Square	0.159979
Adjusted R Square	0.001873
Statistical Error	0.7551
Observations	213
Significance F	0.036848

Table 9. Regression coefficient of indoor activities and demographics during the lockdown period.

	Coefficients	*p-Value*
Intercept (a)	3.494238	0.237×10^{7}
37. Activity I (X1)	−0.18517	0.120253
38. Activity II (X2)	0.191266	0.239788
39. Activity III (X3)	−0.06576	0.247117

4.2.4. Outdoor Spaces

Respondents were asked if physical access to outdoor spaces was available from their residence, and an overwhelming 96% responded yes. When asked what type of outdoor spaces were physically accessible during the lockdown, 20.5% mentioned private gardens, 15.5% said a private patio or deck, and 11.3% mentioned private land area connection. A total of 15.9% of the respondents had access to a public park, while 10.8% had nearby forest or woodland access. The average time spent in such places was 83 min each day, with the highest being 360 min (6 h).

Participants were asked to compare the time spent outside during the lockdown with the time they used to spend before the lockdown. Here, 27% stated that they spent the same amount of time before and during the lockdown, while 17% said they spent less time outside. Surprisingly, 26% said they actually spent more time outdoors during the lockdown than before.

The vast majority of participants (95%) reported that having access to these spaces helped them cope with the lockdown and positively contributed to their mood.

> *"The access to the nearby park, in particular, has helped me find inspiration, calm, fun and release."*

> *"It helps for relaxation and soothes anxiety."*

> *"Helps me release excess energy. Feel more relaxed."*

> *"It makes me less anxious, but there is more noise happening outside on the street as more people are walking their dogs and themselves."*

When asked what sort of activities respondents might prefer when the lockdown was over, nearly half (43.2%) answered visiting the coastal areas (beach, sea, and so on), while more modestly, some mentioned urban areas (13.6%), mountains (8.6%), or forests (7.3%). The most missed activities during the lockdown were visiting friends or family, shopping, eating out, picnics, dancing, community events, hiking, swimming, and going to the gym, to name a few.

Tables 10 and 11 show the relationship of outdoor space and outdoor activities. The r-value of 0.242609 indicates a weak positive relationship. Outdoor space was important, particularly the land area surrounding the house connecting to the outdoor environment. This suggests that areas surrounding the house need to be considered in the design as they may influence the occupants. The relationship between outdoor spaces and outdoor activities is formulated and shown in Equation (5).

$$\text{Outdoor Activities} = 1.84 + 0.57\,X1 + 0.03\,X2 - 0.03\,X3 + 0.02\,X4 + 0.05\,X5 - 0.07\,X6 + e. \quad (5)$$

Table 10. Regression results of outdoor spaces and outdoor activities during the lockdown period.

Multiple R	0.242609
R Square	0.058859
Adjusted R Square	0.031447
Statistical Error	0.743829
Observations	213
Significance F	0.0417

Table 11. Regression coefficient of outdoor spaces and outdoor activities during the lockdown period.

	Coefficients	p-Value
Intercept (a)	1.843787	0.005332
23. Outdoor Space I (X1)	0.565645	0.134988
24. Outdoor Space II (X2)	0.031457	0.024774
25. Outdoor Time III (X3)	−0.02798	0.037319
26. Outdoor Space IV (X4)	0.021547	0.047002
27. Scale V (X5)	0.051337	0.076844
28 Scale VI (X6)	−0.07117	0.127655

The study found overwhelmingly how important outdoor space was for participants. The main reasons to go out were to buy food (24.1%), to exercise or undertake physical activity (23%), or to get fresh air and enjoy the sunshine (24.1%); however, there was little variation by demographics.

5. Discussion

This research supports other findings regarding the connection with nature and its importance to physical, social, and emotional wellbeing. Open spaces provided residents with places of refuge and safe outdoor activities that permitted users to maintain their health and wellbeing [13,26,33,37]. However, it also found some significant changes to the relationship with nature during a pandemic lockdown or period of confinement. These findings have implications for situations other than a pandemic, namely any circumstance where opportunities for outdoor connections are limited.

Theories of quality of life (QoL) and person–environment fit (PE fit) led to the investigation of a number of potentially influential personal characteristics. For this reason, the research commenced with an analysis of the person's factors, both demographic and mood. It found that the environment was equally critical across all demographic characteristics, both in terms of affecting physical condition, individual character and mood, people's behaviour, and actions, as well as their interaction with outdoor activities. Participant behaviours changed during the lockdown, with some having less connection with the outdoors, but others taking advantage of the opportunity for increased outdoor activity. Their personhood stayed the same, but their access to the outdoor environment changed. This was supported by the regression analysis, which found a weak relationship between personal characteristics and character and mood. Variables other than demographics impact on the relationship between mood and outdoor activities.

Equally, this was mirrored in concurrent studies [35,39,40], where outdoor activities were intensified in spaces where social distancing could be maintained or where a surge in users was noticed in outdoor areas. However, when comparing character and mood before COVID-19 and after COVID-19, it became apparent that everyone or all demographics felt stressed by COVID-19, which significantly changed mood. The intensity of the feeling was determined by the length of time of negative feelings and the impact on how the individual felt.

According to PE fit theory, the change is in the relationship between the individual and the environment, which should evidence itself in feelings (affect). Our study supported this prediction and what we found surprising was that the impact was very similar across all demographics—old/young, married/unmarried, employed or unemployed, regardless of ethnicity or education.

The weak relationship between personal and environmental characteristics can be partly explained by the New Zealand culture, which emphasises outdoor connection. However, while the relationship between outdoor characteristics and mood was not particularly strong, the relationship between personal activities and mood was considered significant. This result finds similarities with the work of environmental psychologist James Gibson and his theories of affordance [58]. The specific characteristics of the environment during the pandemic were far less important than the opportunities for outdoor activity that they afforded. For instance, other studies mentioned that most first-time users reported that having access to outdoor spaces during COVID-19 was very important [14,38,51].

This research found that the environment significantly affected people's wellbeing. It also supported research that finds that not all environments are equally beneficial. Specific environments improved mood more than others. However, the most important finding of this research was that the affordance of outdoor space in terms of permitting physical activity was the most significant indicator. The environment alone did not show a substantial relationship with mood. In fact, many were afraid of going outside because of the possibility of infection. In many ways, the fear of contracting COVID-19 outweighed the importance of being outdoors, despite the fact that outdoor environments are less contagious than those inside.

While the specific characteristics of the outdoor environment were insignificant, the relationship between environment and physical activity did impact mood positively. This is in keeping with affordance theories, where it is what the environment allows to occur rather than the environment itself. This also aligns with the nature of most New Zealanders

who enjoy exercise in the outdoors and, in particular, organised sports. The loss of access to outdoor exercise made this a particularly difficult burden. The transactional nature of the outdoors was also apparent when people feeling less happy undertook activities outdoors, which significantly improved their mood.

With respect to our method, the survey contained 50 questions with a number of options and sub-questions for some of these. At the time of formulation, we had no way of knowing how long the lockdown or the pandemic would continue and there were few precedents from which to model. The sense of urgency and the fear of missing something important resulted in an overly long questionnaire seeking the widest possible range of experiences as well as the variability and characteristics of both indoor and outdoor environments as they related to the emotional responses of the respondents. As a result, we captured a significant amount of data that took an exceptionally long time to clean, sort, analyse, and make sense of. While we were able to draw some meaningful conclusions from our survey, our questionnaire was not an efficient instrument.

The implications of our findings for the planning and design of our cities and environments have led to new ideas, uses, and practices for all spaces. To mitigate fears of infection from others, spaces dedicated to individualised recreation now consider wider trails and paths to cope with social distancing. A detailed assessment of where individuals can exercise in outdoor areas has become far more critical, flexible green infrastructure that can absorb the influx of people at different densities and uses has become essential, and new opportunities for informal greenspaces and vacant land should be investigated with a view to how they might accommodate the physical activity. These are just some of the examples to be considered [21,22]. Most fundamentally, to improve mood, people have to be able to move their bodies in a landscape/green outdoor environment to maintain health and wellbeing. Landscapes are evaluated on what they can offer the individual rather than their overall attractiveness. Scenic places that could not accommodate social distancing were not appreciated.

6. Conclusions

The personal confinement imposed by the response to COVID-19 caused a profound change to people's habits and routines around the world, emphasising the importance of green areas and outdoor spaces and drawing to our attention their inadequacy for physical exercise, their limitations for mental relief, and their limited numbers. As people feared for their health, they avoided others, limited outdoor activities, and reduced physical exercise.

Combining quantitative and qualitative methods of investigation and analysis, this study found a minimal impact of demographic variation on the environmental appreciation. Everyone found confinement stressful, with some variation in intensity and duration, but not to the effect of influencing the environmental qualities appreciated. The research supported findings regarding the importance of the outdoors, but most significantly, it found that the outdoor environment was critical for what it afforded the individual rather than its specific characteristics. This is consistent with affordance theories of environmental psychology and theories of person–environment fit and quality of life. The implications of social distancing have significance for the design of urban spaces and the importance of preserving and developing urban green infrastructure, where there are currently insufficient outdoor spaces suited to physical activity. Parks, community gardens, and other natural areas are essential to urban dwellers' mental, physical, and social wellbeing, especially if directives to physically distance from one another become long-standing or recurrent.

The COVID-19 lockdown has precipitated widespread re-engagement with outdoor recreation and is perhaps evidence of a structural shift in what is needed for quality of life in our cities—our most exposed vulnerable environments. The findings show the importance of outdoor environments in supporting health and wellbeing through active engagement with private and public recreational and natural environments to benefit from the therapeutic effects of nature. Participation in outdoor activities through policy and infrastructure development, particularly activities that provide opportunities for exposure

to nature, physical activity, and social interaction, can be a key step in promoting health and resiliency and mental wellbeing post-COVID-19. This research has implications not only for confinement resulting from the pandemic, but also for confinement in general. Those confined because of mental health conditions, physical conditions, or incarceration would all benefit from what has been learned during COVID-19. In addition, future research could explore intersectionality and health inequalities, indoor greening, and the therapeutic impacts of indoor nature exposure.

References

1. Capolongo, S.; Rebecchi, A.; Buffoli, M.; Appolloni, L.; Signorelli, C.; Fara, G.M.; D'Alessandro, D. COVID-19 and Cities: From Urban Health Strategies to the Pandemic Challenge. A Decalogue of Public Health Opportunities. *Acta Bio Medica Atenei Parm.* **2020**, *91*, 13–22. [CrossRef]
2. Sharifi, A.; Khavarian-Garmsir, A.R. The COVID-19 Pandemic: Impacts on Cities and Major Lessons for Urban Planning, Design, and Management. *Sci. Total Environ.* **2020**, *749*, 142391. [CrossRef]
3. Geng, D.C.; Innes, J.; Wu, W.; Wang, G. Impacts of COVID-19 Pandemic on Urban Park Visitation: A Global Analysis. *J. For. Res.* **2021**, *32*, 553–567. [CrossRef] [PubMed]
4. Larcher, F.; Pomatto, E.; Battisti, L.; Gullino, P.; Devecchi, M. Perceptions of Urban Green Areas during the Social Distancing Period for COVID-19 Containment in Italy. *Horticulturae* **2021**, *7*, 55. [CrossRef]
5. Roberts, J.D.; Tehrani, S.O. Environments, Behaviors, and Inequalities: Reflecting on the Impacts of the Influenza and Coronavirus Pandemics in the United States. *Int. J. Environ. Res. Public Health* **2020**, *17*, 4484. [CrossRef]
6. Hobday, R.A.; Cason, J.W. The Open-Air Treatment of pandemic influenza. *Am. J. Public Health* **2009**, *99*, S236–S242. [CrossRef]
7. Feldman, K.A.; Ethington, C.A.; Smart, J.C. A Further Investigation of Major Field and Person-Environment Fit: Sociological versus Psychological Interpretations of Holland's Theory. *J. High. Educ.* **2001**, *72*, 670–698. [CrossRef]
8. Iwarsson, S. A Long-Term Perspective on Person-Environment Fit and ADL Dependence Among Older Swedish Adults. *Gerontologist* **2005**, *45*, 327–336. [CrossRef]
9. Lawton, M.P.; Nahemow, L. Ecology and the Aging Process. In *The Psychology of Adult Development and Aging*; Eisdorfer, C., Lawton, M.P., Eds.; American Psychological Association: Washington, DC, USA, 1973; pp. 619–674.
10. Day, K.; Martel, A. Designing for Neurodiversity: Reimagining the Home for a Covid Normal Life. In Proceedings of the 37th Annual Conference, Leeds, UK, 6–7 September 2016; Scott, L., Neilson, C.J., Eds.; ARCOM, Association of Researchers in Construction Management, Leeds Sustainability Institute, School of the Built Environment and Engineering, and Leeds Beckett University: Leeds, UK; pp. 67–76.
11. Iwarsson, S.; Ståhl, A. Accessibility, Usability and Universal Design—Positioning and Definition of Concepts Describing Person-Environment Relationships. *Disabil. Rehabil.* **2003**, *25*, 57–66. [CrossRef]
12. Jenkins, A. Biotic Systems as a Critical Urban Infrastructure during Crisis: Learning from the COVID-19 Pandemic. *Cities Health* **2020**, 1–3. [CrossRef]
13. Rodgers, C. Nourishing and Protecting Our Urban 'Green' Space in a Post-Pandemic World. *Environ. Law Rev.* **2020**, *22*, 165–169. [CrossRef]
14. Doughty, K.; Hu, H.; Smit, J. Therapeutic Landscapes during the COVID-19 Pandemic: Increased and Intensified Interactions with Nature. *Soc. Cult. Geogr.* **2022**, 1–19. [CrossRef]
15. Le, K.; Nguyen, M. The Psychological Burden of the COVID-19 Pandemic Severity. *Econ. Hum. Biol.* **2021**, *41*, 100979. [CrossRef] [PubMed]
16. McCunn, L.J. The Importance of Nature to City Living during the COVID-19 Pandemic: Considerations and Goals from Environmental Psychology. *Cities Health* **2020**, *5* (Suppl. 1), 223–226. [CrossRef]

17. Ozamiz-Etxebarria, N.; Dosil-Santamaria, M.; Picaza-Gorrochategui, M.; Idoiaga-Mondragon, N. Stress, Anxiety, and Depression Levels in the Initial Stage of the COVID-19 Outbreak in a Population Sample in the Northern Spain. *Cad. Saúde Pública* **2020**, *36*, e00054020. [CrossRef]
18. Pouso, S.; Borja, Á.; Fleming, L.E.; Gómez-Baggethun, E.; White, M.P.; Uyarra, M.C. Contact with Blue-Green Spaces during the COVID-19 Pandemic Lockdown Beneficial for Mental Health. *Sci. Total Environ.* **2021**, *756*, 143984. [CrossRef]
19. Slater, S.J.; Christiana, R.W.; Gustat, J. Recommendations for Keeping Parks and Green Space Accessible for Mental and Physical Health During COVID-19 and Other Pandemics. *Prev. Chronic. Dis.* **2020**, *17*, 200204. [CrossRef]
20. Helm, D. The Environmental Impacts of the Coronavirus. *Environ. Resour. Econ.* **2020**, *76*, 21–38. [CrossRef]
21. Honey-Rosés, J.; Anguelovski, I.; Chireh, V.K.; Daher, C.; Konijnendijk van den Bosch, C.; Litt, J.S.; Mawani, V.; McCall, M.K.; Orellana, A.; Oscilowicz, E.; et al. The Impact of COVID-19 on Public Space: An Early Review of the Emerging Questions—Design, Perceptions and Inequities. *Cities Health* **2020**, *5* (Suppl. 1), 263–279. [CrossRef]
22. Kleinschroth, F.; Kowarik, I. COVID-19 Crisis Demonstrates the Urgent Need for Urban Greenspaces. *Front. Ecol. Environ.* **2020**, *18*, 318–319. [CrossRef]
23. Benzell, S.G.; Collis, A.; Nicolaides, C. Rationing Social Contact during the COVID-19 Pandemic: Transmission Risk and Social Benefits of US Locations. *Proc. Natl. Acad. Sci. USA* **2020**, *117*, 14642–14644. [CrossRef] [PubMed]
24. Barbarossa, L. The Post Pandemic City: Challenges and Opportunities for a Non-Motorized Urban Environment. An Overview of Italian Cases. *Sustainability* **2020**, *12*, 7172. [CrossRef]
25. Brooks, S.K.; Webster, R.K.; Smith, L.E.; Woodland, L.; Wessely, S.; Greenberg, N.; Rubin, G.J. The Psychological Impact of Quarantine and How to Reduce It: Rapid Review of the Evidence. *Lancet* **2020**, *395*, 912–920. [CrossRef]
26. Xie, J.; Luo, S.; Furuya, K.; Sun, D. Urban Parks as Green Buffers During the COVID-19 Pandemic. *Sustainability* **2020**, *12*, 6751. [CrossRef]
27. Goodell, J.W. COVID-19 and Finance: Agendas for Future Research. *Financ. Res. Lett.* **2020**, *35*, 101512. [CrossRef] [PubMed]
28. Hanzl, M. Urban Forms and Green Infrastructure—The Implications for Public Health during the COVID-19 Pandemic. *Cities Health* **2020**, *5* (Suppl. 1), 232–236. [CrossRef]
29. Khan, M.M.; Akram, M.T.; Janke, R.; Qadri, R.W.K.; Al-Sadi, A.M.; Farooque, A.A. Urban Horticulture for Food Secure Cities through and beyond COVID-19. *Sustainability* **2020**, *12*, 9592. [CrossRef]
30. Allam, Z.; Jones, D.S. Pandemic Stricken Cities on Lockdown. Where Are Our Planning and Design Professionals [Now, Then and into the Future]? *Land Use Policy* **2020**, *97*, 104805. [CrossRef]
31. Yang, K. What Can COVID-19 Tell Us About Evidence-Based Management? *Am. Rev. Public Adm.* **2020**, *50*, 706–712. [CrossRef]
32. Labib, S.M.; Browning, M.H.E.M.; Rigolon, A.; Helbich, M.; James, P. Nature's Contributions in Coping with a Pandemic in the 21st Century: A Narrative Review of Evidence during COVID-19. *Sci. Total Environ.* **2022**, *833*, 155095. [CrossRef]
33. Liu, L.; Zhong, Y.; Ao, S.; Wu, H. Exploring the Relevance of Green Space and Epidemic Diseases Based on Panel Data in China from 2007 to 2016. *Int. J. Environ. Res. Public Health* **2019**, *16*, 2551. [CrossRef] [PubMed]
34. Samuelsson, K.; Barthel, S.; Colding, J.; Macassa, G.; Giusti, M. *Urban Nature as a Source of Resilience during Social Distancing amidst the Coronavirus Pandemic*; Open Science Framework: Charlottesville, VA, USA, 2020.
35. Collins, C.; Haase, D.; Heiland, S.; Kabisch, N. Urban Green Space Interaction and Wellbeing—Investigating the Experience of International Students in Berlin during the First COVID-19 Lockdown. *Urban For. Urban Green.* **2022**, *70*, 127543. [CrossRef] [PubMed]
36. Day, B.H. The Value of Greenspace Under Pandemic Lockdown. *Environ. Resour. Econ.* **2020**, *76*, 1161–1185. [CrossRef] [PubMed]
37. Grima, N.; Corcoran, W.; Hill-James, C.; Langton, B.; Sommer, H.; Fisher, B. The Importance of Urban Natural Areas and Urban Ecosystem Services during the COVID-19 Pandemic. *PLoS ONE* **2020**, *15*, e0243344. [CrossRef]
38. Maury-Mora, M.; Gómez-Villarino, M.T.; Varela-Martínez, C. Urban Green Spaces and Stress during COVID-19 Lockdown: A Case Study for the City of Madrid. *Urban For. Urban Green.* **2022**, *69*, 127492. [CrossRef]
39. Smith, M.; Cui, J.; Ikeda, E.; Mavoa, S.; Hasanzadeh, K.; Zhao, J.; Rinne, T.E.; Donnellan, N.; Kyttä, M. Objective Measurement of Children's Physical Activity Geographies: A Systematic Search and Scoping Review. *Health Place* **2021**, *67*, 102489. [CrossRef]
40. Venter, Z.S.; Barton, D.N.; Gundersen, V.; Figari, H.; Nowell, M. Urban Nature in a Time of Crisis: Recreational Use of Green Space Increases during the COVID-19 Outbreak in Oslo, Norway. *Environ. Res. Lett.* **2020**, *15*, 104075. [CrossRef]
41. Kondo, M.; Fluehr, J.; McKeon, T.; Branas, C. Urban Green Space and Its Impact on Human Health. *Int. J. Environ. Res. Public Health* **2018**, *15*, 445. [CrossRef]
42. Marques, B.; McIntosh, J.; Chanse, V. Improving Community Health and Wellbeing through Multi-Functional Green Infrastructure in Cities Undergoing Densification. *Acta Hortic. Regiotect.* **2020**, *23*, 101–107. [CrossRef]
43. van den Berg, M.; Wendel-Vos, W.; van Poppel, M.; Kemper, H.; van Mechelen, W.; Maas, J. Health Benefits of Green Spaces in the Living Environment: A Systematic Review of Epidemiological Studies. *Urban For. Urban Green.* **2015**, *14*, 806–816. [CrossRef]
44. Heidt, V.; Neef, M. Benefits of Urban Green Space for Improving Urban Climate. In *Ecology, Planning, and Management of Urban Forests*; Carreiro, M.M., Song, Y.-C., Wu, J., Eds.; Springer: New York, NY, USA, 2008; pp. 84–96. ISBN 978-0-387-71424-0.
45. McIntosh, J.; Marques, B.; Cornwall, J.; Kershaw, C.; Mwipiko, R. Therapeutic Environments and the Role of Physiological Factors in Creating Inclusive Psychological and Socio-Cultural Landscapes. *Ageing Int.* **2021**, 1–14. [CrossRef]
46. Shashua-Bar, L.; Hoffman, M.E. Vegetation as a Climatic Component in the Design of an Urban Street. *Energy Build.* **2000**, *31*, 221–235. [CrossRef]

47. Lee, A.; Jordan, H.; Horsley, J. Value of Urban Green Spaces in Promoting Healthy Living and Wellbeing: Prospects for Planning. *Risk Manag. Healthc. Policy* **2015**, *8*, 131. [CrossRef] [PubMed]

48. Maas, J.; van Dillen, S.M.E.; Verheij, R.A.; Groenewegen, P.P. Social Contacts as a Possible Mechanism behind the Relation between Green Space and Health. *Health Place* **2009**, *15*, 586–595. [CrossRef] [PubMed]

49. Bratman, G.N.; Daily, G.C.; Levy, B.J.; Gross, J.J. The Benefits of Nature Experience: Improved Affect and Cognition. *Landsc. Urban Plan.* **2015**, *138*, 41–50. [CrossRef]

50. Bratman, G.N.; Anderson, C.B.; Berman, M.G.; Cochran, B.; de Vries, S.; Flanders, J.; Folke, C.; Frumkin, H.; Gross, J.J.; Hartig, T.; et al. Nature and Mental Health: An Ecosystem Service Perspective. *Sci. Adv.* **2019**, *5*, eaax0903. [CrossRef] [PubMed]

51. Finlay, J.M.; Meltzer, G.; Cannon, M.; Kobayashi, L.C. Aging in Place During a Pandemic: Neighborhood Engagement and Environments Since the COVID-19 Pandemic Onset. *Gerontologist* **2022**, *62*, 504–518. [CrossRef]

52. Akpinar, A.; Barbosa-Leiker, C.; Brooks, K.R. Does Green Space Matter? Exploring Relationships between Green Space Type and Health Indicators. *Urban For. Urban Green.* **2016**, *20*, 407–418. [CrossRef]

53. Wolch, J.R.; Byrne, J.; Newell, J.P. Urban Green Space, Public Health, and Environmental Justice: The Challenge of Making Cities 'Just Green Enough'. *Landsc. Urban Plan.* **2014**, *125*, 234–244. [CrossRef]

54. Rupprecht, C.D.D.; Byrne, J.A. Informal Urban Greenspace: A Typology and Trilingual Systematic Review of Its Role for Urban Residents and Trends in the Literature. *Urban For. Urban Green.* **2014**, *13*, 597–611. [CrossRef]

55. Fricker, R.D. Sampling Methods for Web and E-Mail Surveys. In *The SAGE Handbook of Online Research Methods*; SAGE Publications Ltd.: London, UK, 2008.

56. Ekman, P.; Sorenson, E.R.; Friesen, W.V. Pan-Cultural Elements in Facial Displays of Emotion. *Science* **1969**, *164*, 86–88. [CrossRef]

57. Elfenbein, H.A.; Ambady, N. On the Universality and Cultural Specificity of Emotion Recognition: A Meta-Analysis. *Psychol. Bull.* **2002**, *128*, 203–235. [CrossRef]

58. Gibson, J. The Theory of Affordances. In *The People, Place, and Space Reader*; Gieseking, J., Mangold, W., Katz, C., Low, S., Saegert, S., Eds.; Routledge: New York, NY, USA, 1977; pp. 56–60.