forests

MDPI

Article

Psychosocial Determinants of Recreational Activity within Urban Green Spaces during the COVID-19 Pandemic in Poland

Sandra Wajchman-Świtalska [1,*], Olga Grabowska-Chenczke [2], Marcin Woźniak [3] and Bibianna Bałaj [4]

[1] Department of Forestry Management, Faculty of Forestry and Wood Technology, University of Life Sciences in Poznań, Wojska Polskiego St. 71C, 60-625 Poznań, Poland
[2] Department of Law and Enterprise Management in Agribusiness, Faculty of Economics, University of Life Sciences in Poznań, Wojska Polskiego St. 28, 60-637 Poznań, Poland
[3] Faculty of Human Geography and Planning, Adam Mickiewicz University in Poznań, Bogumił Krygowski St. 10, 61-680 Poznan, Poland
[4] Faculty of Philosophy and Social Sciences, Nicolaus Copernicus University in Toruń, Gagarina St. 39, 87-100 Toruń, Poland
* Correspondence: sandra.switalska@up.poznan.pl

Abstract: Recreational activity undertaken within urban green spaces (UGS) is an action that could be self-governed and self-regulated by a given person under the pressure of COVID-19. We aimed to identify the factors that induce or reduce the frequency of recreational activity during the COVID-19 pandemic. These factors were explored among two distinct fields: (1) demographic variables and (2) stress-coping strategies. The former is associated with a body of literature on socioeconomic determinants of physical activity. The latter is derived from psychological studies on coping responses to problems. In this paper, we present an interdisciplinary perspective on human recreational activity during the pandemic. We collected information on stress-coping strategies and the patterns of urban green recreation among 376 prime-age Polish adults with different places of residence. We observed that people who use forests daily had higher scores of acceptance as a coping strategy than people using green spaces only on weekends. As choosing acceptance as a coping strategy is typical for those who consider their situation to be irreversible, green recreation may help to acclimate individuals to stressful situations that cannot be easily changed or controlled, which is the case for the pandemic. Moreover, we found that active coping, as well as avoidant coping, were predictors of increased use of green spaces during the pandemic. This conclusion affirms that green recreation as a form of reducing COVID-19-induced stress is associated with the dual nature of coping (active and avoidant). Further research is necessary to better understand of motivation to use urban green recreation, especially when practiced as a method of strengthening mental health.

Keywords: COVID-19 pandemic; green recreation; urban green spaces (UGS); urban forests; stress-coping strategies; mental health

Citation: Wajchman-Świtalska, S.; Grabowska-Chenczke, O.; Woźniak, M.; Bałaj, B. Psychosocial Determinants of Recreational Activity within Urban Green Spaces during the COVID-19 Pandemic in Poland. *Forests* **2022**, *13*, 1569. https://doi.org/10.3390/f13101569

Academic Editors: Qing Li, Won Sop Shin and Christos Gallis

Received: 9 August 2022
Accepted: 20 September 2022
Published: 26 September 2022

1. Introduction

> "The living being is stable. It must be in order not to be destroyed, dissolved, or disintegrated by the colossal forces, often adverse, which surround it. By an apparent contradiction, it maintains its stability only if it is excitable and capable of modifying itself according to external stimuli and adjusting its response to the stimulation. In a sense it is stable because it is modifiable—the slight instability is the necessary condition for the true stability of the organism." [1]

1.1. Psychological Impact of COVID-19 on Mental Health

The COVID-19 pandemic is considered a massive global health crisis [2–4]. The global and profound impact of the pandemic affected human beings in a traumatic way, as in a relatively short time, we observed a significant increase in mortality in every country

struggling with SARS-CoV-2. Various mental health challenges were widely observed during the COVID-19 pandemic [5,6]. Systematic reviews reported high rates of symptoms of psychological distress, depression, anxiety, post-traumatic stress disorder, and stress in the studied populations [5,7]. Looking after physical, as well as mental, health became a necessity rather than a privilege. Repeated lockdowns often exacerbated the already present sense of loneliness and lack of support in society. Many people did not seek professional help, as they were not used to seeking out help in mental crises. Many of those who were in need of help were not comfortable with using modern technologies to access mental health support. Consequently, we experienced an unprecedented level of fear and uncertainty among people who were not able to cope with threats in the environment. Reid et al. [8] reported significantly increased depression scores for all "COVID-19 periods" compared to the period "before COVID-19".

The negative behavioral, psychological, and emotional impact of the COVID-19 pandemic on various groups is still widely discussed [9–11]. However, researchers have also focused on the positive aspects of behavior that helped people cope with stress during the pandemic. Berdejo-Espinola et al. [12] reported that spending time in the natural environment is one potential way to cope with the negative physical and psychological health impacts of stressful life events. Most participants in this study indicated an increase in the importance of the psychophysical benefits obtained from UGS, emphasizing improvement of personal well-being [12]. Similarly, the results of studies performed on the physiological effects of Shinrin-yoku (forest bathing or taking in the forest atmosphere) show that forest environments help to effectively relax the human body [13]. A report by the World Health Organization (2021) highlights the positive long-term effects of exposure to green spaces on mental health. For almost all green space types, beneficial effects were found with respect to affect, perceived stress, and subjective well-being [14]. Reid et al. [8] also provided evidence of mental health benefits linked with UGS exposure during the coronavirus pandemic.

The concept of stress is not new. Hans Seyle defined stress as 'the nonspecific response of the body to any demand made upon it' [15,16]. Seyle's concept of stress and general adaptation syndrome (GAS) paved the way for many studies and conclusions about the relationship between stress and various dimensions of life activities [17–20]. We learned that stress is primarily a survival mechanism, and in the face of multiple and confounded stressors, our biological processes in the brain and body are affected. It has been widely established that stress usually has a negative impact on emotional and physical health, as well as on work productivity [21]. Stress has become a ubiquitous term in biology, physiology, psychology, sociology, and environmental fields [22]. However, there are many ways to successfully cope with stress and achieve long-term protection from stress.

When analyzing stress, we often use the term homeostasis, which was popularized by Walter Bradford Cannon in his book, The Wisdom of the Body [23]. Cannon referred to homeostasis as a state of organisms that enables all body organs to work cooperatively. He underlined that the synonym for homeostasis is not an immobile state or stagnation but a condition that may vary but is relatively constant [23]. Cannon claimed that homeostasis does not occur by chance but results from organized self-government. Moreover, humans tend to oscillate between a minimum and a maximum 'normal' value of homeostasis, considered the normal physiological or homeostatic range [24].

As homeostasis is a self-governed condition, people may be motivated to take independent (self-governed) actions to protect their body and mind against the harmful effects of various stressors. Self-governance and resilience are vital, especially in the face of chaos, stress, and anxiety in the environment, a situation that was acutely experienced during the pandemic, when the 'nation is the patient' [25]. A growing body of evidence supports the development of positive behavioral traits and coping methods to allow people to survive the hardships of a pandemic and avoid the traumatic effects of stress, anxiety, and isolation [6,26,27]. Research shows that several factors (e.g., physical activity) are associated with positive affect, regardless of stressful life events during the pandemic [28–30].

Furthermore, positive psychology has been shown to be important with respect to building mental health and coping with stress [31,32].

1.2. Recreational Activity within UGS during the Pandemic

Unexpected conditions, such as a pandemic, lockdown, and stay-at-home orders, are undoubtedly sources of stress in everyday life. Previous research has suggested that the longer the isolation period, the greater the impact on mental health, resulting in increased avoidance behavior and anger [33]. Furthermore, a decrease in daily social behavior and physical contact with other people can lead to depression and a sense of isolation [33]. Especially in terms of mental health, strict quarantine measures cause panic and fear among urban residents [34]. The spread of a pandemic over a long period causes negative emotions, such as fear and anxiety [35]. During the pandemic, UGS, such parks, received increased attention due to their significant and indispensable services, such as providing places for healthy outdoor recreation [36,37]. The impact of restrictions on social gatherings, the closure of workplaces and recreational sites, and new policies have been widely studied. Geng et al. [38] analyzed the impacts of COVID-19 and government policies to the in response to the pandemic on park visitation at global, regional, and national levels. Xie et al. emphasized the critical role of urban parks during the pandemic from the perspective of the urban building environment [39]. The effects of the COVID-19 pandemic on the use and perceptions of UGS were studied by Ugolini et al. [40]. Considering Poland and the forest environment, the ban on access to forests for recreational activities due to the threat of the COVID-19 pandemic was identified as a significant problem by survey respondents [41]. A pilot study on the social importance of forests during the pandemic revealed that more than 75% of respondents declared that they had been in the forest during the stay-at-home order [42]. The Polish Tourist Organization commissioned studies on planning to embark tourist trips and ways to spend holidays in the country [43,44]. Moreover, Wojcieszak-Zbierska et al. [45] described the Polish people's tourist plans during the pandemic in the context of holidays spent on agritourism farms (agri-breaks).

The topic of green recreation is highly relevant in Poland, where only 20% of citizens take part in regular physical activity conforming to the recommendations of the World Health Organization and as many as 33.9% admit that never walk in their free time [46]. Therefore, the overall activity level of Poles is significantly lower compared to other that of European countries, such as the Czech Republic, Lithuania, Spain, Sweden, and Germany [47]. In a study conducted by Neuvonen et al. [48], the authors found that nearly all (97%) inhabitants of Helsinki (Finland) participate in an outdoor recreational activity during the year, whereas 50% participate in outdoor recreation either daily or every second day.

Urban green recreation contributed to shaping the well-being and mental health of urban residents. Research conducted on Swedish urban residents showed that those who spend more time outdoors in UGS are less affected by stress in comparison to those who do not engage in outdoor activities [49]. The authors concluded that easily accessible outdoor areas that provide environments free from stress have remarkably positive effects on the health of urban inhabitants.

Similarly, Tong et al. [50] found that an increase in walking activity may be an important factor that influences the quality of life in modern cities, as well as well-being of inhabitants.

In 2018, Twohig-Bennett and Jones [51] conducted a meta-analysis of greenspace exposure and health outcomes and found that greenspace exposure is associated with significant health benefits, e.g., reduced blood pressure, heart rate, cortisol levels, type II diabetes, stroke, and all-cause and cardiovascular mortality, as well as health-denoting associations with pregnancy outcomes, cholesterol, and self-reported health. Research findings reported Dzhambov et al. [52] support the idea that green space should be considered a protective factor against both high and low blood pressure, as reported among residents of an alpine valley. However, estimations of the relationship between green space exposure and health are not always clear, e.g., the association between living in an urban green area and the

probability of being obese. Dempsey et al. [53] reported evidence of a U-shaped relationship between green space in urban areas and obesity among older adults. Those living in areas with the lowest and highest shares of green space were reported to have a higher probability of being classified as obese. The results suggest that other factors in the urban environment may influence this relationship.

1.3. The Aim of the Study

In this study, we aimed to identify the factors that induced or reduced the frequency of recreational activity during the recent pandemic. We focused on two types of possible determinants: (1) sociodemographic variables and (2) stress-coping strategies. As discussed above, the former is associated with a body of literature on socioeconomic determinants of physical activity and environmental attitudes [54–56], as well as sport participation, physical fitness [57–59], environmental attitudes, and perception [60–62]. The latter is derived from psychological studies on coping responses to problems, as discussed above. The aim of the interdisciplinary approach applied herein to recreational activity during the pandemic period among Polish citizens is to fill the gap in research on psychosocial determinants of green recreation in Poland [63]. On this basis, two research questions were formulated:

(1) What are the sociodemographic determinants of recreational activity within UGS?
(2) What are the psychological determinants of recreational activity (within UGS) in terms of stress coping?

2. Materials and Methods

2.1. Study Assumptions

The main research problem was to identify the factors that induced or reduced the frequency of recreational activity during the recent coronavirus pandemic. Studying the relationships between variables may also help to develop a discussion about green recreation as an activity to cope with stress. We also aimed to better understand the motives of people who undertake recreation in UGS, especially during a global health crisis. UGS considered in this study were urban woodlands, forests outside the city, parks, meadows, botanic gardens, and allotment gardens.

In our study, we adopted the term "green therapy and recreation", which is defined as the treatment of mild mental and emotional disorders without the use of drugs through direct contact with nature, i.e., influencing the psyche with natural landscapes, colors, smells, and sounds of nature [64]. In this study, we attempted to determine how often the respondents undertook recreation in green areas and how they assessed the impact of their green recreation on their stress levels caused by the COVID-19 pandemic. We considered selected demographic variables, including age, sex, place of residence, level of education, and marital and employment status.

To answer our research questions, we administered a diagnostic survey using the following tools:

1. The Brief-COPE inventory for measuring coping with stress by Ch. S. Carver as adapted by Z. Juczyński and N. Ogińska-Bulik [65]; and
2. An original questionnaire examining recreational activity in green areas during the COVID-19 pandemic (to access the tool, please contact the authors).

The Brief-COPE inventory for measuring coping with stress is a multidimensional inventory used to assess effective and ineffective ways to cope with stressful life events. The inventory measures various distinct aspects of problem-focused and emotion-focused coping among adults. The use of the online version of the Brief-COPE was reviewed and approved by the Psychological Test Laboratory of the Polish Psychological Association.

The Brief-COPE consists of 28 items covering 14 strategies (2 items in each strategy). The respondents answered using a scale from 0 to 3, where 0 indicates, "I haven't been doing this at all", 1 indicates, "A little bit", 2 indicates, "A medium amount", and 3 indicates "I've been doing this a lot". These 14 strategies form 4 basic styles of coping with

stress: (1) active coping (strategies including active coping, planning, and positive reframing), (2) helplessness (strategies including substance use, behavioral disengagement, and self-blame), (3) seeking support (strategies including use of emotional support and use of instrumental support), and (4) avoidant coping (strategies including self-distraction, denial, and venting). Three other strategies (religion, humor, and acceptance) are separate categories. We adopted a method of categorization based on research on emotional intelligence and stress management strategies by Sygit-Kowalkowska [66] and Szatkowska and Szkulmowski [67].

The frequency of green recreation during the COVID-19 pandemic and the perception of the impact of green recreation on stress levels caused by the COVID-19 pandemic were measured within the original questionnaire on recreational activity in green areas during the COVID-19 pandemic. Respondents were asked questions about whether they think recreational activities in the forest and green spaces had any impact on reducing the level of stress caused by the COVID-19 pandemic. The respondents answered using a scale from 1 to 5, where 1 indicates, "Strongly disagree", 2 indicates, "Disagree", 3 indicates, "Undecided or Neutral", 4 indicates, "Agree", and 5 indicates "Strongly agree".

Due to the applied restrictions, which made it difficult or impossible to contact respondents in any other way, the survey was anonymous and conducted online via Google Forms. To recruit survey participants, we used the snowball sampling method [68–71], which significantly extended the scope of the research. Because snowball sampling relies on each participant referring others, it was not possible to collect details on the number of refusals with respect to completing the questionnaire. However, snowballing enabled us to conduct the research under the circumstances of limited access to potential participants due to lockdown and isolation restrictions. Only fully completed questionnaires were accepted. The survey was available online from 28 June to 31 July 2021.

2.2. Ordinal Logistic Regression

Logistic regression was used to estimate the relationship between the categorical response variable and one or more independent variables. This method involves estimating probabilities using a logistic function [72,73]. Key terms in any type of logistic regression are odds, which are defined as the ratio of the probability of success to the probability of failure. It can be simplified as the ratio of the frequency of one variable to the frequency of another variable [74]. In the analysis, we applied proportional odds ordinal logistic regression, which is an extension of the binary logistic regression model [75].

An ordinal variable has natural order of categories. An example is the dependent variable, types of recreational activity, which is described with four categories: several times in a month or less, weekends, Monday to Friday, and every day. An ordinal response model describes the relationship between an ordinal response variable and explanatory variables.

Assume Y is an ordinal response variable with c categories $(1, \ldots, c)$. Odds for variable Y equal to or less than a given category are defined as described by Bilder and Loughin [76]:

$$\frac{P(Y \leq j)}{P(Y > j)},$$

where j is a specific category. In ordinal regression models, the relationship between the response variable and its covariates is described by c-1 logits equations:

$$\text{logit}(P(Y \leq j) = \log\left(\frac{P(Y \leq j)}{P(Y > j)}\right) = \alpha_j - \beta X, \quad (1)$$

where $j \in (1, J-1)$ are levels of ordinal outcome variables. Equation (1), like a common regression model, includes a $J-1$ intercept (α_j) and coefficients (β). To make the description of the model more intuitive we specify it as:

$$\text{logit}(P(Y \leq j) = \alpha_j + \delta X, \quad (2)$$

Therefore, high values of $\alpha_j + \delta X$ are associated with high values of the dependent variable, whereas the inverse is not true [77]. One of the assumptions underlying ordinal logistic regression is that the relationship between each pair of outcome groups is the same [77]. This proportional odds model implies that α_j can differ across logits, whereas each explanatory variable has single coefficients (δ). Finally, we parametrized the models according to the polr R package implementation [78]:

$$\text{logit}(P(Y \leq j) = \alpha_{j0} - \delta_1 x_1 - \delta_2 x_2 - \ldots - \delta_n x_n \quad (3)$$

On the basis of Equation (3), we developed three ordinal logistic regression models. The outcomes are presented in the next section of the study.

3. Results

3.1. Descriptive Analysis

We obtained 376 correctly completed questionnaires (262 from women (69.7%) and 114 from men (30.3%)). The distribution of place of residence was relatively equal, with a slight domination of people living in the country (25%) and residents of cities with >500,000 inhabitants (31.1%). The majority of respondents declared a higher level of education (71.5%) and full-time employment (53.2%). Our research focused on prime-age Polish adults who, due to lockdowns and social restrictions resulting in a sedentary lifestyle, suffered considerably during the COVID-19 pandemic. The dominant groups were married respondents and those in permanent relationships (55.1%), as well as those declaring themselves as single (32.4%). The majority of respondents did not have a disability certificate (94.1%). The sociodemographic characteristic of the respondents is shown in Table 1. Some additional descriptive statistics for stress coping strategies can be found in Appendices A and B.

Table 1. Sociodemographic characteristics of the respondents (share (%)).

Demographic Data		Share (%)
Gender	Female	69.7
	Male	30.3
Age	16–20	6.2
	21–30	27.6
	31–40	22.8
	41–50	27.8
	51–60	11.2
	>60	4.3
	not answered	0.8
Place of residence	village	25.0
	city ≤20,000 inhabitants	14.4
	city 21,000–100,000 inhabitants	12.5
	city 101,000–500,000 inhabitants	17.0
	city >500,000 inhabitants	31.1
Level of education	primary	
	lower secondary	0.5
	vocational	3.2
	secondary	21.0
	postsecondary	3.7
	higher	71.5
Marital status	single	32.4
	married/in a committed relationship	55.1
	divorced/separated	10.6
	widow/widower	1.9

Table 1. *Cont.*

Demographic Data		Share (%)
Number of children	0	50.0
	1	16.2
	2	26.3
	3	5.3
	4	0.8
	5	0.3
	9	0.3
	not answered	0.8
Disability certificate	Yes	5.9
	No	94.1
Employment status	full-time employee	53.2
	odd job	9.6
	run a business	12.8
	pensioner	5.9
	unemployed	6.1
	other	12.5

We measured the frequency of urban green recreational activity using four basic categories: every day, from Monday to Friday, only on weekends, and several times a month or less (Figure 1).

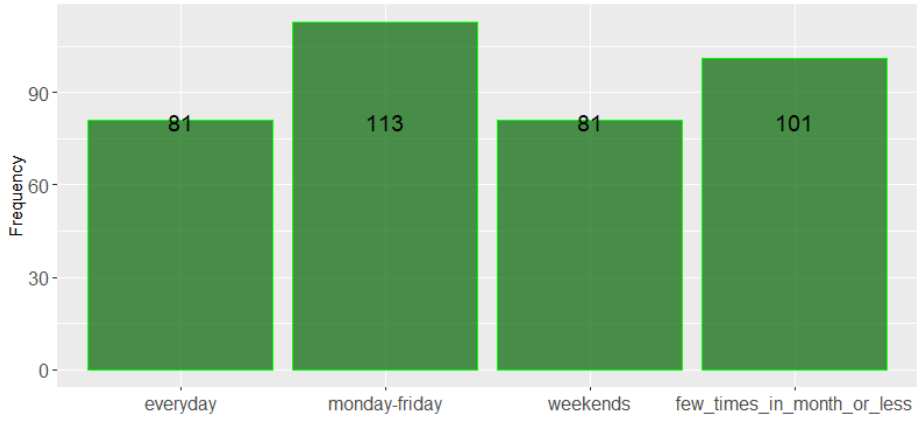

Figure 1. Frequency of recreational activity among respondents.

We consider it important to differentiate between regular and occasional urban green recreational activity. Wang et al. [79] also categorized recreational activity, using gradually increasing categories, ranging from once per year to once or more per day. However, we assume that it is also crucial to differentiate between activities undertaken during working days and weekends, as this distinction may provide information about patterns of green recreation.

Our study results show that recreational activity in UGS and forests increased during the pandemic among 38.8% of respondents. A detailed distribution of this share is presented in Table 2.

The majority of respondents (72.4%) stated that recreational activity in urban green spaces and forests reduced stress caused by the COVID-19 pandemic. The most frequently reported emotions felt by respondents concerning the COVID-19 pandemic were anxiety (59.8), frustration (47.8%), expectancy (35.6%), sadness (24.7%), fear (20.21%), and indifference (21.5%). Other emotions that respondents declared had a smaller share: surprise (14.8%), anger (3.9%), aggression (3.7%), trust (2.9%), and joy (2.6%).

Table 2. Results answers to the following question: Has your recreational activity in UGS and forests increased during the pandemic (compared to the time before the pandemic)?

Option	Number of Answers	Share (%)
definitely not changed	117	31.2
moderately not changed	113	30.0
moderately changed	91	24.2
definitely changed	55	14.6
Total	376	100.0

3.2. Regression Outputs

Model I included the demographic variables described in Table 1. Model II included the 14 adaptation strategies from the Brief-COPE Inventory presented in Table 1. In comparison, Model III included seven simplified adaptation strategies from the Brief-COPE Inventory developed as described above. The results of the logistic regression are presented in Tables 3–5.

Table 3. Results of logistic regression.

Model 1		
Variable	**Coefficient**	***p*-Value**
city ≤20,000 inhab.	0.38	0.23
city 21,000–100,000 inhab.	0.73 *	0.02
city 101,000–500,000 inhab.	1.17 ***	0
city >500,000 inhab.	1.04 ***	0
status (married)	−0.63 *	0.01
status (divorced)	−1.07 *	0.01
status (widower)	−2.18 *	0.01
children	0.20 *	0.05
sex	0.1	0.39
disability (no)	−0.40 *	0.05
Employment (all categories)	−0.1 to 1	0.12 to 0.9
level of education (all categories)	1 to 1.7	0.2 to 0.5
Lipsitz test	14.05	0.1
Pulkstenis–Robinson test	373	0.98
AIC	815	
Residual deviance	777	

Model I contains demographic variables as inputs; Model II contains 14 strategies from the Carver Brief-COPE Inventory as inputs; Model III contains seven simplified strategies derived on the basis of the Carver Brief-COPE Inventory as inputs (source: own computations). The *, *** are significance levels. The lower the *p*-value, the signifiance level is higher.

Table 4. Results of logistic regression.

Model 2		
Variable	**Coefficient**	***p*-Value**
active coping	−0.06	0.58
planning	−0.14	0.15
positive reframing	0.01	0.87
acceptance	−0.18 *	0.02
humor	0.05	0.49
religion	0.01	0.73
emotional support	0.02	0.87
instrumental support	0.006	0.93
self-distraction	−0.14 ˆ	0.07
denial	−0.15 *	0.02

Table 4. *Cont.*

Model 2		
Variable	**Coefficient**	***p*-Value**
venting	0.11	0.17
substance use	−0.03	0.63
disengagement	0.01	0.89
self-blame	−0.03	0.61
Lipsitz test	20.72 **	0.01
Pulkstenis–Robinson test	1124	0.38
AIC	1048	
Residual deviance	1014	

Model I contains demographic variables as inputs; Model II contains 14 strategies from the Carver Brief-COPE Inventory as inputs; Model III contains seven simplified strategies derived on the basis of the Carver Brief-COPE Inventory as inputs (source: own computations). The ^, *, ** are significance levels. The lower the *p*-value the signifiance level is higher.

Table 5. Results of logistic regression.

Model 3		
Variable	**Coefficient**	***p*-Value**
active coping	−0.15 ^	0.09
helplessness	−0.02	0.78
support seeking	0.03	0.65
avoidance	−0.20 *	0.05
acceptance	−0.17 *	0.02
humor	0.02	0.79
religion	0.009	0.84
Lipsitz test	7.23	0.61
Pulkstenis–Robinson test	1123	0.44
AIC	1042	
Residual deviance	1022	

Model I contains demographic variables as inputs; Model II contains 14 strategies from the Carver Brief-COPE Inventory as inputs; Model III contains seven simplified strategies derived on the basis of the Carver Brief-COPE Inventory as inputs (source: own computations). The ^, * are significance levels. The lower the *p*-value the signifiance level is higher.

Model I presents the best fit (lowest Akaike information criterion, together with results of the goodness-of-fit tests). Comparatively, Model II presents the worst fit to the data (the highest values of AIC, together with doubtful results of the Lipsitz test; the Pulkstenis–Robinson test confirmed a good model fit). The performance of Model III is somewhere between that of Models I and II. The fit is better when compared to model II. The results of both goodness-of-fit tests also confirmed that the Model III is well-suited. However, the diagnostic results were somewhat worse than in case of Model I. In further analysis, we focused on variables that appeared to be significant. Consequently, we computed probabilities associated with each category of the dependent variable (frequency of urban green recreation) for these meaningful factors. These were visualized on plots for in-depth analysis.

Regarding Model I, which contained demographic variables, we identified four meaningful determinants of recreational activity: place of residence, marital status, having children, and disability. The impact of these factors on the frequency of recreational activity is presented in Figure 2.

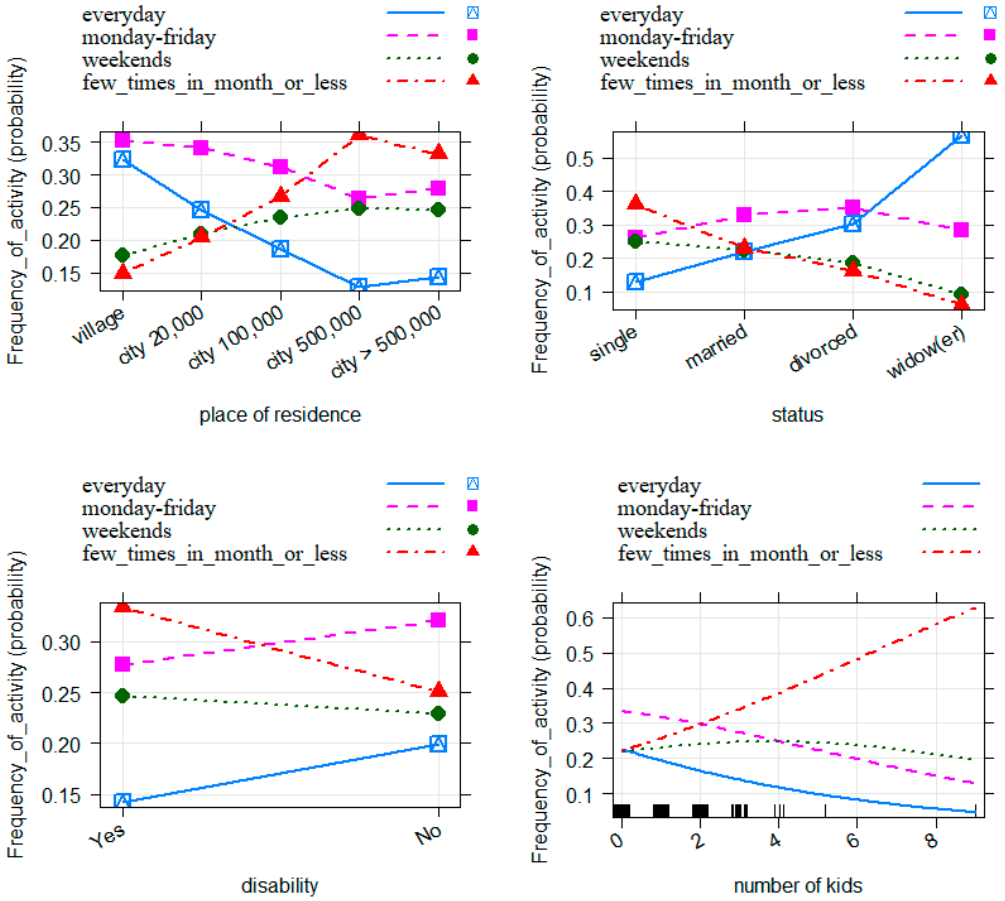

Figure 2. Frequency of urban green recreation response for significant demographic variables (source: own computations).

Regarding marital status, the odds for everyday recreational activity among singles are six times lower than in the case of widows/widowers. This group substantially outperformed others. The difference between the married and divorced groups is minimal but significant; divorced individuals are more likely to engage in frequent recreational activity. Disability is a significant predictor of less frequent recreational activity. Similar findings were reported in several empirical contributions [80,81]. Physical, organizational, and attitudinal barriers are present in many countries and limit the access of disabled persons to recreational activities.

Another interesting finding is that the probability of frequent recreational activity decreases in association with the number of children. Parents with children usually do not have as much free time and may not perceive outdoor recreation with children as a recreational activity that they can benefit from personally. Moreover, research conducted by Lee et al. [82] revealed that those visiting scenic green areas with children focused less on both physical exercise and relaxation and expressed a stronger interest in family recreation.

Regarding Model II, which contained raw 14 strategies from the Brief-COPE Inventory, we identified three meaningful factors that increase the probability of recreational activity: acceptance, self-distraction, and denial strategies (Figure 3).

The denial strategy increases the probability of recreational activity in the highest frequency categories ('every day' and 'from Monday to Friday'). Even low scores with respect to this strategy are associated with a high probability of intensive green recreation. This defense mechanism is based on not acknowledging reality, so increased physical activity could represent a means of escaping from stressors. Denial is described as a means of claiming that something is not real and refusing to believe that something has happened [83]. We assume that with a higher level of denial strategy, outdoor green

recreation may support the feeling of derealization in the face of fear and anxiety caused by the COVID-19 pandemic.

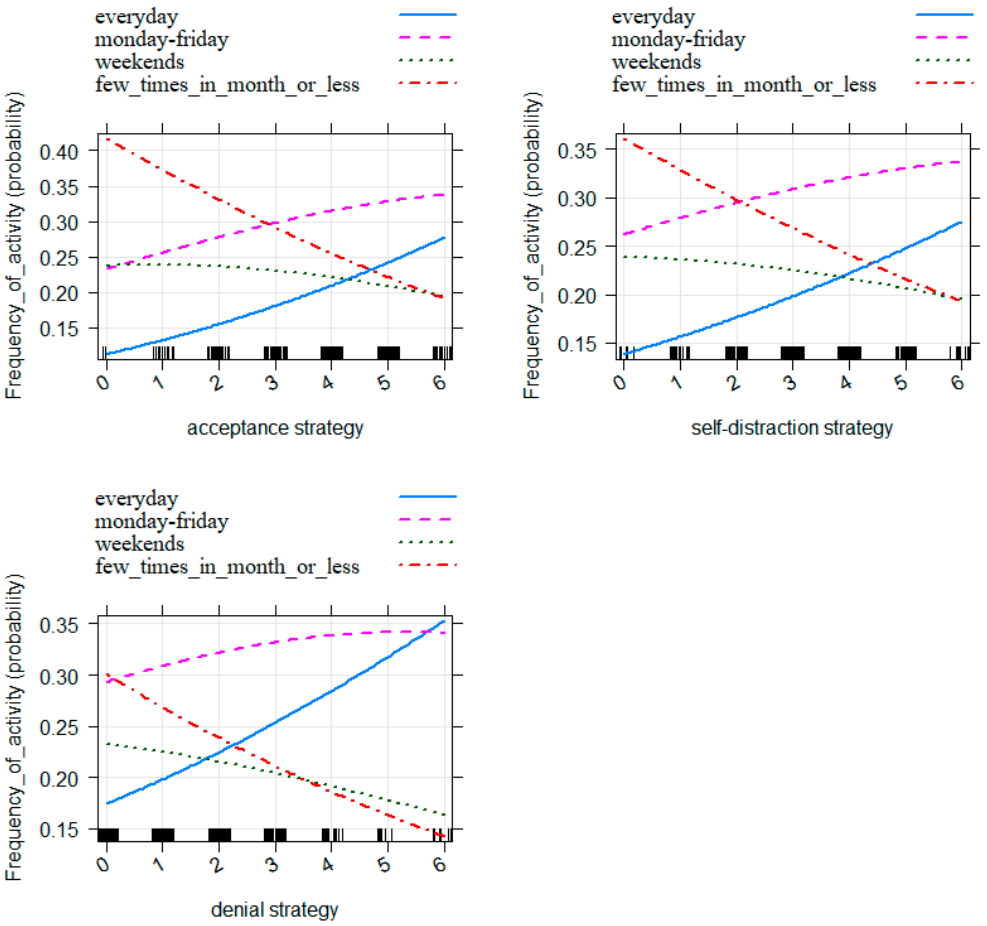

Figure 3. Frequency of recreational activity response for significant strategies from the Brief-COPE Inventory (14 strategies) (source: own computations).

Two remaining meaningful factors (acceptance and self-distraction strategies) also increase the odds of engaging in recreational activity every day or Monday-Friday, although the probability is lower in these cases. Self-distraction involves avoiding confrontation and making an effort to undertake work or other activities to avoid emotionally disturbing situations and to think less about problems [83]. At least for some people with a higher level of self-distraction, green recreation may serve as a means of running away from the problem. Furthermore, both denial and self-distraction are considered dysfunctional coping strategies, compared to acceptance.

Acceptance as a coping strategy is usually considered a self-regulation strategy. People use this strategy as a way to regulate their own emotions in an open and welcoming manner. Through this strategy, a person spends time rethinking the situation and involves themselves in external events not to avoid the experienced emotions but to receive them without attempting to control them. Acceptance-based therapeutic programs have been demonstrated to be successful in terms of stress and pain reduction, as well as decreasing anxiety and depression symptoms [84]. Those who access UGS on a daily basis may experience more self-regulation in irreversible and stressful situations. As a consequence, everyday green recreation may serve as another form of acceptance-based activity when coping with stress.

Finally, Model III was estimated by including seven simplified strategies extracted on the basis of the Carver Brief-COPE Inventory. Therefore, the results of this model could

be easily compared with Model II results. We identified three significant determinants of recreational activity: acceptance, active coping, and avoidance strategies (Figure 4).

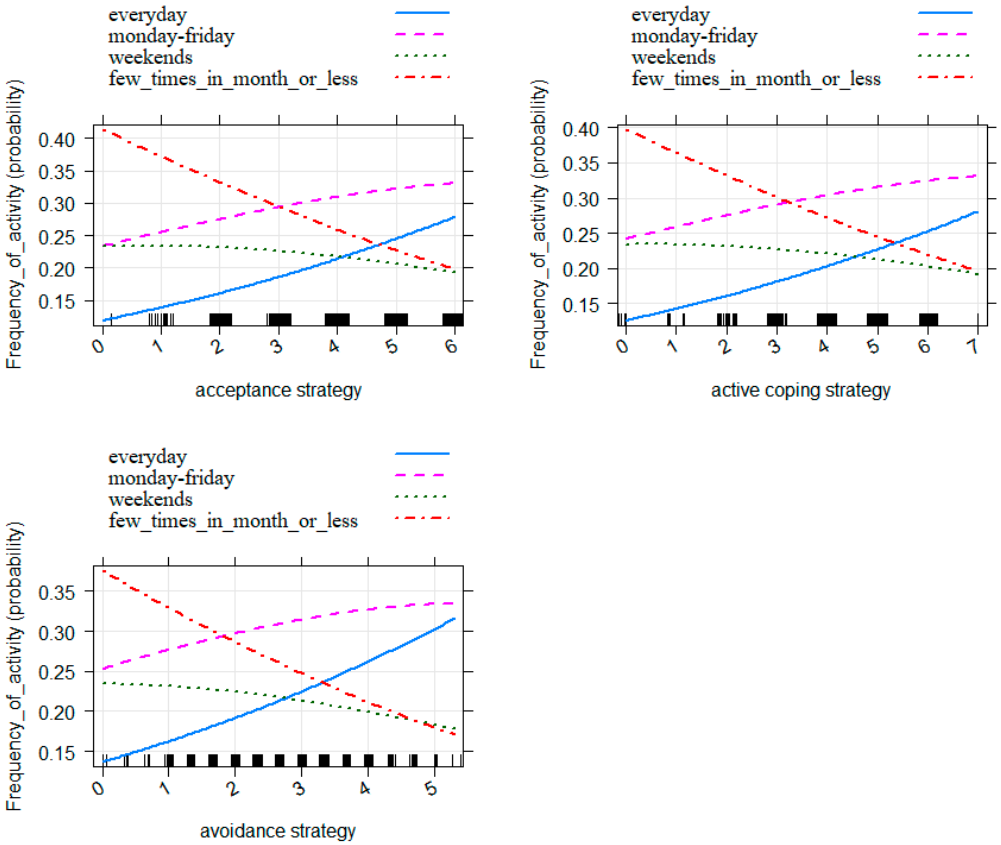

Figure 4. Types of recreational activity response for significant strategies from the Brief-COPE Inventory (7 strategies) (source: own computations).

Acceptance and active coping strategies are fairly similar. They are associated with increased recreational activity, mainly in the 'from Monday to Friday' category. The avoidance strategy produced the highest probability response in the two most frequent categories of recreational activity ('every day' and 'from Monday to Friday').

4. Discussion

4.1. Strategies for Coping with Stress and Green Recreation

Reducing stress is one of the most common benefits resulting from visiting forests [85–87]. We observe the long-term impact of using UGS [88,89], forest environments [90], and keeping contact with nature in general [91,92] on mental health.

Forest environments offer more restorative properties than the urban environment. Indicators related to the restorative effects in forest settings refer mainly to psychological health, satisfaction with the living environment, and stress coping. Regardless of individual traits, simply spending time in a forest setting for a relatively short period allows people experience a psychological restorative effect [93]. Because living in urban areas is related to an increased risk of being exposed to stressful situations and developing chronic mental health disorders, special attention has been paid to the benefits of forest therapy with respect to mental health among urban citizens [87,94]. The restorative benefits of nature, analyzed from the perspective of mental health benefits, helped to develop an integrative framework for further studies [95,96]. Research conducted in Japan provides evidence of a significant increase in positive feelings and a significant decrease in negative feelings resulting from forest bathing (forest stimuli) compared with urban stimuli [97]. Moreover, Li et al. [98] found that forest bathing was related to a significant increase in immune response measured

by human natural killer (NK) activity, as well as the number of NK cells. Further studies also showed that increased NK activity could be associated with decreased stress hormone levels and phytoncides released from trees [99]. Forest bathing trips significantly decreased the concentration of adrenaline and noradrenaline, confirming the effect of Shinrin-yoku on mental and physical stress hormones among both female and male subjects [100]. Our research also proved that for more than 72% of respondents, recreational activity in urban green spaces and forests reduced stress caused by the COVID-19 pandemic.

Health status and social needs can also be improved by visiting urban parks [39]. People experience more benefits if they spend a longer time visiting urban parks [101]. Consistent with existing research results, even weekly visits to a UGS can significantly improve health status [102]. Urban green spaces (including parks) provide a wide range of ecosystem services, which can help people to cope with many diseases and improve their quality of life and health status [103]. Visiting urban parks and a green environment can effectively improve mental health [104] and reduce anxiety [105]. In addition, people who visit a park regularly are more likely to report good health than those who do not [106]. On the other hand, many people live increasingly urbanized lifestyles, resulting in the risk of losing daily contact with nature, thereby decreasing access to the range of health benefits associated with viewing nature [107]. Therefore, not only natural forests but also easily accessible urban green spaces have a beneficial effect on the health and well-being of citizens [108]. On the other hand, while visiting forests and other green areas, one may encounter the problem of social exclusion resulting from inappropriate infrastructure. Thus, the development of recreational infrastructure accordingly to universal design is of importance [109] to avoid situations in which the inability to use the forest infrastructure could represent a source of stress.

The COVID-19 pandemic completely changed many people's daily routines. Existing research has shown the immense stress associated with the pandemic, regardless of age or geographical region, due to lockdowns and changes in routine [110,111]. Researchers have studied the psychological and behavioral consequences of the COVID-19 outbreak [62,112]. To date, more research has been conducted on COVID-19 stress than on the impact of stress-coping strategies on environmental attitudes and preferences for activity within UGS during the COVID-19 pandemic [113]. Although previous research has widely discussed the positive role of urban parks [114,115] and urban nature in general [116,117], the literature regarding the relationship between the typical pattern of coping with stress and the choice of green recreation during a pandemic is still limited. However, discussions regarding their role under extremely stressful circumstances (such as during a pandemic) are still limited. Knowledge about managers' motivations and resources to cope with the demand of UGS is also limited [118]. On the other hand, managers of UGS are diverse worldwide, so it is difficult to obtain universal results [118].

In our research, we identified several determinants of green recreation during the pandemic period, including acceptance, as well as active and avoidant coping (Model III). The preference for these three strategies by those who declared an increased use of green spaces may be related to the fact that in the face of crisis, people attempt to actively cope with stress, whereas when the situation gets out of control, as in the case of the COVID-19 pandemic, they also attempt to test run-off strategies (avoidance) to deal with stress that they cannot address. Active and avoidant coping strategies are seemingly contradictory since; however, they can complement each other. Active coping, characterized as an attempt to use one's resources to deal with a problematic situation [119], mainly focuses on the change of a stressful situation or the way one thinks and feels about it in order to change one's reactions to a stressor. If an attempt to change proves unsuccessful, one can try to deny, minimize, or otherwise avoid dealing directly with stressful demands.

4.2. Recreational Activity within Forests and Green Spaces during the COVID-19 Pandemic

During the COVID-19 pandemic, especially during the most severe lockdown restrictions, we observed the key importance of forest areas located in cities for the psychophysi-

cal recreation of their inhabitants. Urban forests have become the main recreational areas guaranteeing active and safe relaxation [120]. The observed development of the trend of recreational use of forests in cities is also related to the process of urban development in the form of smart cities. According to the compensatory theory [121], city dwellers in an urbanized space with high information and communication technology (ICT) saturation require close contact with nature to rest effectively. This is ensured by forest enclaves, pocket prairies, and gardens [122]. The changes in the number of visits to forests and green areas during the COVID-19 pandemic have been widely studied. The results of a nationwide survey of residents of Slovakia showed an increasing tendency (9%) in the number of forest visits after the introduction of pandemic measures. However, forest accessibility was paramount with respect to the number of forest visits in both pre-COVID-19 situations and during the pandemic. In terms of the effects on the number of forest visits, settlement size was associated with forest accessibility through distance to the nearest forest [123]. An increasing frequency of visits to woodlands was also declared by people living in and around the city of Burlington (Vermont, USA). The majority of respondents (69.0%) reported an increased or greatly increased visitation rate to natural areas and urban forests, and 80.6% of respondents believed that the importance of these areas and access to them either increased or greatly increased [124]. In Freiburg (Germany), under the COVID-19 lockdown, the levels of forest visits experienced an unprecedented boom. Furthermore, the existing clear difference between the number of visitors on weekdays and weekends substantially decreased [125]. During the lockdown, the urban forests around the city of Freiburg were visited more often and for longer periods. Individuals who did not use forests before the COVID-19-related restrictions started doing so [126]. In Italy and Lithuania, respondents from large towns and cities visited UGS more often than those living in small towns, villages, or rural areas, although this was not the case in Israel, Croatia, and Slovenia [39]. Our research revealed that recreational activity in urban green spaces and forests increased during the COVID-19 pandemic among 38.8% of Polish citizens.

On the other hand, Ciesielski et al. [127] rightly noted that the investigated pandemic period cannot be considered a single homogenous entity. Their results showed that the number of visits to suburban forests and remote nature-based tourist destinations located in Poland increased in the later pandemic periods, especially in the summer months of 2020, whereas it remained the same in popular nearby recreation areas. In Spain and Italy, the majority of respondents (64% in both countries) did not visit any urban green spaces during the period of COVID-19 containment measures [39], and the proportion of Spaniards that visited urban green spaces every day decreased from 20.8% (before the lockdown) to 9.0% [128]. Our study results confirm a dominating trend observed in other forest areas worldwide during the COVID-19 pandemic, i.e., an increase in the frequency of visits to forests and other green spaces.

5. Conclusions

In this study, we identified several psychological and social determinants of recreational activity during the COVID-19 pandemic. Among the most significant social determinants that reduce the odds of recreational activity are place of residence in a large city, having more children, marital status (single), and disability status. In turn, factors that increased chances for recreational activity included being a widow/er and place of residence in a village or small city. These findings complement existing studies by adding a pandemic perspective, as discussed in the previous sections (e.g., [81] for family and recreational activity issues or [79,80] for disability and recreational activity relations).

Regarding the psychological perspective, our results show that for the majority of respondents (72.8%), recreational activity in UGS and forests had an impact on reducing stress caused by the COVID-19 pandemic. We observed that those who use UGS for recreation every day are better equipped to cope with stress using the adaptive strategy of acceptance compared with those who spend less time in forests/UGS. With respect to green recreation as a form of emotional regulation strategy to cope with stress, we conclude that

people who visit green spaces more frequently tend to accept the reality that has occurred and learn to live with it. It is still not clear whether this observation is directly related to one's level of locus of control related to feelings of empowerment and the ability to control or influence events and outcomes (internalized locus of control) or the tendency to be a passive agent, whereby events and consequences are perceived to be outside of the individual's control (externalized locus of control). Further research in this regard is necessary.

On the other hand, we also found that the increased use of green spaces during the pandemic period can be predicted by avoidant coping as a dysfunctional strategy undertaken when coping with stress. These results may reveal a dual regulatory function of the use of green spaces, which is related to the maladaptive strategy of avoiding stressors rather than dealing with them on one hand and an adaptive active approach to problems on the other hand.

In general, our findings highlight the fact that both stress-coping strategies and social characteristic can be significant predictors of the frequency of recreational activities in forests and UGS. Social background, together with the way we try to reduce the level of stress caused by the COVID-19 pandemic, may determine the patterns of green recreation. Moreover, the tendency to choose a specific style of coping with stress may be related to green recreation, and it is also possible that the frequency of green recreation may be regulated by the way we cope with stress.

Limitations of the Study

In this study, we did not focus on the assessment of stress level before and after the pandemic and did not differentiate between strategies chosen to cope with specifically pandemic-related stress vs. everyday stress, which we consider a limitation of the study. We also cannot ascertain whether the chosen strategies were ultimately successful for the respondents. Furthermore, we did not determine the exact types of UGS visited by respondents. Therefore, the impact of green areas may differ and depend on their specifics (e.g., parks vs. forests). Another limitation of the present study is the lack of representativeness of the research sample; therefore the results may not reflect the characteristic of the overall Polish population. Nevertheless, green recreation is a promising complement to a wide variety of behavioral and cognitive coping mechanisms.

Author Contributions: Conceptualization, S.W.-Ś. and O.G.-C.; methodology, S.W.-Ś., O.G.-C., M.W. and B.B.; software, S.W.-Ś., O.G.-C., M.W. and B.B.; validation, S.W.-Ś., O.G.-C., M.W. and B.B.; formal analysis, M.W. and B.B.; investigation, S.W.-Ś., O.G.-C. and M.W.; resources, S.W.-Ś., O.G.-C. and M.W.; data curation, S.W.-Ś., O.G.-C., M.W. and B.B.; writing—original draft preparation, S.W.-Ś. and O.G.-C.; writing—review and editing, S.W.-Ś., O.G.-C., M.W. and B.B.; visualization, S.W.-Ś., O.G.-C., M.W. and B.B.; supervision, S.W.-Ś. and O.G.-C.; project administration, S.W.-Ś. All authors have read and agreed to the published version of the manuscript.

Funding: This research was cofinanced within the framework of the Ministry of Science and Higher Education program as "Regional Initiative Excellence" in the years 2019–2022, Project No. 005/RID/2018/2019.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: The data can be found here: https://github.com/wozniak2/psychosocial_determinants (accessed on 19 September 2022).

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Table A1. Descriptive statistics for 14 coping strategies (Model II) in 4 groups of forest activity.

		Mean	Standard Deviation	N
Active coping	every day	4.67	1.16	81
	Mon-Fri	4.33	1.30	113
	weekends	4.32	1.31	81
	several times in a month or less	4.26	1.28	101
	total	4.38	1.28	376
Planning	every day	4.46	1.11	81
	Mon-Fri	4.39	1.18	113
	weekends	4.15	1.17	81
	several times in a month or less	4.09	1.22	101
	total	4.27	1.18	376
Positive reframing	every day	3.79	1.28	81
	Mon-Fri	3.34	1.43	113
	weekends	3.52	1.27	81
	several times in a month or less	3.49	1.35	101
	total	3.52	1.35	376
Acceptance	every day	4.23	1.26	81
	Mon-Fri	3.98	1.22	113
	weekends	3.60	1.24	81
	several times in a month or less	3.92	1.25	101
	total	3.94	1.25	376
Humor	every day	2.19	1.19	81
	Mon-Fri	1.84	1.26	113
	weekends	1.96	1.45	81
	several times in a month or less	2.05	1.34	101
	total	2.00	1.31	376
Religion	every day	1.60	1.82	81
	Mon-Fri	2.04	2.08	113
	weekends	1.85	1.90	81
	several times in a month or less	1.80	1.85	101
	total	1.84	1.93	376
Emotional support	every day	4.11	1.15	81
	Mon-Fri	3.95	1.25	113
	weekends	4.01	1.24	81
	several times in a month or less	3.89	1.21	101
	total	3.98	1.22	376
Instrumental support	every day	3.42	1.63	81
	Mon-Fri	2.26	1.48	113
	weekends	3.34	1.57	81
	several times in a month or less	3.33	1.59	101
	total	3.33	1.56	376
Self-distraction	every day	3.69	1.42	81
	Mon-Fri	3.34	1.23	113
	weekends	3.44	1.30	81
	several times in a month or less	3.25	1.32	101
	total	3.41	1.32	376
Denial	every day	1.58	1.51	81
	Mon-Fri	1.54	1.52	113
	weekends	1.02	1.18	81
	several times in a month or less	1.29	1.42	101
	total	1.37	1.44	376
Venting	every day	3.13	1.10	81
	Mon-Fri	2.99	1.29	113
	weekends	3.18	1.31	81
	several times in a month or less	3.08	1.30	101
	total	3.09	1.26	376

Table A1. *Cont.*

		Mean	Standard Deviation	N
Substance use	every day	1.17	1.62	81
	Mon-Fri	0.96	1.46	113
	weekends	0.84	1.11	81
	several times in a month or less	1.08	1.38	101
	total	1.01	1.41	376
Disengagement	every day	1.33	1.06	81
	Mon-Fri	1.57	1.31	113
	weekends	1.54	1.13	81
	several times in a month or less	1.47	1.03	101
	total	1.49	1.15	376
Self-blame	every day	2.57	1.59	81
	Mon-Fri	2.95	1.77	113
	weekends	2.46	1.56	81
	several times in a month or less	2.56	1.74	101
	Total	2.66	1.69	376

Appendix B

Table A2. Descriptive statistics for coping strategies in four groups of forest activity.

		Mean	Standard Deviation	N
Active coping	every day	4.30	0.92	81
	Mon-Fri	4.02	1.01	113
	weekends	4.00	0.98	81
	several times in a month or less	3.95	0.99	101
	total	4.06	0.98	376
Helplessness	every day	1.69	1.00	81
	Mon-Fri	1.83	1.15	113
	weekends	1.61	0.86	81
	several times in a month or less	1.71	1.02	101
	total	1.72	1.02	376
Support seeking	every day	3.77	1.27	81
	Mon-Fri	3.60	1.24	113
	weekends	3.67	1.27	81
	several times in a month or less	3.61	1.28	101
	total	3.65	1.26	376
Avoidant coping	every day	2.80	0.94	81
	Mon-Fri	2.63	0.99	113
	weekends	2.55	0.94	81
	several times in a month or less	2.54	0.98	101
	total	2.63	0.97	376
Acceptance	every day	4.23	1.26	81
	Mon-Fri	3.98	1.22	113
	weekends	3.60	1.24	81
	several times in a month or less	3.92	1.25	101
	total	3.94	1.25	376
Humor	every day	2.19	1.19	81
	Mon-Fri	1.84	1.26	113
	weekends	1.96	1.45	81
	several times in a month or less	2.05	1.34	101
	total	2.00	1.31	376
Religion	every day	1.60	1.82	81
	Mon-Fri	2.04	2.08	113
	weekends	1.85	1.90	81
	several times in a month or less	1.80	1.85	101
	total	1.84	1.93	376

References

1. Richet, C.R. *Dictionnaire de Physiologie*; Alcan: Paris, France, 1900; p. 721.
2. Van Bavel, J.J.; Baicker, K.; Boggio, P.S.; Capraro, V.; Cichocka, A.; Cikara, M.; Crockett, M.J.; Crum, A.J.; Douglas, K.M.; Druckman, J.N.; et al. Using social and behavioural science to support COVID-19 pandemic response. *Nat. Hum. Behav.* **2020**, *4*, 460–471. [CrossRef]
3. Jakovljevic, M.; Bjedov, S.; Jaksic, N.; Jakovljevic, I. COVID-19 Pandemia and Public and Global Mental Health from the Perspective of Global Health Securit. *Psychiatr. Danub.* **2020**, *32*, 6–14. [CrossRef]
4. Peiró, T.; Lorente, L.; Vera, M. The COVID-19 Crisis: Skills That Are Paramount to Build into Nursing Programs for Future Global Health Crisis. *Int. J. Environ. Res. Public Health* **2020**, *17*, 6532. [CrossRef]
5. Kar, S.K.; Yasir Arafat, S.M.; Kabir, R.; Sharma, P.; Saxena, S.K. Coping with Mental Health Challenges during COVID-19. In *Coronavirus Disease 2019 (COVID-19); Medical Virology: From Pathogenesis to Disease Control*; Saxena, S., Ed.; Springer: Singapore, 2019. [CrossRef]
6. Liu, S.; Lithopoulos, A.; Zhang, C.-Q.; Garcia-Barrera, M.A.; Rhodes, R.E. Personality and perceived stress during COVID-19 pandemic: Testing the mediating role of perceived threat and efficacy. *Personal. Individ. Differ.* **2021**, *168*, 110351. [CrossRef]
7. Xiong, J.; Lipsitz, O.; Nasri, F.; Lui, L.M.W.; Gill, H.; Phan, L.; Chen-Li, D.; Iacobucci, M.; Ho, R.; Majeed, A.; et al. Impact of COVID-19 pandemic on mental health in the general population: A systematic review. *J. Affect. Disord.* **2020**, *277*, 55–64. [CrossRef]
8. Reid, C.E.; Rieves, E.S.; Carlson, K. Perceptions of green space usage, abundance, and quality of green space were associated with better mental health during the COVID-19 pandemic among residents of Denver. *PLoS ONE* **2022**, *17*, e0263779. [CrossRef]
9. Chawla, N.; Tom, A.; Sen, M.S.; Sagar, R. Psychological Impact of COVID-19 on Children and Adolescents: A Systematic Review. *Indian J. Psychol. Med.* **2021**, *43*, 294–299. [CrossRef]
10. Ghanamah, R.; Eghbaria-Ghanamah, H. Impact of COVID-19 Pandemic on Behavioral and Emotional Aspects and Daily Routines of Arab Israeli Children. *Int. J. Environ. Res. Public Health* **2021**, *18*, 2946. [CrossRef]
11. Pedrosa, A.L.; Bitencourt, L.; Fróes, A.C.F.; Cazumbá, M.L.B.; Campos, R.G.B.; De Brito, S.B.C.S.; E Silva, A.C.S. Emotional, Behavioral, and Psychological Impact of the COVID-19 Pandemic. *Front. Psychol.* **2020**, *11*, 566212. [CrossRef]
12. Berdejo-Espinola, V.; Suárez-Castro, A.F.; Amano, T.; Fielding, K.S.; Oh, R.R.Y.; Fuller, R.A. Urban green space use during a time of stress: A case study during the COVID-19 pandemic in Brisbane, Australia. *People Nat.* **2021**, *3*, 597–609. [CrossRef] [PubMed]
13. Li, Q.; Morimoto, K.; Nakadai, A.; Inagaki, H.; Katsumata, M.; Shimizu, T.; Hirata, Y.; Hirata, K.; Suzuki, H.; Miyazaki, Y.; et al. Forest Bathing Enhances Human Natural Killer Activity and Expression of Anti-Cancer Proteins. *Int. J. Immunopathol. Pharmacol.* **2007**, *20*, 3–8. [CrossRef]
14. Mathias, B.; Vladimir, K.; Dorota, J.; Pierpaolo, M.; Beatrice, A.M.; Femke, B.; Zoe, D.; de Vries, S.; Glanville, J.; Hans, K.; et al. *Green and Blue Spaces and Mental Health: New Evidence and Perspectives for Action*; WHO Regional Office for Europe: Copenhagen, Denmark, 2021; Licence: CC BY-NC-SA 3.0 IGO.
15. Selye, H. *The Stress of Life*; McGraw-Hill: New York, NY, USA, 1956; p. 324.
16. Selye, H. *Stress in Health and Disease*; Butterworth-Heinemann: Boston, MA, USA, 1976; p. 1300.
17. Konaszewski, K.; Niesiobędzka, M.; Surzykiewicz, J. Resilience and mental health among juveniles: Role of strategies for coping with stress. *Health Qual. Life Outcomes* **2021**, *19*, 58. [CrossRef]
18. Lehrer, P.M.; Woolfolk, R.L. *Principles and Practice of Stress Management*, 4th ed.; Guilford Press: New York, NY, USA, 2021; p. 672.
19. O'Connor, D.B.; Thayer, J.F.; Vedhara, K. 2020: Stress and Health: A Review of Psychobiological Processes Annual Review of Psychology. *Annu. Rev. Psychol.* **2021**, *72*, 663–688. [CrossRef]
20. Robinson, A.M. Let's Talk about Stress: History of Stress Research. *Rev. Gen. Psychol.* **2018**, *22*, 334–342. [CrossRef]
21. Fink, G. *Stress: Concepts Definition, History. Reference Module in Neuroscience and Biobehavioral Psychology*; Elsevier: London, UK, 2016; p. 479.
22. Lu, S.; Wei, F.; Li, G. The evolution of the concept of stress and the framework of the stress system. *Cell Stress* **2021**, *5*, 76–85. [CrossRef]
23. Cannon, W.B. *The Wisdom of the Body*; W.W. Norton & Company, Inc.: New York, NY, USA, 1932; p. 312.
24. Davies, K.J.A. Adaptive homeostasis. *Mol. Aspects Med.* **2016**, *49*, 1–7. [CrossRef]
25. Szabó, C.; Pukánszky, J.; Kemény, L. Psychological Effects of the COVID-19 Pandemic on Hungarian Adults. *Int. J. Environ. Res. Public Health* **2020**, *17*, 9565. [CrossRef]
26. Dymecka, J.; Machnik-Czerwik, A.; Filipkowski, J. Strach przed COVID-19, percepcja ryzyka i zagrożenia a poziom stresu u polskich pielęgniarek w czasie pandemii COVID-19. *Pielęgniarstwo Neurol. Neurochir.* **2021**, *10*, 3–9. [CrossRef]
27. Genç, E.; Arslan, G. Optimism and dispositional hope to promote college students' subjective well-being in the context of the COVID-19 pandemic. *J. Posit. Sch. Psychol.* **2021**, *5*, 87–96. [CrossRef]
28. Maher, J.P.; Hevel, D.J.; Reifsteck, E.J.; Drollette, E.S. Physical activity is positively associated with college students' positive affect regardless of stressful life events during the COVID-19 pandemic. *Psychol. Sport Exerc.* **2021**, *52*, 101826. [CrossRef]
29. Mochida, S.; Sanada, M.; Shao, Q.; Lee, J.; Takaoka, J.; Ando, S.; Sakakihara, Y. Factors modifying children's stress during the COVID-19 pandemic in Japan. *Eur. Early Child. Educ. Res. J.* **2021**, *29*, 51–65. [CrossRef]
30. Pearman, A.; Hughes, M.L.; Smith, E.L.; Neupert, S.D. Age Differences in Risk and Resilience Factors in COVID-19-Related Stress. *J. Gerontol. Ser. B Psychol. Sci. Soc. Sci.* **2020**, *76*, e38–e44. [CrossRef] [PubMed]

31. Waters, L.; Algoe, S.B.; Dutton, J.; Emmons, R.; Fredrickson, B.L.; Heaphy, E.; Moskowitz, J.T.; Neff, K.; Niemiec, R.; Pury, C.; et al. Positive psychology in a pandemic: Buffering, bolstering, and building mental health. *J. Posit. Psychol.* **2021**, *17*, 303–323. [CrossRef]
32. Yan, L.; Gan, Y.; Ding, X.; Wu, J.; Duan, H. The relationship between perceived stress and emotional distress during the COVID-19 outbreak: Effects of boredom proneness and coping style. *J. Anxiety Disord.* **2020**, *77*, 102328. [CrossRef]
33. 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]
34. Kamara, S.; Walder, A.; Duncan, J.; Kabbedijk, A.; Hughes, P.; Muana, A. Mental health care during the Ebola virus disease outbreak in Sierra Leone. *Bull. World Health Organ.* **2017**, *95*, 842–847. [CrossRef] [PubMed]
35. Ren, S.-Y.; Gao, R.-D.; Chen, Y.-L. Fear can be more harmful than the severe acute respiratory syndrome coronavirus 2 in controlling the corona virus disease 2019 epidemic. *World J. Clin. Cases* **2020**, *8*, 652–657. [CrossRef]
36. Rice, W.L.; Pan, B. Understanding changes in park visitation during the COVID-19 pandemic: A spatial application of big data. *Wellbeing Space Soc.* **2021**, *2*, 100037. [CrossRef]
37. Rice, W.L.; Mateer, T.J.; Reigner, N.; Newman, P.; Lawhon, B.; Taff, B.D. Changes in recreational behaviors of outdoor enthusiasts during the COVID-19 pandemic: Analysis across urban and rural communities. *J. Urban Ecol.* **2020**, *6*, juaa020. [CrossRef]
38. Geng, D.; John, I.; Wanli, W.; Guangyu, W. Impacts of COVID-19 pandemic on urban park visitation: A global analysis. *J. For. Res.* **2021**, *32*, 553–567. [CrossRef]
39. Xie, J.; Luo, S.; Furuya, K.; Sun, D. Urban Parks as Green Buffers During the COVID-19 Pandemic. *Sustainability* **2020**, *12*, 6751. [CrossRef]
40. Ugolini, F.; Massetti, L.; Calaza-Martínez, P.; Cariñanos, P.; Dobbs, C.; Ostoić, S.K.; Marin, A.M.; Pearlmutter, D.; Saaroni, H.; Šaulienė, I.; et al. Effects of the COVID-19 pandemic on the use and perceptions of urban green space: An international exploratory study. *Urban For. Urban Green.* **2020**, *56*, 126888. [CrossRef] [PubMed]
41. Kikulski, J. Ocena znaczenia zakazu wstępu do lasu z powodu zagrożenia epidemią COVID−19 dla wypoczywających w lesie. *Sylwan* **2021**, *165*, 336–344. [CrossRef]
42. Baranowska, M.; Koprowicz, A.; Korzeniewicz, R. Społeczne znaczenie lasu—Raport z badań pilotażowych prowadzonych w okresie pandemii. *Sylwan* **2021**, *165*, 149–156. [CrossRef]
43. Turysto, Odpoczywaj w Polsce Bezpiecznie! 2020. Available online: https://www.pot.gov.pl/pl/nowosci/wiadomosci-z-pot/turysto-odpoczywaj-w-polscebezpiecznie#r/ (accessed on 10 July 2020).
44. Ponad 90% Polaków Planuje Wakacje 2020 w Kraju. Ogólnopolskie Badanie. 2020. Available online: https://magazynswiat.pl/29008/ponad-90-polakow-planuje-wakacje-2020-w-kraju-ogolnopolskie-badanie.html (accessed on 15 July 2022).
45. Wojcieszak-Zbierska, M.M.; Jęczmyk, A.; Zawadka, J.; Uglis, J. Agritourism in the Era of the Coronavirus (COVID-19): A Rapid Assessment from Poland. *Agriculture* **2020**, *10*, 397. [CrossRef]
46. Poziom Aktywności Fizycznej Polaków 2018. Ministerstwo Sportu i Turystyki. Kantar Public 2018. p. 4. Available online: https://www.gov.pl/web/sport/aktywnosc-fizyczna-spoleczenstwa03 (accessed on 8 July 2022).
47. Biernat, E.; Piątkowska, M. Zdrowotne rekomendacje światowej organizacji zdrowia a rekreacyjna aktywność fizyczna Polaków. *Med. Sport.* **2013**, *29*, 255–264.
48. Neuvonen, M.; Sievänen, T.; Tönnes, S.; Koskela, K.T. Access to green areas and the frequency of visits—A case study in Helsinki. *Urban For. Urban Green.* **2007**, *6*, 235–247. [CrossRef]
49. Grahn, P.; Stigsdotter, U.A. Landscape Planning and Stress. *Urban For. Urban Urban Green* **2003**, *2*, 1–18. [CrossRef]
50. Tong, X.; Wang, T.; Chan, E.H.W. International Research Trends and Methods for Walkability and Their Enlightenment in China. *Procedia Environ. Sci.* **2016**, *36*, 130–137. [CrossRef]
51. Twohig-Bennett, C.; Jones, A. The health benefits of the great outdoors: A systematic review and meta-analysis of greenspace exposure and health outcomes. *Environ. Res.* **2018**, *166*, 628–637. [CrossRef]
52. Dzhambov, A.M.; Markevych, I.; Lercher, P. Greenspace seems protective of both high and low blood pressure among residents of an Alpine valley. *Environ. Int.* **2018**, *121*, 443–452. [CrossRef]
53. Dempsey, S.; Lyons, S.; Nolan, A. Urban green space and obesity in older adults: Evidence from Ireland. *SSM Popul. Health* **2018**, *4*, 206–215. [CrossRef]
54. Mateer, T.J.; Rice, W.L.; Taff, B.D.; Lawhon, B.; Reigner, N.; Newman, P. Psychosocial Factors Influencing Outdoor Recreation during the COVID-19 Pandemic. *Front. Sustain. Cities* **2021**, *3*, 621029. [CrossRef]
55. O'Donoghue, G.; Kennedy, A.; Puggina, A.; Aleksovska, K.; Buck, C.; Burns, C.; Cardon, G.; Carlin, A.; Ciarapica, D.; Colotto, M.; et al. Socio-economic determinants of physical activity across the life course: A "Determinants of Diet and Physical Activity" (DEDIPAC) umbrella literature review. *PLoS ONE* **2018**, *13*, e0190737. [CrossRef] [PubMed]
56. Vašíčková, J.; Roberson, D.; Frömel, K. The Education Level and Socio-Demographic Determinants of Physical Activity in Czech Adults. *Hum. Mov.* **2012**, *13*, 54–64. [CrossRef]
57. Rullestad, A.; Meland, E.; Mildestvedt, T. Factors Predicting Physical Activity and Sports Participation in Adolescence. *J. Environ. Public Health* **2021**, *2021*, 9105953. [CrossRef] [PubMed]
58. Lämmle, L.; Worth, A.; Bös, K. Socio-demographic correlates of physical activity and physical fitness in German children and adolescents. *Eur. J. Public Health* **2012**, *22*, 880–884. [CrossRef]

59. Abu-Omar, K.; Messing, S.; Sarshar, M.; Gelius, P.; Ferschl, S.; Finger, J.; Bauman, A. Sociodemographic correlates of physical activity and sport among adults in Germany: 1997–2018. *Ger. J. Exerc. Sport Res.* **2021**, *51*, 170–182. [CrossRef]
60. Yang, C.; Arhonditsis, G.B. What are the primary covariates of environmental attitudes and behaviours in Canada? A national-scale analysis of socioeconomic, political, and demographic factors. *Ecol. Inform.* **2022**, *69*, 101661. [CrossRef]
61. Dlamini, S.; Tesfamichael, S.G.; Shiferaw, Y.; Mokhele, T. Determinants of Environmental Perceptions and Attitudes in a Socio-Demographically Diverse Urban Setup: The Case of Gauteng Province, South Africa. *Sustainability* **2020**, *12*, 3613. [CrossRef]
62. Bamwesigye, D.; Fialová, J.; Kupec, P.; Łukaszkiewicz, J.; Fortuna-Antoszkiewicz, B. Forest Recreational Services in the Face of COVID-19 Pandemic Stress. *Land* **2021**, *10*, 1347. [CrossRef]
63. Koprowicz, A.; Korzeniewicz, R.; Pusz, W.; Baranowska, M. Sociodemographic Determinants of Poles' Attitudes towards the Forest during the COVID-19 Pandemic. *Int. J. Environ. Res. Public Health* **2022**, *19*, 1537. [CrossRef]
64. Poskrobko, B. Zielona terapia i rekreacja jako nowy produkt turystyczny. *PTiR* **2013**, *3*, 5–23.
65. Juczyński, Z.; Ogińska-Bulik, N. *NPSR—Narzędzia Pomiaru Stresu i Radzenia Sobie ze Stresem*; Pracownia Testów Psychologicznych Polskiego Towarzystwa Psychologicznego Sp. z o.o.: Warszawa, Poland, 2009; p. 96.
66. Sygit-Kowalkowska, E. Inteligencja emocjonalna a strategie radzenia sobie ze stresem. Psychologiczna analiza funkcjonowania mieszkańców ośrodków pomocy społecznej i studentów uniwersytetów trzeciego wieku. *Gerontol. Pol.* **2013**, *21*, 98–108.
67. Szatkowska, K.; Szkulmowski, Z. Zmęczenie życiem codziennym a strategie radzenia sobie ze stresem opiekunów rodzinnych osób wentylowanych mechanicznie w domu. *Palliat. Med. Pract.* **2018**, *12*, 86–96.
68. Li, J.; Nguyen, T.H.H.; Coca-Stefaniak, J.A. Coronavirus impacts on post-pandemic planned travel behaviours. *Ann. Tour. Res.* **2020**, *86*, 102964. [CrossRef] [PubMed]
69. Naderifar, M.; Goli, H.; Ghaljaei, F. Snowball Sampling: A Purposeful Method of Sampling in Qualitative Research. *Strides Dev. Med. Educ.* **2017**, *14*, e67670. [CrossRef]
70. Reznik, A.; Gritsenko, V.; Konstantinov, V.; Khamenka, N.; Isralowitz, R. COVID-19 Fear in Eastern Europe: Validation of the Fear of COVID-19 Scale. *Int. J. Ment. Health Addict.* **2020**, *19*, 1903–1908. [CrossRef] [PubMed]
71. Voicu, M.C. Using the Snowball Method in Marketing Research on Hidden Populations. *Chall. Knowl. Soc.* **2011**, *1*, 1341–1351.
72. Abonazel, M.; Ghallab, M. On Estimation Methods for Binary Logistic Regression Model with Missing Values. *Int. J. Math. Comput. Sci.* **2018**, *4*, 79–85.
73. Lee, H.-C.; Yoon, S.B.; Yang, S.-M.; Kim, W.H.; Ryu, H.-G.; Jung, C.-W.; Suh, K.-S.; Lee, K.H. Prediction of Acute Kidney Injury after Liver Transplantation: Machine Learning Approaches vs. Logistic Regression Model. *J. Clin. Med.* **2018**, *7*, 428. [CrossRef]
74. O'Connel, A. *Logistic Regression Models for Ordinal Response Variables*; SAGE Publications, Inc.: Thousand Oaks, CA, USA, 2005.
75. Fagerland, M.W.; Hosmer, D.W. How to Test for Goodness of Fit in Ordinal Logistic Regression Models. *Stata J.* **2017**, *17*, 668–686. [CrossRef]
76. Bilder, C.R.; Loughin, T.M. *Analysis of Categorical Data with R*, 1st ed.; Chapman and Hall/CRC: New York, NY, USA, 2014; p. 547. [CrossRef]
77. Kim, J.-H. Assessing practical significance of the proportional odds assumption. *Stat. Probab. Lett.* **2003**, *65*, 233–239. [CrossRef]
78. Venables, W.N.; Ripley, B.D. *Modern Applied Statistics with S*, 4th ed.; Springer: New York, NY, USA, 2002; p. 495.
79. Wang, H.; Dai, X.; Wu, J.; Wu, X.; Nie, X. Influence of urban green open space on residents' physical activity in China. *BMC Public Health* **2019**, *19*, 1093. [CrossRef] [PubMed]
80. Omura, J.D.; Hyde, E.T.; Whitfield, G.P.; Hollis, N.D.; Fulton, J.E.; Carlson, S.A. Differences in perceived neighborhood environmental supports and barriers for walking between US adults with and without a disability. *Prev. Med.* **2020**, *134*, 106065. [CrossRef]
81. Potić, S.; Stanimirov, K.; Đorđević, M.; Banković, S. Physical-recreational activities and persons with disability. *TIMS. Acta* **2014**, *8*, 71–80. [CrossRef]
82. Lee, B.D.; Graefe, A.; Burns, R. An exploratory study of the outdoor recreation participation of families who have a child under sixteen. In Proceedings of the 2006 Northeastern Recreation Research Symposium, Bolton Landing, NY, USA, 9–11 April 2006; Burns, R., Robinson, K., Eds.; General Technical Report NRS-P-14. Department of Agriculture, Forest Service, Northern Research Station: Newtown Square, PA, USA; pp. 335–341. Available online: https://www.fs.usda.gov/treesearch/pubs/12697 (accessed on 19 September 2022).
83. García, F.E.; Barraza-Peña, C.G.; Wlodarczyk, A.; Alvear-Carrasco, M.; Reyes-Reyes, A. Psychometric properties of the Brief-COPE for the evaluation of coping strategies in the Chilean population. *Psicol. Reflex. Crit. Rev. Semest. Dep. Psicol. UFRGS* **2018**, *31*, 22. [CrossRef] [PubMed]
84. Wojnarowska, A.; Kobylinska, D.; Lewczuk, K. Acceptance as an Emotion Regulation Strategy in Experimental Psychological Research: What We Know and How We Can Improve That Knowledge. *Front. Psychol.* **2020**, *11*, 242. [CrossRef]
85. Sugiyama, T.; Leslie, E.; Giles-Corti, B.; Owen, N. Associations of neighbourhood greenness with physical and mental health: Do walking, social coherence and local social interaction explain the relationships? *J. Epidemiol. Community Health* **2008**, *62*, e9. [CrossRef]
86. Stigsdotter, U.K.; Ekholm, O.; Schipperijn, J.; Toftager, M.; Kamper-Jørgensen, F.; Randrup, T.B. Health promoting outdoor environments-Associations between green space, and health, health-related quality of life and stress based on a Danish national representative survey. *Scand. J. Public Health* **2010**, *38*, 411–417. [CrossRef] [PubMed]

87. van den Berg, A.E.; Jolanda, M.; Verheij, R.A.; Groenewegen, P.P. Green space as a buffer between stressful events and health. *Soc. Sci. Med.* **2010**, *70*, 1203–1210. [CrossRef]
88. Beil, K.; Hanes, D. The influence of urban natural and built environments on physiological and psychological measures of stress—A pilot study. *Int. J. Environ. Res. Public Health* **2013**, *10*, 1250–1267. [CrossRef]
89. Alcock, I.; White, M.P.; Wheeler, B.W.; Fleming, L.E.; Depledge, M.H. Longitudinal effects on mental health of moving to greener and less green urban areas. *Environ. Sci. Technol.* **2014**, *48*, 1247–1255. [CrossRef]
90. Kusiak, A.M.; Soroka, A.; Solis, J.W. Importance of the forest environment on the psychophysical development of Polish pupils. *Sylvan* **2016**, *160*, 609–616.
91. 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]
92. White, M.P.; Alcock, I.; Grellier, J.; Wheeler, B.W.; Hartig, T.; Warber, S.L.; Bone, A.; Depledge, M.H.; Fleming, L.E. Spending at least 120 minutes a week in nature is associated with good health and wellbeing. *Sci. Rep.* **2019**, *9*, 7730. [CrossRef]
93. Takayama, N.; Morikawa, T.; Bielinis, E. Relation between Psychological Restorativeness and Lifestyle, Quality of Life, Resilience, and Stress-Coping in Forest Settings. *Int. J. Environ. Res. Public Health* **2019**, *16*, 1456. [CrossRef]
94. Peen, J.; Schoevers, R.A.; Beekman, A.T.; Dekker, J. The current status of urban-rural differences in psychiatric disorders. *Acta Psychiatr. Scand.* **2010**, *121*, 84–93. [CrossRef] [PubMed]
95. Kaplan, S. The restorative benefits of nature: Toward an integrative framework. *J. Environ. Psychol.* **1995**, *15*, 169–182. [CrossRef]
96. Wendelboe-Nelson, C.; Kelly, S.; Kennedy, M.; Cherrie, J.W. A Scoping Review Mapping Research on Green Space and Associated Mental Health Benefits. *Int. J. Environ. Res. Public Health* **2019**, *16*, 2081. [CrossRef]
97. Lee, J.; Park, B.J.; Tsunetsugu, Y.; Ohira, T.; Kagawa, T.; Miyazaki, Y. Effect of forest bathing on physiological and psychological responses in young Japanese male subjects. *Public Health.* **2011**, *125*, 93–100. [CrossRef]
98. Li, Q.; Morimoto, K.; Kobayashi, M.; Inagaki, H.; Katsumata, M.; Hirata, Y.; Hirata, K.; Suzuki, H.; Li, Y.J.; Wakayama, Y.; et al. Visiting a Forest, but Not a City, Increases Human Natural Killer Activity and Expression of Anti-Cancer Proteins. *Int. J. Immunopathol. Pharmacol.* **2008**, *21*, 117–127. [CrossRef]
99. Li, Q.; Morimoto, K.; Kobayashi, M.; Inagaki, H.; Katsumata, M.; Hirata, Y.; Hirata, K.; Shimizu, T.; Li, Y.J.; Wakayama, Y.; et al. A forest bathing trip increases human natural killer activity and expression of anti-cancer proteins in female subjects. *J. Biol. Regul. Homeost. Agents* **2008**, *22*, 45–55.
100. Li, Q.; Kobayashi, M.; Inagaki, H.; Hirata, Y.; Li, Y.J.; Hirata, K.; Shimizu, T.; Suzuki, H.; Katsumata, M.; Wakayama, Y.; et al. A day trip to a forest park increases human natural killer activity and the expression of anti-cancer proteins in male subjects. *J. Biol. Regul. Homeost. Agents* **2010**, *24*, 157–165. [PubMed]
101. Zhu, W. Should, and how can, exercise be done during a coronavirus outbreak? An interview with Dr. Jerey, A. Woods. *J. Sport Health Sci.* **2020**, *9*, 105. [CrossRef] [PubMed]
102. 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]
103. Payne, L.L.; Orsega-Smith, E.; Roy, M.; Godbey, G.C. Local park use and personal health among older adults: An exploratory study. *J. Park Recreat. Adm.* **2005**, *23*, 1–20.
104. More, T.A.; Payne, B.R. Affective responses to natural areas near cities. *J. Leis. Res.* **1978**, *10*, 7–12. [CrossRef]
105. Chiesura, A. The role of urban parks for the sustainable city. *Landsc. Urban Plan.* **2004**, *68*, 129–138. [CrossRef]
106. Cox, D.T.; Hudson, H.L.; Shanahan, D.F.; Fuller, R.A.; Gaston, K.J. The rarity of direct experiences of nature in an urban population. *Landsc. Urban Plan.* **2017**, *160*, 79–84. [CrossRef]
107. Wang, P.; Han, L.; Mei, R. An Impact Asymmetry Analysis of Small Urban Green Space Attributes to Enhance Visitor Satisfaction. *Int. J. Environ. Res. Public Health* **2022**, *19*, 2922. [CrossRef] [PubMed]
108. Wajchman-Świtalska, S.; Zajadacz, A.; Lubarska, A. Therapeutic Functions of Forests and Green Areas with Regard to the Universal Potential of Sensory Gardens. *Environ. Sci. Proc.* **2021**, *3*, 8. [CrossRef]
109. Lieberoth, A.; Lin, S.Y.; Stöckli, S.; Han, H.; Kowal, M.; Gelpi, R.; Chrona, S.; Tran, T.P.; Jeftić, A.; Rasmussen, J.; et al. Stress and worry in the 2020 coronavirus pandemic: Relationships to trust and compliance with preventive measures across 48 countries in the COVIDiSTRESS global survey. *R. Soc. Open Sci.* **2021**, *8*, 200589. [CrossRef]
110. Rossi, R.; Socci, V.; Talevi, D.; Mensi, S.; Niolu, C.; Pacitti, F.; di Marco, A.; Rossi, A.; Siracusano, A.; di Lorenzo, G. COVID-19 pandemic and lockdown measures impact on mental health among the general population in Italy. *Front. Psychiatry* **2020**, *11*, 790. [CrossRef] [PubMed]
111. Yamada, Y.; Ćepulić, D.B.; Coll-Martín, T.; Debove, S.; Gautreau, G.; Han, H.; Rasmussen, J.; Tran, T.P.; Travaglino, G.A.; Lieberoth, A.; et al. COVIDiSTRESS Global Survey dataset on psychological and behavioural consequences of the COVID-19 outbreak. *Sci. Data* **2021**, *8*, 3. [CrossRef] [PubMed]
112. Pfefferbaum, B.; North, C.S. Mental health and the Covid-19 pandemic. *N. Engl. J. Med.* **2020**, *383*, 510–512. [CrossRef]
113. Yigitcanlar, T.; Kamruzzaman, M.; Teimouri, R.; Degirmenci, K.; Alanjagh, F. Association between park visits and mental health in a developing country context: The case of Tabriz, Iran. *Landsc. Urban Plan.* **2020**, *199*, 103805. [CrossRef]
114. McCormack, G.R.; Rock, M.; Toohey, A.M.; Hignell, D. Characteristics of urban parks associated with park use and physical activity: A review of qualitative research. *Health Place* **2010**, *16*, 712–726. [CrossRef]

115. Sullivan, W.C.; Kuo, F.E.; Depooter, S.F. The fruit of urban nature: Vital neighborhood spaces. *Environ. Behav.* **2004**, *36*, 678–700. [CrossRef]
116. Lloyd, K.; Burden, J.; Kiewa, J. Young Girls and Urban Parks: Planning for Transition Through Adolescence. *J. Park Recreat. Adm.* **2008**, *26*, 21–38.
117. 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]
118. Sainz-Santamaria, J.; Martinez-Cruz, A.L. Adaptive governance of urban green spaces across Latin America—Insights amid COVID-19. *Urban For. Urban Green.* **2022**, *74*, 127629. [CrossRef] [PubMed]
119. Zeidner, M.; Endler, N.S.; Zeidner, M.; Endler, N.S. *Handbook of Coping: Theory, Research, Applications*; Wiley: New York, NY, USA, 1995; p. 752.
120. Zajadacz, A. Zmiany w budżecie czasu wolnego i zachowaniach wolnoczasowych mieszkańców dużych miast w wyniku pandemii COVID-19. In *Seria Turystyka i Rekreacja—Studia i Prace, T. 23*; Zajadacz, A., Ed.; Bogucki Wydawnictwo Naukowe: Poznań, Poland, 2021; pp. 1–152.
121. Walmsley, D.J.; Lewis, G.J. Geografia humanistyczna. In *Ujęcie Behawioralne*; PWN: Warszawa, Poland, 1997.
122. Zajadacz, A.; Lubarska, A. Sensory gardens in the context of promoting well-being of people with visual impairments in the outdoor sites. *Int. J. Spa Wellness* **2019**, *2*, 3–17. [CrossRef]
123. Pichlerová, M.; Önkal, D.; Bartlett, A.; Výbošťok, J.; Pichler, V. Variability in Forest Visit Numbers in Different Regions and Population Segments before and during the COVID-19 Pandemic. *Int. J. Environ. Res. Public Health* **2021**, *18*, 3469. [CrossRef]
124. 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]
125. Derks, J.; Giessen, L.; Winkel, G. COVID-19-induced visitor boom reveals the importance of forests as critical infrastructure. *For. Policy Econ.* **2020**, *118*, 102253. [CrossRef] [PubMed]
126. Weinbrenner, H.; Breithut, J.; Hebermehl, W.; Kaufmann, A.; Klinger, T.; Palm, T.; Wirth, K. The Forest Has Become Our New Living Room"—The Critical Importance of Urban Forests during the COVID-19 Pandemic. *Front. For. Glob. Chang.* **2021**, *4*, 672909. [CrossRef]
127. Ciesielski, M.; Tkaczyk, M.; Hycza, T.; Taczanowska, K. Was it really different? COVID-19-pandemic period in long-term recreation monitoring—A case study from Polish forests. *J. Outdoor Recreat. Tour.* **2022**, 100495. [CrossRef]
128. Ribeiro, A.I.; Triguero-Mas, M.; Santos, C.J.; Gómez-Nieto, A.; Cole, H.; Anguelovski, I.; Silva, F.M.; Baró, F. Exposure to nature and mental health outcomes during COVID-19 lockdown. A comparison between Portugal and Spain. *Environ. Int.* **2021**, *154*, 106664. [CrossRef]