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Camping, weather, and disasters: Extending the Construal Level Theory

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Abstract:
Camping is an outdoor accommodation and type of recreation that is susceptible to weather and climate change. Camping—in addition to the relationships camping shares with weather—remains understudied despite the subsectors' salient economic impact and high participation rate. The observable effects of non-meteorological/climatological (e.g., pandemic) is also a topic that has received limited attention. Accordingly, we introduce the Camping-Weather-Disaster (CWD) framework to examine the concurrent impact of weather and the COVID-19 disaster on post-disaster camping trip plans among leisure travelers in the 48 contiguous United States (n=2,442). Extending the Construal Level Theory, the CWD framework considers traveler construal (i.e., understanding) of a disaster and psychological distance (i.e., mental frame of reference) from a disaster alongside empirically observable state-level weather and COVID-19 cases. Results demonstrate that (1) concrete construal about timing and distance of travel is positively related to post-disaster camping trip plans; (2) weather is a significant predictor of post-disaster camping trip plans where there are regionally fewer COVID-19 cases; and (3) state-level COVID-19 cases are the most salient predictor of post-disaster camping trip plans where there are regionally more COVID-19 cases. Although the study context is camping, the CWD framework can be applied to other subsectors of tourism to build understanding and adaptive capacity to future natural conditions and disasters.

Keywords: construal level theory; camping; coronavirus; climate change; camping climate index (CCI); weather

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1. Introduction

Tourism is among the most exposed industries to the effects of climate change including shifting weather patterns and extreme weather events (Reidmiller et al., 2018; UNWTO, 2019). Comparably, the COVID-19 pandemic has been the most economically impactful disaster tourism has ever experienced (Dolnicar & Zare, 2020). COVID-19 is a disease caused by the novel SARS-CoV-2 coronavirus (World Health Organization [WHO], 2021), and the global reach of the disease signifies a pandemic. The adverse effects of COVID-19 resulted in an approximately 70% decline in the global tourism industry from 2019 to 2020 (UNWTO, 2020).

Like weather and climate change, COVID-19 has not impacted all tourism subsectors equally (e.g., Gossling et al., 2020; Rutty & Scott, 2010). For instance, Ma et al. (2021a) report that climate change improved weather for camping across much of the United States from 1984 to 2019. Concerning COVID-19, researchers and practitioners alike reported that nature-based tourism and recreation (e.g., camping) rebounded quickly compared to traditional forms of hospitality (e.g., hotels, dining) where permissible into the summer and fall 2020 meteorological seasons (CCG, 2020a; Craig & Karabas, 2021; Gossling et al., 2020; Kim & Lee, 2020; Yu et al., 2021; Rice et al., 2020). For example, in response to COVID-19, 59% and 41% of campers and non-campers in the United States, respectively, viewed camping as a safe form of travel (CCG, 2020a, p. 4). For comparison, far fewer campers and non-campers viewed large hotel (16% and 15%, respectively), small hotel (16% and 10%, respectively), and Airbnb accommodations (20% and 18%, respectively) as safe forms of travel.

Camping interactions with its external environment differ from other types of hospitality (CCG, 2020a; Ma et al., 2021b), though to-date the variable effects of weather and non-meteorological/climatological disasters have not been empirically and concurrently investigated. To address this knowledge gap, we introduce the Camping-Weather-Disaster (CWD) framework to investigate the variable effects of weather and COVID-19 on post-disaster camping trip plans among travelers in the 48 contiguous United States (n=2,442). The CWD extends the Construal Level Theory (CLT; Trope & Liberman, 2010) by empirically investigating relationships that weather, a disaster (i.e., COVID-19), traveler construal (i.e., understanding) of a disaster, and traveler psychological distance (i.e., mental reference point) from a disaster share with a post-disaster tourism decision (i.e., camping trips where COVID-19 conditions permit).

Unfortunately, early projections that the tourism industry would not recover from COVID-19 until 2023 (STR and Tourism Economics, 2020) may still hold due in part to (1) COVID-19 variants accelerating faster than vaccination deployment (Pancevski et al., 2021) and (2) opposition to vaccination (i.e., "anti-vax"; Sear et al., 2020). Vaccination is the administration of a vaccine, which trains "your immune system to create antibodies, just as it does when it's exposed to a disease" (WHO, 2020, par I) like COVID-19. Regardless the duration of the adverse impacts of COVID-19, like previous disasters (e.g., extreme weather [Mahn et al., 2020; Robbie, 2008], terrorist attacks [Arana & Leon, 2008; Floyd et al., 2008], and epidemics [van Lendt et al., 2017]), COVID-19 provides a fertile research landscape to theorize about and empirically investigate disaster response broadly among leisure travelers.

In support of our empirical analysis, we begin by reviewing select literature pertaining to camping, weather, climate, and disasters, introduce the CWD framework, and present our hypotheses. The remainder of the article consists of methods and measures, results and analysis, theory advancement, and conclusion sections.

1.1 Camping, Weather, and Climate

Camping provides a useful context to study travel decisions because it is susceptible to factors in the natural environment (e.g., weather, climate), has a high participation rate among United States households, and contributes over $150 USD billion annually to the United States economy (CCG, 2019; Craig & Karabas, 2021; Rice et al., 2019). Characteristics of the 2018 United States camping year include: (1) a new peak of 78.8 million camping households, (2) demand growth for new camping accommodation options (e.g., glamping, shared RV economy), and (3) an increase in nearby camping trips (CCG, 2019). Comparable to other alternative accommodations (e.g., Airbnb), camping is also becoming disruptive to traditional accommodations (e.g., hotels) (Chang & Sokol, 2020; Craig & Karabas, 2021) due in part to its naturally socially distant, lower risk setting (Ma et al., 2021a; CCG, 2019, 2020a, b; Gossling et al., 2020; Yu et al., 2021). COVID-19 risks (actual and perceived) are lower for camping than other accommodations because it is well ventilated, shared indoor spaces are not as prevalent (e.g., lobbies, bathrooms), and there is minimal close contact with other individuals (CCG, 2020a; WHO, 2021a).

In addition to weather, traveler characteristics also influence camping trip plans. Studies in North America demonstrate that weather, changing climatic conditions, and socio-demographic factors are related to camping and other recreation decisions (CCG, 2019; Craig & Feng, 2018; Craig, 2019; Ma et al., 2021a,b; Hewer et al., 2017). For instance, Hewer et al. (2017) show: (1) there are differences in camping type (i.e., tent or other) and recreational activity (i.e., swimming/wading or other) based on age, and (2) there is variance in acceptable weather for camping based on gender and age. Craig and Karabas (2021) note that age, income, and employment are related to glamping, a form of camping with luxurious amenities.

Considering past significance of intrinsic factors on camping decisions, this study captures and controls for traveler characteristics including age, income, employment, gender, and ethnicity.

Like other sub-sectors of nature-based tourism (e.g., alpine skiing), weather is often the strongest predictor of camping (Ma et al., 2021a,b; Hewer et al., 2017; Tashman & Rivera, 2016; Wilkins et al., 2018). There are multiple factors that influence favorable conditions for camping, so we operationalize weather and climate using the composite Camping Climate Index (CCI; Ma et al., 2020). Weather occurs from minutes to weeks and climate from months (i.e., climatic variability) to decades (i.e., climate change). The CCI is calculated using seven weather variables (see Table I) and has been validated demonstrating better model fit compared to other tourism indices (e.g., Matthews et al., 2019; Mieczkowski, 1985; Rutty & Scott 2010) at for-profit (Ma et al., 2020) and non-profit (Ma et al., 2021b) campsites in the United States. The CCI is formulated to best describe camping weather and climate favorability because it empirically captures extreme, overriding temperature, precipitation, and wind events. Additional details about the CCI are provided in the methods section.

1.2 Disasters

COVID-19 is an external biological disaster and a man-made crisis (Aliperti et al., 2019; Rosollo et al., 2020; Sharuf et al., 2003). Disasters and crises are similar but distinct with no agreed upon definitions (Faulkner, 2001; Ritchie, 2004; Ritchie & Jiang, 2019; Shaluf et al., 2003). However, prior studies have analyzed the literature to establish features and characteristics for the two concepts (e.g., Al-Dahash et al., 2016; Aliperti et al., 2019; Ritchie & Jiang, 2019; Shaluf et al., 2003).

A comprehensive literature synthesis “reveals that the key features of any disaster are its sudden nature, being unforeseen, causing loss and damage, coping capacity, system recovery, external assistance and involvement of multi stakeholders" (Al-Dahash et al., 2016, p. 1194). Common characteristics of disasters include they (1) only have negative effects, (2) are caused by the accumulation of previously overlooked circumstances or events, and (3) cause widespread harm (Sharuf et al., 2003). Criteria for disasters quantifies harm from events, with examples including substantial (1) loss of life (i.e., 25 or more), (2) injuries (i.e., 125 or more), (3) evacuations (i.e., 10,000 or more), and (4) economic impact (i.e., US$1 million or more) (Sharuf et al., 2003).

Crises are closely related to disasters, especially when they result from a disaster. According to Al-Dahash et al. (2016), "the key features of a crisis are uniqueness, danger, troublesome or causing damage, being unexpected, and usually emotional" (p. 1195). Characteristics of crises include they (1) are man-made, (2) can be positive or negative, and (3) can stem from economic issues, political issues, or disasters (Sharuf et al., 2003). Criteria for crises are both qualitative and quantitative, with thresholds for harm typically lower than those for disasters (Sharuf et al., 2003). As a crisis, COVID-19 represents community and corporate crises (Sharuf et al., 2003) that uniquely impacts stakeholder groups (e.g., individuals, communities, governmental agencies, businesses).

A key distinction of a disaster that COVID-19 meets is that it "can be described as occurring outside the organization" (Ritchie, 2004, p. 670), where organization encompasses the stakeholder groups described above. As a disaster, COVID-19 has both natural and man-made traits, thus represents a hybrid biological disaster (Sharuf et al., 2003). Tourism researchers have previously explored a variety of disaster types—natural, man-made, and hybrid—including biological (e.g., epidemic), climatological (e.g., drought or wildfire), geophysical (e.g., earthquake or volcano), hydrological (e.g., flood), industrial (e.g., accident), meteorological (e.g., storm or heatwave), and terroristic (e.g., 9/11 terrorist attacks) (e.g., Floyd et al., 2008; Ritchie & Jiang, 2019; Rosollo et al., 2020; Sharuf et al., 2003; van Lent, 2017). The tourism industry is susceptible to each disaster type (Yeh, 2020), though biological disasters are unique because they do not typically cause physical harm to infrastructure (e.g., buildings, forests), and the effects may not be as easily or immediately observable.

The proliferation of COVID-19 has led health researchers to consider the multiplicative effects of disasters (Sohrabizadeh et al., 2021). Few tourism researchers, however, have studied the coincident of events (Ritchie & Jiang, 2019). One exception is Cohen and Neal (2010), whose observational research found that concurrent economic and political crises magnified the adverse effects on the tourism and hospitality industries in Thailand. Bansal (2020) called on management researchers to explore the coincident of COVID-19 and climate change, though to-date, our study is the first known to provide an empirical framework to study the dual effects on a tourism outcome (i.e., travel plans). Climate change—and the effects of climate change—will continue to variably exacerbate the economic and human risks of each disaster type (Bansal et al., 2020; Becken et al., 2014; Reidmiller et al., 2018), justifying the theory development and the empirical investigation of COVID-19 inclusive weather and climate.

1.3 Theory Development

The Camping-Weather-Disaster (CWD) framework extends the Construal Level Theory (CLT; Trope & Liberman, 2010) by exploring the effects of two stimuli on post-disaster travel plans. The original CLT considers only one stimulus. The CWD is applicable to longitudinal studies because it captures changes to stimuli as they elapse (see Figure 1). The framework includes the two primary CLT components: construal of and psychological distance from a disaster. Construal is an individual’s level of understanding, where stimuli response is either outside (abstract) or within (concrete) their mental horizon (Trope & Liberman, 2010). Abstract construal is closely associated with uncertainty, the concept we use in this study to assess construal. For example, Glaser et al. (2015) established a relationship between uncertainty and greater perceived spatial distance (i.e., an abstract construal about distance). Comparably, Liberman and Trope (1998) found that attainable future temporal end-states are more concretely construed. An example of concrete construal is knowing the exact dates, duration, and distance of travel. Concrete construal is more closely related to a specific action than abstract construal (Craig et al., 2019; Chang et al., 2015; Kim et al., 2016; Mildenberger et al., 2019).

[Insert Figure 1 about here]

The second component of the CLT is psychological distance, or "the subjective distance stimuli maintain from a person's direct experience" (van Lent et al., 2017). Psychological distance's "reference point is the self, here and now, and the different ways in which" a stimulus may be removed from that point (Trope & Liberman 2010, p. 440). The original CLT conception of psychological distance includes temporal (when), spatial (where), social (to whom), and hypothetical (whether) proximity ranging from proximate to distant (Liberman & Trope, 2008; Trope & Liberman, 2010). Psychological distance is specific to a stimulus, or in our case, multiple stimuli. Tourism research using the CLT has operationalized psychological distance as nearby in time, physical distance, and within one's social group (Dogan & Erdogan, 2020; Kim et al., 2016). The subjective nature of psychological distance does not inherently prevent an individual's experience and/or perceptions to differ from these operationalizations (Trope & Liberman, 2010). Construal and psychological distance are related but not synonymous. Typically, psychological distance is more closely related to high-level, abstract construal and decreased distance is related to low-level, concrete construal (Liberman & Trope, 2008; Trope & Liberman, 2010).

The CWD adapts time, space, and social inclusion from the CLT but not hypotheticality. Hypotheticality is omitted because stimuli (i.e., weather and COVID-19 cases) are not hypothetical events that may or may not happen in the future. Stimuli range from small (e.g., daily average temperature, minimal COVID-19 cases) to large (e.g., global increase of long-term daily average temperature, COVID-19 hotspots). Including scale helps overcome a criticism of the CLT pertaining to individual construal and agency to act towards large-scale stimuli such as climate change. For instance, Brugger (2020, p. 3) refutes “the argument that climate change is too distant or abstract to be personally relevant, and that reducing this distance could increase personal relevance and action.” In support of Brugger (2020), other researchers have demonstrated that even when individuals understand stimuli (e.g., climate change) as concrete and proximate, stimulus scale can prohibit action (Bansal et al., 2018; Bowen et al., 2018). By integrating actual stimuli, psychological distance can be assessed while controlling for scale of the stimuli across both time and space.

The CWD includes two observable stimuli, individual construal, and individual psychological distance (time, space, social inclusion), extending the CLT by offering a clear mechanism for the *dynamic exploration of multiple stimuli* (e.g., weather and COVID-19) that *is indicative stimuli scale*. We assert that analyzing the variable impacts of weather, extremes, and disasters longitudinally, spatially, and concurrently alongside societal factors (i.e., construal and psychological distance), destination managers and authorities can increase their levels of understanding about their own complex socioecological systems (Craig, 2019). Positive consequences to understanding include organizational learning and increased business agency to take adaptive and/or mitigative actions towards future natural conditions or disasters (Berger et al., 2016; Bhaskara & Filimonau, 2021; Craig, 2019). Applying the CWD, the study also makes a significant methodological contribution as the first known to integrate social, climate, and epidemiological data to assess a post-COVID-19 outcome.

1.4 Hypotheses

The two social factors included in the CWD are individual construal and psychological distance. Using a survey instrument deployed between April 27th and April 30th, 2020, the CWD operationalizes construal and psychological distance in terms of time, space, and social inclusion relative to COVID-19. The timing of data collection marks the height of travel restrictions in the 48 contiguous United States. Specifically, (1) 37 states had stay-at-home orders, (2) four states had stay-at-home recommendations, and (3) seven states had some level of restrictions and closures though no stay-at-home orders (Miller, 2020).

On the survey, respondents were able to respond “uncertain” when asked about timing of travel (time) and distance of travel (space) after travel restrictions are lifted. Respondents were also asked about travel restrictions to establish if they were in a social in- or out-group (i.e., social inclusion) relative to the disaster. Consistent with the CLT, respondents who reported higher levels of travel restrictions are considered the social in-group and those who reported fewer or no restrictions are considered the social out-group. Prior disaster studies have also operationalized social inclusion based on disaster experience (e.g., resident of a county that experienced a large wildfire or not; Spialek et al., 2021). Providing a definition for time, space, and social inclusion indicates that each of the constructs has contracted to fit within one’s mental horizon, thus representing concrete understanding (Trope & Liberman, 2010). The uncertain response category allows us to operationalize construal into two groups: those who have a concrete understanding of when, where, and if they can travel and those who do not (i.e., uncertain) (e.g., Glaser et al., 2015; Liberman & Trope, 1998).

Hypothesis 1a: Lower levels of construal for time will be positively related to post-disaster camping trip plans.

Hypothesis 1b: Lower levels of construal for space will be positively related to post-disaster camping trip plans.

Hypothesis 1c: Lower levels of construal for social inclusion will be positively related to post-disaster camping trip plans.

Based on the literature reviewed, we hypothesize that socio-demographic factors, weather, the COVID-19 disaster, and psychological distance (temporal, spatial, and social) will be significantly related to post-disaster camping trip plans.

Hypothesis 2a: Socio-demographic factors will be related to post-disaster camping trip plans.

Hypothesis 2b: Weather will be related to post-disaster camping trip plans.

Hypothesis 2c: The COVID-19 disaster will be related to post-disaster camping trip plans.

Hypothesis 2d: Psychological distance will be related to post-disaster camping trip plans.

2. Methods

2.1 Survey Procedure

A market research firm developed and administered an online survey between April 27 and April 30, 2020. A private tourism business that operates campsites funded the survey to capture traveler responses to COVID-19 at the height of travel restrictions in the United States.

Questions for the survey were crafted by the marketing research firm based on the tourism business' information needs, and included single-item questions rather than previously validated scales. The use of single-item questions is a commonly used procedure for opinion polls conducted by consultants for commercial or political purposes. With the written permission from the tourism business, the market research firm provided de-identified data for the purpose of non-commercial scholarly inquiry. No additional information is provided to ensure confidentiality is protected.

The research firm solicited participation via email from their proprietary database of known leisure travelers age 18 or older with a total of 7,659 participants initially responding. All surveys were completed online. The number of outbound email solicitations sent to achieve the initial 7,659 responses is unknown, so it is not possible to calculate a true response rate. The final sample (n = 2,442 out of 7,659), however, represents a completion rate 31.9% with a margin of error of 3% at the 99% confidence level. Our relatively low margin of error and 99% confidence level are measures of acceptable survey reliability.

2.2 Measures and Sample

In addition to socio-demographic questions (see Table II), there are independent variables for time of travel (time), distance of travel (space), and travel restrictions (social in- and out-groups). *Time* was operationalized with the question root "How long will it take for you to go camping once the restrictions in your area are lifted?" with eight response categories I feel that it is safe to go camping (1) now, (2) within the next 1 or 2 weeks, (3) within the next month, (4) in the next 1-2 months, (5) in the next 3-4 months, (6) in the next 5-6 months, (7) more than 6 months, and (8) uncertain. *Space* was operationalized with the question root "What is the maximum distance you are willing to travel for a camping trip once the restrictions are lifted?"

with nine response categories: (1) within 25 miles, (2) 26-50 miles, (3) 51-100 miles, (4) 101-150 miles, (5) 151-200 miles, (6) 201-300 miles, (7) more than 300 miles, (8) none, I do not feel that there is a maximum distance, and (9) uncertain. *Social inclusion* was operationalized with the question root "How do you view the current level of restrictions regarding what you can and cannot do during the COVID-19 pandemic where you reside?" with response categories from (1) severe to (5) no restrictions, and (6) uncertain.

[Insert Table II about here]

The dependent variable of interest is *post-disaster camping trip plans* (i.e., future camping trips planned where COVID-19 conditions permit). An explanation of what constitutes a camping trip was first provided: "Camping trips are when you spend at least one night outside of your primary residence and stayed in accommodations such as a tent, trailer, RV, vehicle, or cabin/cottage (or other unique accommodation) at a campground." Respondents were then asked to indicate the number of post-COVID-19 camping trips planned with the question root: "Planned trips after COVID-19?" with an [Enter] option.

2.3 Camping Climate Index (CCI)

The CCI is an outdoor tourism climate index that quantifies the desirability of weather and climatic conditions for camping (Ma et al., 2020). The CCI: (1) equally weights thermal comfort and sunshine hours and (2) incorporates overriding factors for minimum temperature, maximum temperature, precipitation, and windspeed (see Table I for CCI measures). CCI values range from 7-10 (ideal), 5-7 (good), 3-5 (acceptable), and 0-3 (poor). The climate variables in the CCI (e.g., thermal comfort and sunshine hours) are comparably rated from 0 to 10 indicating the relationship that each variable shares with travel behavior despite unit (e.g., degrees and hours). As shown in the equation, the CCI takes the average of thermal comfort and sunshine hours, and when extreme overriding factors are observed, the CCI is forced to a maximum of 3 (i.e., poor). For a full explanation of the CCI, see Ma et al. (2020).

$$CCI = TC^{*}.5 + S^{*}.5 \text{ (minimum [}CCI, 3\text{] if } TMIN < 8°C \text{ or } TMAX > 34°C \text{ or } P > 10mm \text{ or } W > 23km/h$$

Daily weather data were obtained from January 1, 1984 to December 31, 2019 in a 0.5*0.5 gridded format through the Power Data Access Viewer (NASA, 2020). The data cover the 48 contiguous United States (3,264 grid points in total). The state-level CCI was calculated from the grid point coordinates by using the “maps” and “sp” packages in R. Then, we aggregated the daily CCI for each state to obtain spring monthly means for (1) March, April, and May in 2020 (see Figure 2).

[Insert Table II and Figure 2 about here]

2.4 COVID-19 Cases

We obtained COVID-19 cases through the Coronavirus Resource Center (Johns Hopkins, 2020). We recorded confirmed cases for each of the 48 contiguous states one month apart on April 1 and April 30, 2020. This is the same method used in climate studies—and applied to March CCI in this study—to retrospectively analyze the lagged effect of past conditions. The lagging technique introduces an additional longitudinal element to the analysis to capture past and present scale of COVID-19 cases. April 1st and 30th represent days when (1) every state in the United States had reported COVID-19 cases and trajectory and transmission was beginning to display exponential growth (Center for Disease Control [CDC], 2020; Johns Hopkins, 2020) and (2) survey data collection halted and the peak of daily cases had passed in the Northeast (Oster et al., 2020).

Over half (i.e., 574 thousand) of the documented cases were from 11 states in the Northeast climate region: Connecticut, Delaware, Maine, Maryland, Massachusetts, New

Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont. On April 1st, 2020 and April 30th, 2020 there were 125.5 and 574 thousand confirmed COVID-19 cases in the Northeast United States and 96.8 and 544.3 thousand elsewhere, respectively (John Hopkins, 2020). We consider the reported cases in the Northeast large scale as compared to small scale for all other COVID-19 case observations. Monthly CCI data and COVID-19 cases were integrated into the social science dataset. The sorting procedure represents a natural research design, where we were able to investigate differences among leisure travelers based on regional scale of COVID-19. Natural research designs are common in disaster studies allowing researchers to compare regions disproportionately impacted by natural disasters or climate change (Hein et al., 2019).

2.5 Statistical Analysis

The two statistical methods used to test hypotheses are independent sample t-tests and binary linear regression. Independent sample t-test determine if there is a significant difference in a dependent variable for two groups (i.e., high and low construal). Binary logistic regression determines model fit (Nagelkerke R^2) compared to a null model (i.e., model without independent variables) and the likelihood (*Exp(B)*), or odds, of dependent variable occurrence (i.e., post-COVID-19 camping trip plans). Binary logistic regression is commonly used in social and health sciences, making it an appropriate method for our interdisciplinary dataset (King, 2008). The software suite used to conduct the analysis was IBM SPSS version 25.

To test *Hypothesis 1*, we ran independent samples t-tests to determine if there were differences for the number of camping trips planned post-COVID-19 between those who answered “uncertain” for the time (*1a*), space (*1b*), and social inclusion (*1c*) (i.e., high level construal) and those who specifically responded (i.e., low level construal). We considered responses to be low construal if a specific time, distance, or level of travel restrictions was defined. For example: responses from (1) travel within 1 to 2 weeks of restrictions being lifted to (7) travel more than six months after travel restrictions are lifted for time were considered low construal; responses from (1) travel within 25 miles when travel restrictions are lifted to (8) no maximum travel distance once travel restrictions are lifted were considered low construal, and; responses from (1) severe travel restrictions to (5) no travel restrictions were considered low construal.

A natural research design was used to address *Hypotheses 2a-d* because there were disparate COVID-19 case distributions in the United States at the time of the survey. A central feature of natural research designs is they assess the variable effects of individual experiences to stimuli such as weather, disasters, or policy (Messer, 2008). As described above, we conducted analysis for the (1) Northeast climate region and (2) the remaining 37 states not in the Northeast climate region. Climate regions were used because regional sections (1) are spatially proximate and share comparable natural environment conditions (Karl and Koss, 1984) and (2) provide a large enough sub-sample to maintain an acceptable margin of error when analyzed separately.

To test *Hypotheses 2a-d*, we used binary logistic regression to explore camping plan differences in (1) travelers who indicated they had one or more camping trips planned post-disaster, and (0) travelers who did not. We also recoded ethnicity and employment due to underrepresented response categories: (1) Caucasian/White and (0) other ethnic background, and (1) male and (0) female or other. Due to underrepresented response categories, and the influence of COVID-19 employment changes, employment was recoded (1) unemployed or furloughed because of COVID-19 and (0) not unemployed or furloughed because of COVID-19. Age and income were not recoded.

To prepare for analysis *Hypotheses 2a-d,* we first removed respondents with "uncertain" responses (n = 628). Then, we sorted respondents (n = 1,814) into the Northeast climate region (n = 442, margin of error = 5%, confidence level = 95%) and the rest of the climate regions (n = 1,372, margin of error = 3%, confidence level = 99%). Next, we used the enter method of binary logistic regression for the Northeast climate region and the rest of the United States. The enter method includes four blocks: (1) socio-demographic factors, (2) state-level CCI for March, April, and May, (3) state-level COVID-19 cases for April 1 and April 30, 2020, and (4) psychological distance in terms of time, space, and social inclusion. Skewness and kurtosis for the three scale items were acceptable (see Table III). The block method allows for the incremental assessment of model significance and fit.

[Insert Tables III and IV about here]

3. Results and Analyses

3.1 Hypothesis 1

Hypothesis 1 proposes lower-level, concrete construal will be positively and significantly related to post-disaster (i.e., post-COVID-19) camping trip plans for time (*1a),* space (*1b*), and social inclusion (*1c*). *Hypothesis 1a* and *1b* are supported (i.e., time and space), but *Hypothesis 1c* (i.e., social inclusion) is not. Using independent samples t-tests, we found that: travelers who defined a time for travel were significantly more likely to have post-disaster camping trip plans (n = 1953, mean = 2.10 planned trips) than those who responded uncertain (n = 489, mean = .98 planned trips; t = 1.739, df = 574.986, p = .083); travelers who defined a distance for travel were significantly more likely to have post-disaster camping trip plans (n = 2117, mean = 2.09 planned trips) than those who responded uncertain (n = 325, mean = .46 planned trips; t = 7.010, df = 2428.55, p = .001), and; there was no difference between travelers that rated travel restrictions (n = 2400, mean = 1.87) and those who responded uncertain (n = 42, mean = 2.17; *t* = -.466, *df* = 49.697, *p* = .643).

Though not causal, results from *Hypothesis 1a* and *1b* suggest psychological distance based on time and space is positively associated with the number of camping trips planned post-disaster. In terms of time, travelers are likely to think more concretely about events that are more temporally proximate. Concrete construal in turn is associated with more immediate action such as planning a camping trip (Craig, 2019; Kim et al., 2016; Trope & Liberman, 2010). In terms of space, people tend to focus on abstract features of physically distant stimuli and locations (Kim et al., 2016; Trope & Liberman, 2010).

We refrain from drawing conclusions for *Hypothesis 1c* (i.e., social inclusion) given the uneven cells between those who rated the level of restrictions in their area and others who were uncertain. However, among our sample the finding that only 42 out of 2,442 travelers were uncertain about travel restrictions demonstrates widespread lower-level, concrete construal.

3.2 Hypothesis 2

3.2.1 Northeast Climate Region

Hypothesis 2 posits that socio-demographic factors (*2a*), weather (*2b*), disasters (*2c*), and psychological distance (*2d*) will be related to post-disaster camping trips. These hypotheses are supported, but inclusion of weather and disaster variables in models is also related to disaster scale. For the Northeast climate region, a significant final model emerged with good fit (R^2 =.316, *p* = .000, *n* = 442) where there are significant factors from three of the four blocks: significant socio-demographic factors include age (*Exp(B)* = -.982, *p* = .016), income (*Exp(B)* = 1.474, *p* = .024), and ethnicity (*Exp(B)* = -.325, *p* = .000); there are no significant weather factors; significant COVID factors include April 1 cases (*Exp(B)* = 1.106, *p* = .005) and April 30 cases (*Exp(B)* = -.975, *p* = .021), and; psychological distance factors include time (*Exp(B)* = -.824, *p* = .001), space (*Exp(B)* = 1.211, *p* = .083), and social inclusion (*Exp(B)* = -.905, *p* = .04). As shown in Table IV, each successive block significantly explains additional model variability.

In Block 2 April CCI (*Exp(B)* = 1.568, *p* = .041) is positively related to post-disaster camping trips but May CCI (*Exp(B)* = -.406, *p* = .000) is negatively related. The odds-ratios, or likelihood of camping trips, mean that travelers that experienced better CCI in April are 1.568 times more likely to have post-disaster camping trip plans whereas future CCI in May are 2.63 times less likely to have post-disaster camping trip plans. This directionality is shared for April 1 and April 30 COVID-19 cases in Block 3 where the former (*Exp(B)* = 1.107, *p* = .003) is positively related to post-disaster camping trip plans and the latter is negatively related (*Exp(B)* = -.975, *p* = .016). The significant relationships that April 1 and April 30 COVID-19 cases share with camping trip plans in Block 3—combined with CCI becoming insignificant—are an indication that scale of COVID-19 has an overriding impact on traveler plans despite favorable current (April CCI) and/or improving weather (May CCI). This overriding effect is why May CCI was inadvertently negatively related to post-disaster camping trip plans in Block 2 but then became insignificant in Block 3 with the addition of April 1^{st} COVID-19 cases (i.e., smaller scale) and April 30^{th} COVID-19 cases (i.e., larger scale).

There are two key take-aways from the findings from the Northeast climate region. First, after controlling for socio-demographic factors, the most salient predictor of post-disaster camping trip plans are April 1^{st} and April 30^{th} state-level COVID-19 cases. COVID-19 scale—both small and large—superseded all CCI variables in the final model. The natural research design allows us to capture scale at two points in time showing post-disaster camping trips are positively related to the relatively smaller scale of COVID-19 cases on April 1st and negatively related to the larger scale of COVID-19 cases on April 30th.

Second, each of the three psychological distance variables are significant thus supporting the empirical inclusion in the CWD framework. Post-disaster camping trips decrease with expected time of travel (time), increase with distance willing to travel (space), and decrease with severity of travel restrictions (social inclusion). As the CLT predicts (Trope & Liberman, 2010), travelers who concretely report closer temporal proximity of travel (e.g., within 1 or 2 weeks) are significantly more likely to have post-disaster camping trips already planned. Also, travelers in close social proximity (i.e., the social in-group with more severe levels of travel restrictions) are 1.10 less likely to have travel plans compared to the more socially distant (i.e., the social out-group with lower levels of travel restrictions) travelers. Interestingly, more distant geographic proximity of travel is positively related to post-disaster camping trip plans. In response to COVID-19, travelers have expressed a desire for non-communal spaces and less crowded locations (CCG, 2020b; Craig, 2021), characteristics that may be even more important than the distance to a campground. Considering the scale of COVID-19 in the Northeast climate region on April 30th, it may also be that travelers wanted to put more physical distance between themselves and the region most impacted by COVID-19 when camping.

3.2.2 All Other Climate Regions

For the remainder of the climate regions in the United States, a significant final model emerged with acceptable fit (R^2 =.209, p = .001) where there are significant factors from three of the four blocks: significant socio-demographic factors include age (*Exp(B)* = -.990, p = .009), income (*Exp(B)* = 1.19, p = .000), gender (*Exp(B)* = 2.193, p = .000), and ethnicity (*Exp(B)* = -.514, p = .000); the lone significant weather factor includes March CCI (*Exp(B)* = 1.171, p =

.089); there are no significant COVID-19 factors, and; psychological distance factors including time (*Exp(B)* = -.815, *p* = .000) and social inclusion (*Exp(B)* = -.934, *p* = .008) are also significant. As shown in Table IV, only the block with COVID-19 cases did not significantly improve model fit.

For the all other climate regions' regression model, after controlling for socio-demographic factors (R^2 = .142, *p* = .000), psychological distance is the strongest determinant of post-disaster travel ($R^2\Delta$ = .045, *p* = .000) followed by CCI in March ($R^2\Delta$ = .020, *p* = .000). Those with plans to travel in the more proximate future are 1.227 times more likely to have post-disaster camping trip plans; travelers with more severe travel restrictions are 1.07 times less likely to have post-disaster camping trip plans; and travelers that experienced better CCI in March are 1.171 times more likely to have post-disaster camping trip plans.

Compared to the Northeast climate region model, COVID-19 is not a significant predictor in the all other climate region model. However, state-level CCI for March 2020 is a significant predictor of post-disaster camping trip plans in the final all other regions model while there are no significant weather variables in the final Northeast model. Close temporal proximity and proximate social inclusion (i.e., the in-group with more severe travel restrictions) are also significant predictors though space (i.e., miles willing to travel after travel restrictions are lifted) is not in the all other climate region model. Combined, the findings suggest that travelers outside the Northeast climate region with post-disaster camping trip plans are influenced by favorable camping weather resources (i.e., CCI), are planning to camp within shorter amounts of time, and come from areas with fewer travel restrictions.

4. Theory Advancement

Introducing the CWD, we provide a framework that can help build organizational understanding of complex socioecological challenges, addressing calls to concurrently consider the interconnectedness of salient natural and societal factors (Bansal et al., 2020). The tourism industry is one of the most susceptible to weather, climate change, and non-meteorological/climatological disasters like COVID-19 (Reidmiller et al., 2018; UNWTO, 2020), providing useful perspectives compared to other industries. While the results and implications are within the context of camping, the theoretical advancements—and the applicability of the CWD—extend to other subsectors of tourism and also other industries, especially those reliant on the natural environment.

Developing and operationalizing the CWD, there are two theoretical advancements to the CLT (Trope & Liberman, 2010). First, the CWD framework accounts for multiple empirically observable stimuli. In this study, stimuli include weather desirability (i.e., CCI) and a biological disaster (i.e., COVID-19). The framework is operationalized with two quadrants and stimuli, but more stimuli could be included (see Figure 1). For instance, a salient climate change-induced and weather-related natural disaster overlapping the COVID-19 pandemic in California, United States is wildfire. Freedman (2020) notes that "California just witnessed one of its hottest weekends in memory, which intensified destructive wildfires that occurred" (par. I) necessitating the rescue of over 200 trapped campers on September 6, 2020. The extreme temperatures—as high as 49 °C or 15 °C above the extreme temperature threshold for the CCI (Ma et al., 2020)—prompted a National Weather Service alert for the entirety of the state of California (Freedman, 2020). Despite the dangerous wildfire conditions, many campers, destination managers, and authorities did not heed warnings. The lack of reaction highlights the need for more concrete understanding of temporally and spatially proximate climate and weather-related risks among individuals to inform mitigative and/or adaptive actions (e.g., campsite closures).

The second advancement is the inclusion, operationalization, and observation of disaster scale alongside individual psychological distance, a socioecological approach that includes the natural environment. Where COVID-19 scale was the largest (i.e., the Northeast climate region), COVID-19 cases are the most predictive factor of post-disaster camping trip plans when controlling for socio-demographics. Where scale was smaller (i.e., the rest of the contiguous United States), COVID-19 is not a significant factor. Findings about scale are consistent with consumer responses for other forms of hospitality. For instance, Kim and Lee (2020) found that greater COVID-19 scale is related to avoiding public dining and vice versa. In general, the results build on previous tourism disaster studies (e.g., Craig, 2021; Craig & Karabas, 2021; Craig et al., 2021; Floyd et al., 2008; Granvorka & Strobl, 2013; van Lent et al., 2017) demonstrating differences in future traveler decisions based on the scale of disaster despite type (e.g., extreme weather, pandemic, terrorism). The results are also consistent with two recent wildfire studies that found resident proximity to wildfire (i.e., those located in the same country as a large, documented wildfire or not) is related to concrete actions including (1) support for enhanced public/private collaboration to manage wildfires and (2) disaster communication before, during, and after a wildfire (Craig et al., 2020; Spialek et al., 2021).

Guided by previous tourism research about accommodations (Dogan & Erdogan, 2020; Kim et al., 2016), we operationalized temporal and spatial psychological distance as duration until travel and distance to destination. Comparable to other disaster stimuli that have influenced travel decisions—the 9/11 terrorist attacks in the United States in 2001 (Floyd et al., 2008) and the 2014 Ebola epidemic (van Lent et al., 2017)—we report significant relationships between camping travel decisions, time, and distance. As expected, in the Northeast where COVID-19 scale is greater, travelers willing to camp soon are significantly more likely to have post-disaster camping trip plans. Contrary to findings about hotel accommodations (Dogan & Erdogan, 2020; Kim et al., 2016), however, spatial psychological distance of travel is positively related to post-disaster camping decisions. Post-hoc analysis of a CDC report about COVID-19 hotspots in the United States (Oster et al., 2020) offers some additional insights about the Northeast. When the survey was conducted, not only were there over double the number of cases in the Northeast region (Johns Hopkins, 2020), but 84% of the population lived in a county designated as a “hotspot” (Oster et al., 2020). It is conceivable that the widespread spatial distribution of COVID-19 hotspots throughout the region is why campers are willing to travel greater physical distances (Craig et al., 2021).

4.1 Camping Implications

The results from *Hypotheses 1a-c* suggest that destination managers and authorities wanting to develop strategies targeting post-disaster campers should (1) identify travelers with a clear timeframe and distance for travel and (2) communicate specific, concrete messages to these travelers. At the time the survey was conducted, travelers uncertain about time and distance were less likely to have camping trip plans highlighting the potential to communicate specific, concrete messages to promote temporal and spatial certainty about camping. Regardless temporal or spatial construal, messages should highlight advantageous camping resources such as favorable weather (i.e., CCI) and for biological disasters like COVID-19, the ability to practice social distancing. For man-made disasters (e.g., industrial explosions, terroristic attacks), the natural and rural setting of camping is also an advantageous travel resource.

When considering the entirety of the contiguous United States, there are three consistent findings of interest: (1) travelers who are willing to camp in the near future are more likely to have post-disaster camping trip plans, (2) travelers living in areas with fewer travel restrictions are more likely to have post-disaster camping trip plans, and (3) distance traveled may not be as big of a hindrance as previously thought within the context of camping during a biological disaster (i.e., COVID-19). Camping is unique (e.g., nature-based, socially distant, accessible by personnel vehicle) compared to other forms of accommodations and recreation (CCG, 2019, 2020a,b; Craig, 2021; Gossling et al., 2020). These characteristics offer a plausible explanation for why future traveler camping decisions are not constrained by physical distance like previous disasters (e.g., 9/11, Ebola) for other accommodation types (Dogan & Erdogan, 2020; Floyd et al., 2008; Kim et al., 2016; van Lent et al., 2017).

4.2 Limitations and Future Research

This study is not without limitation. Primarily, the study is exploratory where cross-sectional social science data was collected to address managerial needs of a private tourism business. The tourism business quickly reacted to COVID-19 by collecting survey data at the height of travel restrictions to inform their future strategic response. The managerial needs and operationalization of these needs by the marketing firm (i.e., crafting the survey questions) resulted in data being collected at one point in time, the use of single-item questions, and a response option for the space construal independent variable without a clearly defined mileage distance for travel after restrictions are lifted (i.e., (8) none, I do not feel that there is a maximum distance). Also, the context of the dependent variable, “Planned trips after COVID-19,” prompts travelers to indicate trips planned after COVID-19. Though, it is not possible to infer whether travelers attributed “after COVID-19” trips to those planned before the onset of COVID-19 but occurred after where permissible. Moreover, this study relies on travel self-report on actions that may happen in the future. Drawing strong conclusions based on travelers' plans for the future may not reflect an eventual behavior.

The integration of the CCI and COVID-19 cases at multiple points in time added a longitudinal element to the study to assess change in post-disaster camping trip plans, though future researchers should track individual construal (i.e., time, space, social inclusion) over time as well as assess both planned and enacted behaviors (e.g., planned camping trips compared to actual camping trips). Considering that distance was positively related to post-disaster camping trip plans, it will be fruitful for researchers to consider (1) characteristics of campgrounds (e.g., shared versus private bathrooms), (2) previous camping experiences and camper experience, (3) accommodation type (i.e., owned versus rented), (4) transportation type (i.e., personal versus shared), and (5) possible interaction effects between distance and COVID-19 scale. Such results will help inform future iterations and applications of the CWD. Conducting longitudinal studies will also allow future researchers to assess potential differences between perceived psychological spatial distance and actual distance traveled.

The R^2 changes in the models for COVID-19 cases and CCI are modest (see Table IV), though the findings are impressive considering the variables used were state-level stimuli. However, the study provides: (1) a framework (i.e., CWD) and empirical justification for comparable mixed-methods future research and (2) guidance for future researchers to utilize experimental designs to generate groups based on more granular climate experience (e.g., household or county-level) and more clearly define local restrictions (e.g., county-level restrictions) to establish causality. To accommodate more robust experimental research designs, it is important that researchers also collect higher resolution location data (e.g., household, zip-code, county) from travelers to more accurately capture temporal, spatial, and social proximity to natural environment stimuli. Using higher resolution location data will also make it possible for destination managers and authorities to geographically segment potential future travelers more accurately.

5. Conclusion

COVID-19 represents a new yet salient non-meteorological/climatological disaster influencing leisure travel decisions. Climate change continues to impact nature-based tourism—especially camping—as a destination's resources consist of multiple weather variables that tourists experience during visitation. Extending the Construal Level Theory (CLT), we introduce the theoretical and empirical Camping-Weather-Disaster (CWD) framework to capture multiple stimuli (i.e., CCI and COVID-19) also taking into consideration (1) traveler construal about a disaster, (2) traveler psychological distance (time, space, social inclusion) from a disaster, and (3) the scale of stimuli. Study findings highlight the salience of disaster scale, where greater scale is inversely related to travel plans despite favorable or improving weather. Results also indicate that leisure travelers who live where disaster scale is the greatest are willing to travel further to camp. The theoretical development and empirical verification of the CWD highlight the importance for destination managers and authorities to enhance understanding of socioecological systems upon which their organizations rely. In turn, understanding can promote organizational learning and help build organizational agency to take mitigating/adaptive actions to address future natural conditions, disasters, and crises.

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Figures and Tables

Figure 1. Camping-Weather-Disaster (CWD) framework

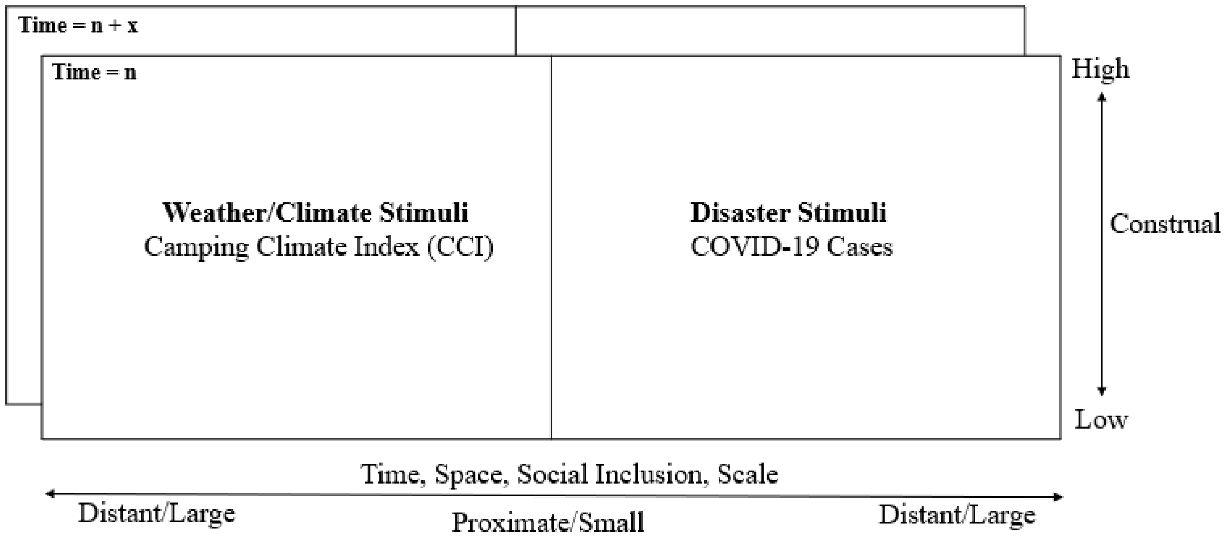


Table I. CCI weather variables

Sub-index variable	**Initials**	**Climate Resource**	**Units**	**Climate variable required**
Thermal Comfort	TC	Thermal	Reported as °C	Mean temperature (℃) Mean dew point temperature (℃)
Temperature	TMIN, TMAX	Thermal	°C	Minimum temperature and maximum temperature (°C)
Sunshine hours	S	Aesthetic	Hours (hr)	Solar radiation (w/m^2) Location coordinates
Precipitation	P	Physical	Millimeters (mm)	Precipitation (mm)
Windspeed	W	Physical	Kilometer per hour (km/hr)	Windspeed (km/hr)

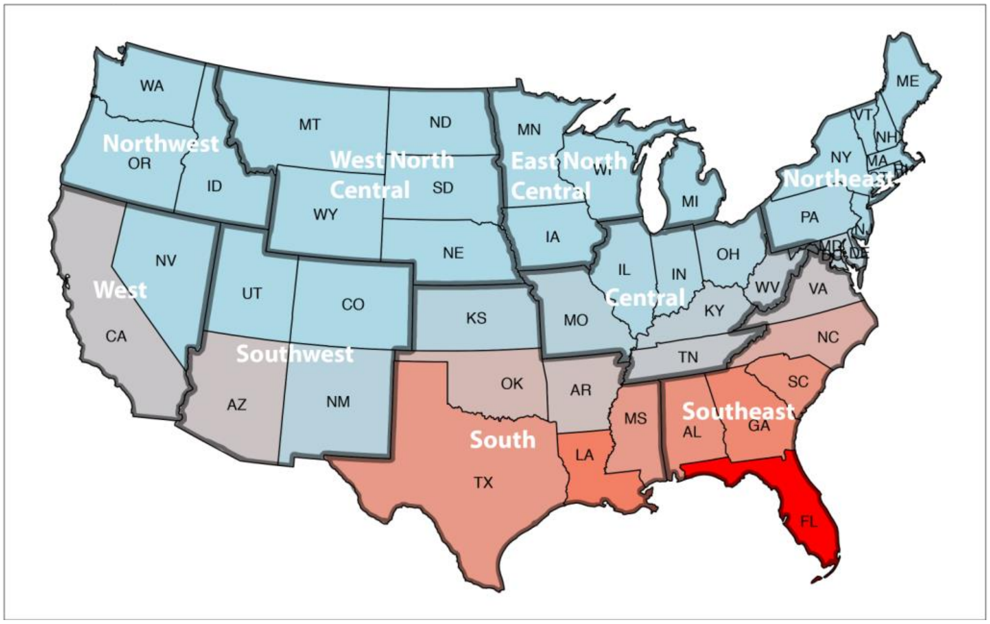
Table II. Sample characteristics

Northeast climate region (n = 442)	
Age	Average = 40.31; range 18 to 102
Income	9.7% under $25,000, 17.0% $25,000 - $50,000, 14.0% $50,000 - $75,000, 14.7% $75,000 - $100,000, 23.3% $100,000 - $150,000, 12.2% $150,000 - $200,000, 9.0% over $200,000
Ethnicity	81.7% Caucasian/White, 18.3% other ethnic background
Gender	56.3% male, 43.4% female, .2% other
Employment	67.0% full-time, 11.1% part-time, 6.6% student, 6.6% retired, 2.7% home maker/stay at home parent, 5.6% unemployed or furloughed because of COVID-19, .5% unemployed or furloughed not related to COVID
Time	19.5% now, 13.6% within next 1 or 2 weeks, 13.1% within month, 17.2% 1-2 months, 14.0% 3-4 months, 11.8% 5-6 months, 10.9% more than 6 months
Space	9.3% within 25 miles, 22.2% 26-50 miles, 22.4% 51-100 miles, 15.6% 101-150 miles, 5.4% 151-200 miles, 6.3% 201-300 miles, 8.8% more than 300 miles, 10.0% no maximum distance
Social Inclusion	34.8% (1) severe, 38.9% (2), 14.3% (3), 8.4% (3), 3.6% (5) none
All other climate regions (n = 1372)	
Age	Average = 39.08; range 18 to 102
Income	12.0% under $25,000, 23.3% $25,000 - $50,000, 16.0% $50,000 - $75,000, 14.7% $75,000 - $100,000, 18.5% $100,000 - $150,000, 7.8% $150,000 - $200,000, 8.7% over $200,000
Ethnicity	73.0% Caucasian/White, 27.0% other ethnic background
Gender	46.9% male, 52.5% female, .7% other
Employment	60.4% full-time, 12.6% part-time, 7.0% student, 7.0% retired, 5.4% home maker/stay at home parent, 5.9% unemployed or furloughed because of COVID-19, 1.7% unemployed or furloughed not related to COVID
Time	21.7% now, 15.9% within next 1 or 2 weeks, 12.5% within month, 16.0% 1-2 months, 14.2% 3-4 months, 10.3% 5-6 months, 9.3% more than 6 months
Space	9.3% within 25 miles, 20.6% 26-50 miles, 19.5% 51-100 miles, 14.6% 101-150 miles, 7.7% 151-200 miles, 10.0% 201-300 miles, 9.6% more than 300 miles, 8.8% no maximum distance
Social Inclusion	23.1% (1) severe, 33.5% (2), 25.7% (3), 13.3% (4) and 4.4% (5) none

*Note. “Uncertain” responses were removed to prepare the binary logistic regression for time, space, and social inclusion

Figure 2. Spring monthly CCI scores 2020

March



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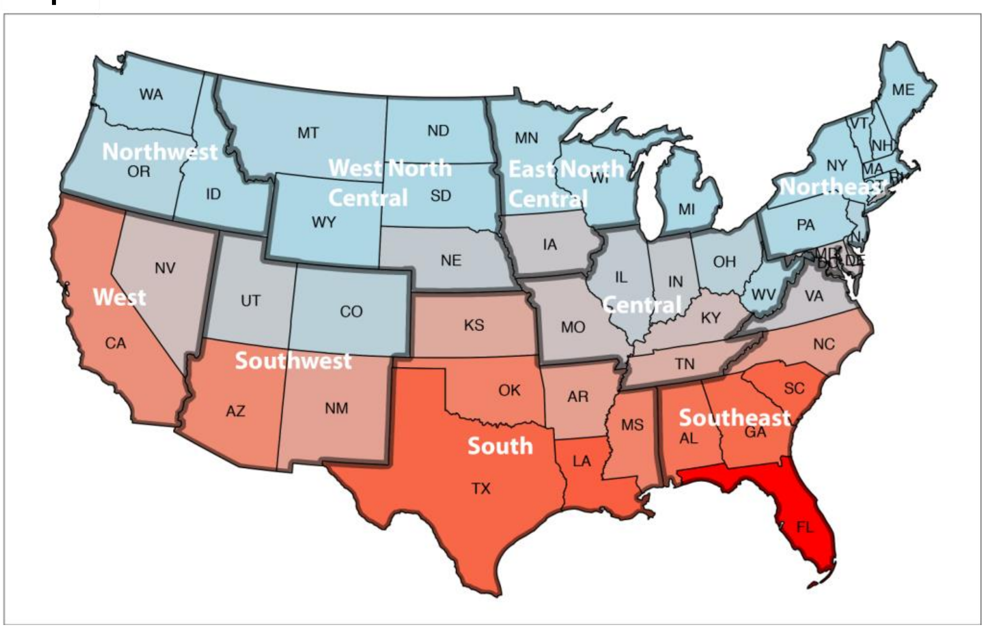
April



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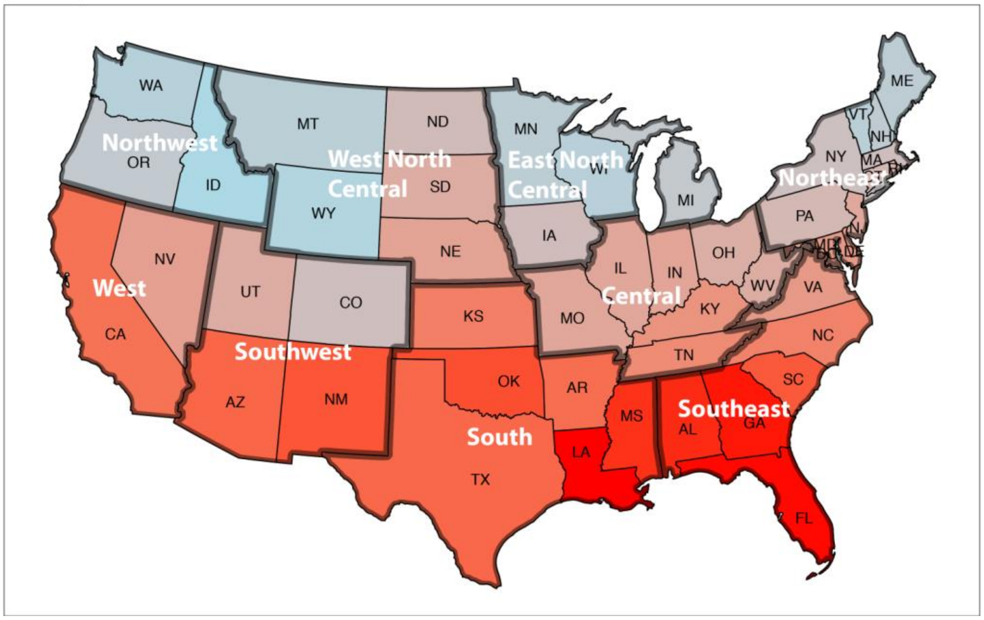
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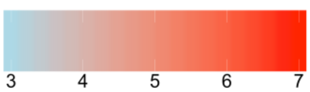
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Table III. Descriptives for psychological distance variables

Northeast climate region							
	N	M	SD	Skewness	SE	Kurtosis	SE
Time	442	3.710	1.985	0.120	0.116	-1.188	0.232
Space	442	3.900	2.154	0.627	0.116	-0.792	0.232
Social	442	2.070	1.072	0.980	0.116	0.358	0.232
All other regions							
Time	1372	3.530	1.973	0.232	0.066	-1.164	0.132
Space	1372	4.030	2.146	0.436	0.066	-0.998	0.132
Social	1372	2.420	1.112	0.458	0.066	-0.548	0.132

Table IV. Binary logistic regression for post-disaster camping trip plans

Northeast climate region (n = 442)						**All other climate regions (n = 1,372)**					
Block 1 (R2 = .160, p = .000)						*Block 1 (R2 = .142, p = .000)*					
Variable	*B*	*S.E.*	*df*	*Sig.*	*Exp(B)*	*Variable*	*B*	*S.E.*	*df*	*Sig.*	*Exp(B)*
Age	-.023	.007	1	.001	.977	Age	-.014	.004	1	.000	.986
Income	.228	.064	1	.000	1.256	Income	.168	.034	1	.000	1.182
Gender	.752	.216	1	.000	2.122	Gender	.952	.12	1	.000	2.592
Ethnicity	-.958	.295	1	.001	.384	Ethnicity	-.63	.135	1	.000	.533
Laid-Off	.413	.455	1	.364	1.512	Laid-Off	.521	.253	1	.039	1.683
Constant	.404	.581	1	.486	1.498	Constant	-.348	.304	1	.253	.706
Block 2 (R2 = .203, Δ = .043, p = .001)						*Block 2 (R2 = .162, Δ = .020, p = .000)*					
Age	-.023	.007	1	.002	.977	Age	-.013	.004	1	.001	.987
Income	.193	.065	1	.003	1.212	Income	.155	.034	1	.000	1.167
Gender	.709	.221	1	.001	2.032	Gender	.887	.122	1	.000	2.428
Ethnicity	-.932	.302	1	.002	.394	Ethnicity	-.576	.136	1	.000	.562
Laid-Off	.249	.47	1	.596	1.283	Laid-Off	.468	.256	1	.067	1.597
March CCI	-.844	1.275	1	.508	.43	March CCI	.191	.085	1	.025	1.211
April CCI	.45	.22	1	.041	1.568	April CCI	-.062	.08	1	.439	.94
May CCI	-.902	.231	1	.000	.406	May CCI	.123	.081	1	.131	1.131
Constant	7.079	5.153	1	.17	1186.32	Constant	-1.746	.464	1	.000	.174

Table IV cont.

Northeast climate region (n = 442)						**All other climate regions (n = 1,372)**					
Block 3 (R2 = .272, Δ = .069, p = .00)						*Block 3 (R2 = .164, Δ = .002, p = .420)*					
Variable	*B*	*S.E.*	*df*	*Sig.*	*Exp(B)*	*Variable*	*B*	*S.E.*	*df*	*Sig.*	*Exp(B)*
Age	-.02	.007	1	.008	.98	Age	-.013	.004	1	.001	.987
Income	.116	.07	1	.095	1.123	Income	.148	.035	1	.000	1.159
Gender	.458	.234	1	.05	1.582	Gender	.865	.123	1	.000	2.375
Ethnicity	-.99	.303	1	.001	.372	Ethnicity	-.563	.136	1	.000	.57
Laid-Off	.161	.468	1	.73	1.175	Laid-Off	.467	.256	1	.068	1.596
March CCI	-1.009	1.33	1	.448	.365	March CCI	.164	.091	1	.071	1.179
April CCI	.324	.226	1	.152	1.382	April CCI	-.036	.092	1	.696	.965
May CCI	.046	.296	1	.877	1.047	May CCI	.093	.088	1	.288	1.098
April 1 Cases	.101	.034	1	.003	1.107	April 1 Cases	.015	.064	1	.808	1.016
April 30 Cases	-.025	.01	1	.016	.975	April 30 Cases	.002	.011	1	.845	1.002
Constant	3.526	5.271	1	.504	33.999	Constant	-1.675	.469	1	.000	.187
Block 4 (R2 = .316, Δ = .044, p = .000)						*Block 4 (R2 = .209, Δ = .045, p = .000)*					
Age	-.018	.008	1	.016	.982	Age	-.01	.004	1	.009	.99
Income	.166	.073	1	.024	1.18	Income	.174	.036	1	.000	1.19
Gender	.388	.241	1	.107	1.474	Gender	.785	.126	1	.000	2.193
Ethnicity	-1.124	.315	1	.000	.325	Ethnicity	-.665	.14	1	.000	.514
Laid-Off	.053	.481	1	.912	1.054	Laid-Off	.353	.256	1	.168	1.423
March CCI	-.991	1.424	1	.486	.371	March CCI	.158	.093	1	.089	1.171
April CCI	.345	.232	1	.138	1.412	April CCI	-.002	.094	1	.986	.998
May CCI	.121	.305	1	.691	1.129	May CCI	.086	.09	1	.341	1.09
April 1 Cases	.1	.036	1	.005	1.106	April 1 Cases	.032	.065	1	.625	1.032
April 30 Cases	-.025	.011	1	.021	.975	April 30 Cases	0	.012	1	.985	1
Time	-.193	.06	1	.001	.824	Time	-.205	.031	1	.000	0.815
Space	.192	.111	1	.083	1.211	Space	.05	.055	1	.36	1.052
Social Inclusion	-.099	.048	1	.04	.905	Social Inclusion	-.068	.025	1	.008	.934
Constant	3.669	5.666	1	.517	39.232	Constant	-.912	.527	1	.083	.402