

Utah State University

DigitalCommons@USU

All Graduate Theses and Dissertations

Graduate Studies

5-2022

Investigating Tourists' Decision Making and Intentions for Outdoor Recreation Participation During Early COVID-19

Prasanna Humagain
Utah State University

Follow this and additional works at: <https://digitalcommons.usu.edu/etd>



Part of the [Civil and Environmental Engineering Commons](#)

Recommended Citation

Humagain, Prasanna, "Investigating Tourists' Decision Making and Intentions for Outdoor Recreation Participation During Early COVID-19" (2022). *All Graduate Theses and Dissertations*. 8405.
<https://digitalcommons.usu.edu/etd/8405>

This Dissertation is brought to you for free and open access by the Graduate Studies at DigitalCommons@USU. It has been accepted for inclusion in All Graduate Theses and Dissertations by an authorized administrator of DigitalCommons@USU. For more information, please contact digitalcommons@usu.edu.



INVESTIGATING TOURISTS' DECISION MAKING AND INTENTIONS FOR
OUTDOOR RECREATION PARTICIPATION

DURING EARLY COVID-19

by

Prasanna Humagain

A dissertation submitted in partial fulfillment
of the requirements for the degree

of

DOCTOR OF PHILOSOPHY

in

Civil and Environmental Engineering

Approved:

Patrick A. Singleton, Ph.D.
Major Professor

Ziqi Song, Ph.D.
Committee Member

Michelle Mekker, Ph.D.
Committee Member

Peter Howe, Ph.D.
Committee Member

Gyan Nyaupane, Ph.D.
Committee Member

Keunhyun Park, Ph.D.
Committee Member

D. Richard Cutler, Ph.D.
Interim Vice Provost of Graduate Studies

UTAH STATE UNIVERSITY
Logan, Utah

2022

Copyright © Prasanna Humagain 2022

All Rights Reserved

ABSTRACT

Investigating Tourists' Decision Making and Intentions for
Outdoor Recreation Participation
During Early COVID-19

by

Prasanna Humagain, Doctor of Philosophy

Utah State University, 2022

Major Professor: Dr. Patrick Singleton
Department: Civil and Environmental Engineering

The COVID-19 pandemic has presented a unique tourism environment for outdoor recreation participation, due to the nature of transmission (through human contact), high fatality rates and a large number of positive cases. Furthermore, government-related non-pharmaceutical interventions such as the closure of restaurants, ban on public gatherings, unavailability of facilities, and lack of reliable information regarding COVID-19 related specific policies have added to the complexities of planning and preparing for outdoor recreation trips. Hence, understanding tourists' newly developed psyche, in response, to this novel tourism environment is critical in developing strategies and policies to attract tourism demand as well as to ensure a satisfying destination experience.

An outdoor recreation trip is defined in this study as “a journey involving at least one overnight stay away from home, and where the purpose is to engage in recreational

activities in an outdoor or natural environment.” Borrowing from leisure constraints negotiation theory, this study first investigated the dimensions of three crucial decision-making variables, in the COVID-19 context: constraints, negotiations, and motivations, through the use of a qualitative methodology (focus group discussions). The measurement items identified from the focus group sessions along with study of previous literature guided the preparation of online survey, which was distributed through Qualtrics online panel to obtain 1,003 responses. Next, the variables measured in the survey were used to construct and classify segments of tourists based on perceptions of constraints and the application of negotiation strategies. Another empirical analysis dealt with developing and validating the theoretical model by extending the psycho-social model of goal-directed behavior incorporating the effects of constraints, motivations, negotiations, and information search. Finally, the influence of COVID-19 measures at the destination including the social-distancing regulations, availability of sanitizers, etc. on revisitation and recommendation intentions were estimated.

With four different analyses, this dissertation outlines many advertising, marketing, and government strategies for destination-related operational practices, fulfillment of needs of heterogeneous segments of tourists, provision of centralized information, awareness programs for tourists, and responsibilities of staff and local communities.

(337 pages)

PUBLIC ABSTRACT

Investigating Tourists' Decision Making and Intentions for
Outdoor Recreation Participation
During Early COVID-19
Prasanna Humagain

This dissertation aims at discerning tourists' behaviors and decision making processes for outdoor recreation participation, during the early COVID-19 pandemic. An outdoor recreation trip is defined in this study as "a journey involving at least one overnight stay away from home, and where the purpose is to engage in recreational activities in an outdoor or natural environment." This dissertation first explores the factors that inhibit tourists' desires for participating in outdoor recreation trips, the strategies they apply to avoid COVID-19 transmission, and the motivational factors that induce their desires for outdoor recreation participation in the COVID-19 context. The impact of COVID-19 is heterogeneous, in nature, with some liberals about the virus whereas the others being more cautious. Then, this dissertation identifies the tourist segments in the population based on their COVID-19 perceptions, and their ability to apply strategies during planning or participating in outdoor recreation trips. Additionally, how tourists' COVID-19 perceptions along with their information search behavior affect the formation of attitudes, desires, social norms, and intentions to participate in outdoor recreation trips in the future is described. Finally, from a group of respondents who recently participated in outdoor recreation trips, this study discerns the relationship between tourists' evaluation of COVID-19 measures at the destination and tourists' value,

satisfaction, and future intentions to visit or recommend the destination to others. Based on different analyses, this study sheds light on tourists' perceptions and behaviors which are useful for tourism destinations and managers to develop marketing, operational, and advertising strategies.

Dedicated to my parents
Laxmi Devi Khatiwada/ Dr. Puspa Lal Homagai

ACKNOWLEDGMENTS

This dissertation is only possible because of the endeavors of my parents in raising me and providing me with all the fundamentals necessary for pursuing my higher education here in the United States. I am always indebted to my mother for teaching me that there is no shortcut for success, except for hard work, self-belief, and perseverance. My research journey started with assisting my father during his Ph.D. dissertation, and it was during the same period that I developed a personal interest in conducting research. My brother Dr. Vaskar Humagain, sister-in-law Rashmi Humagain, and nephew Aaron Humagain always inspired me to follow my dreams of becoming a researcher.

Foremost, I am grateful to Dr. Patrick Singleton, my advisor, for his constant guidance and motivation during my Ph.D. journey. Coming from an education system with a little research background, Dr. Singleton taught me how to think critically, how to develop research questions, how to choose and learn appropriate analysis methods for answering research questions, and most critically, the art of technical writing. The freedom he provided me for working on different interdisciplinary projects, based on my interests allowed me to search for a topic related to tourism/outdoor recreation that is in many ways, different from my current research field of transportation. I am also grateful for the suggestions and comments I received from the members of my dissertation committee Dr. Gyan Nyaupane, Dr. Peter Howe, Dr. Ziqi Song, Dr. Keunhyun Park, and Dr. Michelle Mekker, which helped improve and strengthen my dissertation.

Thanks are due to many individuals who assisted in the data collection effort. I extend my gratitude to all the sixteen participants who took part in focus group discussions, which essentially kicked off my dissertation and provided me with much deeper insights into tourists' thought-process than any literature (or review). I am also thankful to Dr. Laurie McNeill, then interim head of the Department of Civil and Environmental Engineering for providing funding for the online survey part of the study. The team members of Qualtrics Travis Hampton, and Russell Nam Pham made data collection through Qualtrics online panel significantly easier for me. Although I did not have a direct connection with the Qualtrics online panel, I would like to thank all the 1,003 participants who responded carefully to my online survey.

Staying outside of your home country, and without your friends and relatives caused many instances of emotional outbursts, anxiety, and periods of mental block. My life in the U.S. and the Ph.D. journey was only easier due to my close-knit friends here in Logan, and Salt lake. My cousin Bibek was the one who picked me up in Salt Lake City after I arrived in the U.S. and he helped me smoothly transition into life in the U.S. I would like to thank him and Jacob, who were always welcoming when I went to Salt Lake to take a break from my studies. I was lucky to share my room, and lab with Niranjana Poudel, whom I've been friends with for more than 10 years. Late-night discussions with Niranjana were always fruitful, especially for the data collection and methodological part. Thanks are also due to Sailesh Acharya, Sadikshya Kafle, Sujana Acharya, Prerana Karki, and the little sunshine Nathan Acharya who treated me like a family member, and were always there for me during my bad times, and when I was too lazy to cook.

Finally, I am grateful to the whole USU community including the staff and members in the Civil and Engineering department for their assistance during my time as a graduate student.

Prasanna Humagain

CONTENTS

	Page
ABSTRACT.....	iii
PUBLIC ABSTRACT	v
ACKNOWLEDGMENTS	viii
CONTENTS.....	xi
List Of Tables	xv
List Of Figures	xvii
Chapter 1 Introduction	1
1.1 Background.....	1
1.2 COVID-19, outdoor recreation, and tourists' behaviors.....	5
1.3 Theories, gaps and research questions	9
1.4 Study Approach	15
1.5 Overview.....	18
References.....	21
Chapter 2 Exploring tourists' motivations, constraints, and negotiations regarding outdoor recreation trips during COVID-19 through a focus group study.....	29
2.1 Introduction.....	32
2.2 Relevant literature.....	34
2.2.1 Leisure constraints, negotiations, and motivations	34
2.2.2 Post-disaster tourists' behavior	36
2.2.3 Research gaps.....	39
2.3 Data.....	40
2.4 Focus group proceedings	43
2.5 Data analysis	44
2.6 Findings.....	45
2.6.1 Motivations	45
2.6.2 Constraints	48

2.6.3 Negotiation of constraints	53
2.7 Discussion.....	58
2.8 Managerial implications.....	60
2.8.1 Centralized information	60
2.8.2 Advertising strategies.....	63
2.8.3 Operational practices at destinations.....	64
2.9 Conclusion, limitations, and future research.....	65
References.....	69
 Chapter 3 Segmentation of U.S. outdoor recreation tourists by constraints and negotiations: A study during the early COVID-19 pandemic	
	79
3.1 Introduction.....	80
3.2 Relevant literature.....	82
3.2.1 Leisure constraint negotiation process.....	82
3.2.2 Constraints, negotiations, and the global pandemic.....	84
3.2.3 Segmentation in tourism literature.....	87
3.3 Data and methods.....	89
3.3.1 Sample and procedures	89
3.3.2 Measures of constraints, negotiations, motivations, and intentions.....	91
3.3.3 Statistical analysis.....	93
3.4 Results.....	94
3.4.1 Exploratory factor analysis	94
3.4.2 Cluster analysis	98
3.4.3 Socio-demographics.....	101
3.4.4 Outdoor recreation frequency and latent demand.....	102
3.4.5 Motivations and intentions.....	105
3.5 Discussion and conclusions	106
3.6 Limitations and recommendations for future research	111
References.....	113
 Chapter 4 Extending the model of goal directed behavior to understand outdoor recreation intentions during COVID 19: the role of constraints, negotiations, motivations and information search.....	
	122
4.1 Introduction.....	124

5.2.6 First-time visitors (FTVs) vs repeat visitors (RVs)	197
5.3 Analysis and results	199
5.3.1 Data	199
5.3.2 Construct Measurement	202
5.3.3 Dimensions of COVID-19 practices at the destination.....	203
5.3.4 Structural model specification and results	205
5.3.5 Socio-demographic, trip and destination effects.....	207
5.3.6 Variable relationships	209
5.3.7 First-time vs. repeat visitors.....	212
5.4 Discussion and conclusions	216
5.4.1 Theoretical Implications	217
5.4.2 Managerial Implications	219
5.5 Limitations and future research	222
References.....	224
Chapter 6 Summary and conclusion	237
6.1 Theoretical Implications	237
6.2 Management implications.....	249
6.3 Limitations and recommendations for future research	254
6.4 Looking into the future	256
6.4.1 Implications for the future.....	261
6.4.2 Concluding remarks	263
References.....	265
Appendix.....	270

LIST OF TABLES

	Page
Table 1.1: Outdoor recreation activities by category (Source: BEA, 2020).....	3
Table 2.1: Sample demographics (N = 16).....	42
Table 2.2: Sample focus group questions	44
Table 2.3: Tourists' motivations for outdoor recreation trips.....	46
Table 2.4: Tourists constraints to outdoor recreation	49
Table 2.5: Negotiation strategies	54
Table 3.1: Sample demographics (N = 1,003).....	90
Table 3.2: EFA (PCA with varimax rotation) results for constraints (seven factors), negotiations (six factors), and motivations (six factors).....	95
Table 3.3: Segments of recreation tourists.....	99
Table 3.4: Differences between outdoor recreation tourists' segments.....	103
Table 3.5: Motivation and intentions of visitor segments.....	106
Table 4.1: Sample demographics (N=1,003).....	140
Table 4.2: Outer weights and outer loadings for second order construct of negotiations and motivations	146
Table 4.3: Direct, indirect and total effects (standardized coefficients).....	149
Table 4.4 List of items measuring MGD (Model of Goal-Directed Behavior) variables	162
Table 4.5 List of items measuring constraints, negotiations, and motivations.....	164
Table 4.6 Outer loadings for items describing MGD variables.....	167
Table 4.7 Outer loadings for items representing constraints	169
Table 4.8 Outer Loadings for items representing negotiations.....	171

Table 4.9 Outer loadings for items representing motivations.....	172
Table 4.10 Fornell-Lacker Criterion.....	173
Table 4.11 HTMT criteria.....	174
Table 5.1: Empirical evidence of relationships between value, satisfaction, and behavioral intentions.....	195
Table 5.2: Descriptive statistics (N = 405).....	200
Table 5.3: Exploratory factor analysis.....	202
Table 5.4: Goodness-of-fit statistics of proposed conceptual model (ULS estimator)...	207
Table 5.5: Effect of socio-demographics, trip and destination attributes on model variables.....	207
Table 5.6: Structural equation modeling results using ULS and ordered variables.....	210
Table 5.7: Direct, indirect, and total effects.....	211
Table 5.8: Fit statistics for convergence, scalar and metric model (for whole model)...	214
Table 6.1: Management Implications based on study findings.....	250

LIST OF FIGURES

	Page
Figure 1.1: Conceptual framework and organization of the dissertation.....	17
Figure 2.1: Ranking of constraints (N = 16).....	43
Figure 2.2: Proposed website template for destination.....	62
Figure 3.1: Mean values of constraints and negotiations for the three clusters	100
Figure 4.1: Extended model of goal directed behavior with constraints, negotiations, motivations, and information search behavior.	138
Figure 5.1: Conceptual structural model.....	195
Figure 5.2: Results of the proposed conceptual model.....	208
Figure 5.3: Results of theoretical model for first-time visitors (N = 266).....	213
Figure 5.4: Results of theoretical model for repeat visitors (N = 139).....	213
Figure 6.1: Travel statistics before and after COVID-19	257

Chapter 1

Introduction

1.1 Background

Definitions of recreation vary across multiple disciplines. From an economist's perspective, recreation is related to time; as defined by Tribe (2020) recreation is "pursuits undertaken in leisure time" (p. 3), whereas leisure can be "any discretionary time remaining after working, commuting, sleeping, and doing necessary household and personal chores which can be used in chosen way". However, all activities during leisure might not necessarily reflect the free state of mind. For example, a person in a prison might have a large amount of free time, but can we call that leisure or the activities that they do as recreation? There is a need to incorporate the "state of mind" phenomenon when we describe leisure or recreation. From a deeper psychological perspective, recreation can be defined as an "activity (or planned inactivity) undertaken because one wants to do it or as the human emotional and inspirational experience arising out of the recreation act" (Clawson & Knetsch, 2011). In other words, recreation encompasses activity (or inactivity), where the human mind is free of the feelings of "compulsion". As such, it is difficult to mark a borderline between recreation and other activities. The same activity might be a recreation for one and work for other. For example, cooking, dressmaking, furniture, teaching, and other specific activities may fall into either of the categories. Hence, it is a general practice to let individuals decide on what they consider recreation, especially in case of surveys where individuals can report what they perceive as recreation or recreational activity.

This study is primarily focused on outdoor recreation, i.e. recreation typically carried outdoors in a novel environment. Outdoor recreation entails several definitions in the tourism research literature with greater emphasis on conventional recreation activities such as hiking, camping or gardening, strolling, etc. (Cordell, 2012; Nordh et al., 2017; Highfill & Franks, 2019). Additionally, the focus is on investigating tourists' behaviors for specific outdoor recreation activities, such as skiing or hunting, which are mostly confined to the regional level (such as states or specific national parks) (Hjerper, 2018). Hence, to provide a broader perspective of outdoor recreation in the U.S., the Bureau of Economic Analysis (BEA) (2017) presented a definition of outdoor recreation as “all recreational activities undertaken for pleasure that occur outdoors”. The ORSA (Outdoor Recreation Satellite Account) incorporated this broader viewpoint (to calculate the overall contribution of outdoor recreation activity in the U.S.) by classifying outdoor recreation into core outdoor recreation and supporting outdoor recreation (BEA, 2020). Activities comprising total outdoor recreation consisted of conventional outdoor recreation activities (such as bicycling, boating/fishing, etc.) and other outdoor recreation activities (including amusement parks/water parks, sports, etc.). Services, facilities, and agencies that support the swift functioning of outdoor recreation activities in the destinations are referred to as supporting outdoor recreation activities. As a relevant matter of interest, the list of the recreational activities is presented in Table 1.1.

Table 1.1

Outdoor recreation activities by category (Source: BEA, 2020)

Conventional Outdoor recreation activities	Other outdoor recreational activities
<p>Outdoor recreation activities in conventional definition</p> <ul style="list-style-type: none"> • Bicycling (All recreational bicycling, including BMX, E-bikes, Mountain, On-road) • Boating/Fishing (All recreational boating, including Canoeing, Fishing, Inboard/Outboard, Kayaking, Personal watercraft, Sailing) • Climbing/Hiking/Tent Camping • Equestrian • Hunting/Trapping/Shooting (including Archery) • Motorcycling/ATVs (Off-road, On-road) • Recreational flying (Experimental, Glider, Turboprop, Ultralight) • RVing • Snow activities (Dog mushing, Skiing, Sleighing, Snowboarding, Snowmobiling, Snow shoeing, Tubing) 	<p>Outdoor recreation activities in other definition</p> <ul style="list-style-type: none"> • Amusement parks/Water parks • Festivals/Sporting events/Concerts (includes Professional sports) • Field sports (e.g., Football, Lacrosse, Soccer) • Game area sports (e.g., Basketball, Golf, Tennis) • Guided tours/Outfitted travel (includes Boating and Fishing charters) • Productive activities (Beekeeping, Foraging, Gardening, Panning for ore)
<p>Other Conventional Air and Land activities</p> <ul style="list-style-type: none"> • Air sports (Base jumping, Hang gliding, Skydiving) • Driving for pleasure (Gas spending only) • Geocaching/Orienteering/Rock hounding • Ice skating • Inline skating • Land/Sand sailing • Races (includes Bike and Endurance racing) • Running/Jogging/Walking • Skateboarding • Wildlife watching/Birding 	<p>Other Activities</p> <ul style="list-style-type: none"> • Agritourism (Animal sanctuaries, Petting zoos, Pick-your-own produce farms, Vineyard tours) • Augmented reality games • Beachgoing • Disc golf • Hot springs soaking • Kite flying • Model airplane/rocket/UAV • Paintball • Photography • Stargazing/Astronomy • Swimming • Therapeutic Programs • Water Polo

-
- Yard sports (e.g., Bocce ball, Croquet)
-

Other Conventional Water activities

- Boardsailing/Windsurfing
 - SCUBA Diving
 - Snorkeling
 - Stand-up paddling
 - Surfing
 - Tubing/Wakeboarding
 - Water skiing
 - Whitewater rafting
-

A trip characterizes the essence of traveling, and can be conceptualized according to three definitions in Merriam-Webster dictionary: (a) a voyage or journey, (b) a single round or tour (from origin to destination), and/or (c) an exciting or unusual experience. Following this idea and acknowledging the wide-range of possible outdoor recreation activities mentioned above, outdoor recreation trips in this study are defined as trips undertaken where the purpose is to engage in recreational activities in an outdoor or natural environment. This definition entails a more general approach than considering a particular recreation activity, as the principal element of outdoor recreant activities is the association with the outdoor (or natural) environment. As such, the implications of this definition are transferable to any kind of recreational activity, in general.

Recreation trips are important components of an individual's lifestyle and one of the primary purposes that drives people to explore and travel to destinations miles away from their homes. But, why travel on outdoor recreation trips? There is a plethora of reasons to engage in outdoor recreation trips, but the core motives include achievement of novelty, escape from normal environments, relaxation, and enjoyment with family/friends (Pearce, 2011). These motives, however, differ according to individuals' personality traits

(Madrigal, 1995), stage-of-life, (dis)abilities or physical conditions, and social/cultural inclinations. Although inter-personal differences exist in why people participate in outdoor recreation, there is a general agreement about the positive impacts of these trips on tourists' lives. First, outdoor recreation evidently has positive effects on physical health as it is associated with some level of physical activity (Bischoff et al., 2007). Second, participation in outdoor recreation activities has been widely accepted to elicit greater positive emotions, strengthen and develop social relationships, and increase the knowledge horizon (McCabe, 2009; Iwaski, 2007; Iwaski et al., 2005). Finally, the impacts of outdoor recreation are not limited to momentary changes in an individual's psychological states (during or after recreation trips), but evidence points out the prolonged nature of effects through improving subjective well-being, satisfaction with several life-domains, and satisfaction with life- as a whole (Bimonte & Faralla, 2015; Sirgy et al., 2011).

1.2 COVID-19, outdoor recreation, and tourists' behaviors

The world was impacted by a novel coronavirus, termed COVID-19, which emerged in Wuhan, China, in December 2019. The nature of COVID-19 transmission through human contact, i.e. respiratory droplets (Wilder-Smith & Freedman, 2020), resulted in the spread of the virus over many countries in the world in a very short period of time. Due to the widespread and potentially fatal nature of COVID-19, the World Health Organization (WHO) labeled the outbreak a pandemic in March 2020. During the early stage of the pandemic, and in the absence of pharmaceutical preventions(vaccines), governments across many countries implemented non-pharmaceutical interventions (NPIs) such as physical distancing, banning of public events, closures of schools, and

encouraging telecommuting. The COVID-19-related fear, plus government-initiated restrictions has presented a novel environment for tourists to deal with, and has influenced tourists' behaviors and decision-making processes for participating in outdoor recreation trips. Many studies in the past highlighted the sensitivity of the tourism industry to events such as natural disasters, wars, and pathogen threats (Floyd et al., 2004; Park & Reisinger, 2010; Reisinger & Mavondo, 2006, Kozak et al., 2007). The impact of the COVID-19 pandemic on the tourism industry in the U.S. was unprecedented. Compared to 2019, tourism statistics from 2020 (since the onset of the pandemic) revealed a staggering decline in travel spending in the U.S. across all the states: leisure and domestic travel spending fell by 27% and 26% respectively; hotel occupancy decreased more than 44%; and international and business travel declined by about 70% (Tourism Economics, 2021). The resulting financial loss due to a lack of tourism demand was reported to be about \$492 billion (Tourism Economics, 2021). Since tourism contributes significantly to the gross domestic product of the U.S. (about 3%) (Tourism Economics, 2021), it is of utmost importance to understand how the COVID-19 pandemic has shaped tourist behaviors and impacted the decision-making process for outdoor recreation trips.

First, it is critical to understand how humans (or tourists) respond to the pandemic. With the onset of the pandemic, research across various disciplines has attempted to explore humans' psychological processes relevant to the pathogen threat environment. Psychologists suggest that humans possess different "affective, cognitive and behavioral" (Makhanova & Sheperd, 2020) mechanisms—referred to as the Behavioral Immune System (BIS)—that assists them in adapting to the threat of pathogen

transmission in the environment (Prokosch et al., 2019). When humans detect pathogen relevant cues in the environment (such as human interaction, sneezing, or coughing), research shows that people practice prophylactic behaviors aimed at reducing their exposure to pathogen threats, especially during the times when the risk of transmission is amplified (such as during the early wave of the pandemic) (Prokosch et al., 2019). Such prophylactic behavior pertains to avoidance of people with illness (Schaller & Park, 2011) and reduced preferences to interact with other people, in general (Mortensen et al., 2010), or applying NPIs (constantly washing hands, applying sanitizers, masks etc.). From a behavioral ecology perspective, humans (or animals within the same gene pool or genotype) alter their behavior in response to a change in ecological conditions, i.e., threat of pathogen (COVID-19), which is termed as phenotypic plasticity (Sng et al., 2018). The COVID-19 threat leads to human adaption of mechanisms linked with negative perceptions of crowding, xenophobia (fear of strangers, especially for people of another country), and ethnocentrism (Kock et al., 2020).

The tourism industry has previously faced events of pathogen threat (SARS, Ebola), natural disasters (volcano, tsunamis), and man-made disasters (9/11, war in Iraq). Tourism research can shed light on tourists' behavior during COVID-19. The uncertainty and fear associated with the early phase of pathogen threat resulted in tourists performing self-protective behaviors like cancellation of flights or travel plans (Kock et al., 2020). All sorts of natural disasters or events of pathogen threat are hence characterized by a rapid decline in tourism demand during the initial period (Huang & Min, 2002; Park & Reisinger, 2010; Peers & Pikkemaat, 2005). As mentioned above, research also shows that tourists' negative perceptions of crowding are pronounced in a disease contagious

environment (Wang & Ackerman, 2019). This leads to tourists' avoidance of overcrowded destinations in favor of more open wilderness areas and preferences for activities such as backpacking trails, to minimize exposure to other people. Another common theme depicted in tourism literature is called tourism xenophobia, which entails fear of strange things and uncertainty, specifically linked with people from other countries (Kock et al., 2019). Tourists' xenophobic feelings are represented by their lower preferences towards foreign travel and trying foreign food. Further, there are a number of studies supporting the idea of tourism ethnocentrism, i.e., an increased willingness to support the domestic tourism economy by visiting local destinations during prevalence of pathogens (Fincher et al., 2008; Kock et al., 2020; Zenker & Kock, 2020). Borrowing from these insights, this study considers multiday outdoor recreation trips conducted within the U.S. only, i.e., domestic outdoor recreation trips. Hence, the final definition of outdoor recreation trip in this study is "a journey involving at least one overnight stay away from home, and where the purpose is to engage in recreational activities in an outdoor or natural environment".

Although tourists' outdoor behaviors during pathogen threats involve high-risk decisions, people continue to travel. Government initiated restrictions such as lockdown and implementation of NPIs can act as a positive motivator for tourists to enjoy the outdoors as a source of reliving normalcy and being away from the COVID-19 environments conducive to the spread of COVID-19 (Humagain & Singleton, 2021). Tourists who still travel during risk events are also sometimes termed "crisis-resistant tourists" (Hajibaba et al., 2018). The disease avoidance behaviors are also commonly applied by tourists' when planning on an outdoor recreation trip or while at the

destination. The pre-visit or planning stage requires extensive preparation and planning during these events. This includes gathering a large amount of and variety of information from various information sources (travel agents, those who recently traveled, etc.) (Lo et al., 2011; Baloglu, 2000). Tourists are more inclined to travel with those within their immediate circle such as family or friends (Navarette & Fessler, 2006). Similarly, tourists prefer destinations that implement adequate safety and hygiene measures (Wen et al., 2005). Tourists feel increased social and ethical responsibility during these times, as traveling is associated with social costs of transmission of the virus to others and being a transmission agent (Humagain & Singleton, 2021).

1.3 Theories, gaps and research questions

In an exploration of tourists' decision-making processes, this study borrows the concepts from leisure constraints-negotiation and other socio-psychological theories that explain intentions to participate in outdoor recreation trips during the early COVID-19 pandemic. In simple terms, constraints are factors that limit the formation of leisure preferences or inhibit participation (rate or frequency) in desired activities (Jackson, 1997). Two other terms commonly used in relation to constraints are negotiations—efforts or strategies developed by tourists to overcome the constraint to continue or start a desired leisure activity (Jackson et al., 1993)—and motivations: the set of psychological factors that induce a desire to participate in a particular activity (Hubard & Mannell, 2001). Taken together, the interplay of tourists' perceived constraints, negotiation efforts, and motivating factors are found to determine the intentions or participation in leisure activity, i.e., outdoor recreation trips (Hubbard & Mannell, 2001; Son et al., 2008; White, 2008).

Early constraints literature typically categorized constraints into three types (Crawford et al., 1991): (i) intrapersonal factors affecting leisure preferences based on individual's psychological attributes (lack of interest, anxiety or perceived ability); (ii) interpersonal factors affecting both leisure preferences and participation, and related to an individual's relationships with other people (such as preferences of spouses, children, or friends); and (iii) structural factors intervening preference and participation, such as a lack of time, finances, weather (Craford & Godbye, 1987). The hierarchical theory of constraints proposed that these constraints are experienced in a sequential manner, with interpersonal constraints being most proximal, and structural constraints the most distant (Crawford et al., 1991; Nyaupane et al., 2004; Raymore et al., 1993). This model also suggested that these constraints must be negotiated along the hierarchy to successfully participate in the leisure activity (Godbye et al., 2010). However, the researchers critiqued the three-dimensional form of constraints, suggesting that the marked borderline between interpersonal and intrapersonal constraints could not incorporate the influences of socio-cultural contexts and pointed out the existence of different sub-dimensions within the structural constraints (Nyaupane & Andereck, 2008). Constraints and negotiations are dynamic in nature considering the environmental context (Godbye et al., 2010). In the COVID-19 context, tourists might experience different constraints, related to COVID-19 transmission, and a general fear of traveling, and subsequently use different COVID-19 avoidance negotiation strategies for outdoor recreation participation. This dissertation explores the nature of constraints experienced, the negotiation strategies developed, and motivations for outdoor recreation trip participation during the COVID-19 pandemic.

Relationships between constraints, negotiations, and motivations, and their effects on tourists' participation/intentions for leisure activities, has been explored in detail, both through qualitative and quantitative approaches. First, the number of constraints experienced has been found to deter the participation rate or the intentions (Hubbard & Mannell, 2001; Son et al., 2008; White, 2008; Kono et al., 2020). The constraint–negotiation link can be conceptualized in two ways: (i) Encountering constraints can result in increased negotiation efforts for leisure participation; and (ii) Negotiation efforts can reduce the negative influence of constraints on leisure participation (Jackson et al., 1993; Hubbard & Mannell., 2001). Motivation has an influential role to play in leisure participation, as motivations is found to trigger greater efforts of negotiation (Kono et al., 2020; Hubbard & Mannell, 2001; Son et al., 2008). Hence, analyzing how tourists' motivations, constraints, and negotiations interact and exert influences on tourists' intentions to travel during the COVID-19 pandemic is another purpose of this dissertation.

Although learning from the tourists' behavior during past disasters can be helpful to anticipate tourists' behavior in the COVID-19 environments, it is essential to understand that each event of crisis alters tourists' behavior and perceptions in a different way (Zenker & Kock, 2020). Specifically, the COVID-19 presents a unique environment compared to the past, along the following lines: (i) the high mortality rate of COVID-19; (ii) the widespread nature of COVID-19; (iii) the transmission of COVID-19; (iv) government initiated NPIs including closures of activities and facilities at the destination; (iv) increased perceptions of tourist xenophobia and collectivism (tourist ethnocentrism); and (v) socialization and ethical issues pertaining to outdoor recreation travel.

Accordingly, COVID-19 impacts on tourists could result in novel constraints (risk of COVID-19 transmission, closure of facilities), increased negotiation efforts (related to disease avoidance), and new motivations (wanting to go outdoors because of having to stay at home for longer periods). Hence, this dissertation aims to provide a comprehensive assessment of tourists' behaviors and decision-making processes during the early pandemic through answering the following research questions.

1. What are tourists' perceived constraints, relevant negotiation strategies, and motivations to participate in outdoor recreation trips during the COVID-19 pandemic?

Much of the tourism research after the start of the COVID-19 pandemic has been dedicated to understanding tourists' behaviors especially through examining the multiple risk dimensions induced by COVID-19 and its impact on participation in leisure activities (Xu et al., 2021; Bae & Chang, 2021; Zhu & Deng, 2020; Neuburger & Egger, 2021). However, tourists' fear of COVID-19 transmission is one of the numerous factors that they consider when planning or participating outdoors. What is lacking in the current COVID-19 research is a detailed assessment of tourists' decision-making processes considering a broad array of individual, social, and ethical barriers to outdoor recreation participation along with the repercussions of government restrictions and regulations. There is hence a need for detailed investigation of factors that negatively influence outdoor recreation participation (constraints), the strategies tourists apply to have a satisfying destination experience

(negotiations), and the psycho-social factors that trigger tourists to go outdoors (motivations)-during the COVID-19 pandemic.

2. How do socio-demographic characteristics influence tourists' perceptions of constraints, and their negotiation efforts, amidst the COVID-19 pandemic?

Tourists' perceptions of risk amidst crisis events are considered to be heterogeneous in nature (Kozak et al., 2007; Park & Reisinger, 2010). We can observe the contrasting perceptions of COVID-19 even in our own social circle, with some being slightly liberal about COVID-19 whereas others have been very cautious. These interpersonal differences result in tourists experiencing different types of constraints and applying negotiation strategies suitable to minimize their COVID-19 risks (and other constraints). Thus, it is necessary to identify groups/segments of tourists who share common characteristics, priorities, needs, and perceptions (related to constraints and negotiations), so that tailored strategies (marketing and advertising) can be developed to meet the demands of particular groups of tourists. Additionally, classification of tourists according to constraints and negotiations would assist tourism destination managers to focus on those segments of the population with higher interests and positive intentions for traveling outdoors, in order to shape the tourism demand in the COVID-19 scenario.

3. How do tourists' perceptions of constraints, negotiation efforts, motives, and information search behaviors affect tourists' attitudes, emotions, subjective norms, desires, and finally the intentions to participate in outdoor recreation trips during the COVID-19 pandemic?

The use of psycho-social models to predict tourists' intentions is common in tourism research, because of the ability of models to capture psychological components such as attitudes, emotions, beliefs, social perceptions (subjective norms), and habitual behavior (recency, and past participation) (Chiu & Cho, 2021). Even in the COVID-19 context, these models, such as Theory of Planned Behavior (Ajzen, 1991) or Model of Goal Directed Behavior (Perrugini & Bagozzi, 2001) have been extensively applied. Most often, these models are extended by the use of predictors that can capture significant proportions of variance of constructs (such as attitudes and intentions). Recent COVID-19 research has emphasized influences of COVID-19 perceptions (through risk perceptions or perceived COVID-19 infectability) (Xu et al., 2021; Kock et al., 2020) and the use of NPIs (masks, sanitizers) (Lui et al., 2021; Kement et al., 2020) in determining intentions and related constructs. However, the narrow focus on a single (or a particular) variable of interest limits the generalizability and implications of the models by failing to consider the effects of other critical variables. As such, it is required to develop a model that encompasses a wide variety of variables including constraints, negotiations, motivations, and information search as determinants of the psycho-social variables, and tourists' future intentions to participate in outdoor recreation trips.

4. How do COVID-19 measures at the destination affect tourists' perceptions of satisfaction, value, and future behavioral intentions?

Following government restrictions and regulations after the start of the COVID-19 pandemic, destinations around the U.S. implemented several measures to allow for a

safe and pleasurable experience for the tourists', such as limited occupancy, provision of masks, and closure of campgrounds. These COVID-19 measures also resulted in closures of facilities around the destination, including restaurants and spots of public gatherings. COVID-19 measures at the destination as a destination-related risk-reduction strategy would decrease the COVID-19 risks during the destination visit, increasing the satisfaction levels and future intentions to visit. Alternatively, these measures could also inhibit tourists from a full destination experience, due to lack of socialization, longer queue lengths, and unavailability of desired activities.

Furthermore, the evaluation of COVID-19 measures could differ based on socio-demographic factors, such as age (older adults or high-risk populations may be happier with destination COVID-19 measures than younger populations), gender, income, and education. As such, this warrants further empirical inquiry of tourists' satisfaction with COVID-19 measures at the destination (by revealing the socio-demographic differences) and how it relates to tourists' perceived satisfaction, overall value, and future intentions (recommendation/revisit intentions).

1.4 Study Approach

The four research questions of this study are addressed through the application of various analytic techniques to data collected from both qualitative and quantitative methods. The following conceptual diagram displayed in **Error! Reference source not found.** illustrates the different phases of the research along with the description of empirical analysis directed to answer each research question.

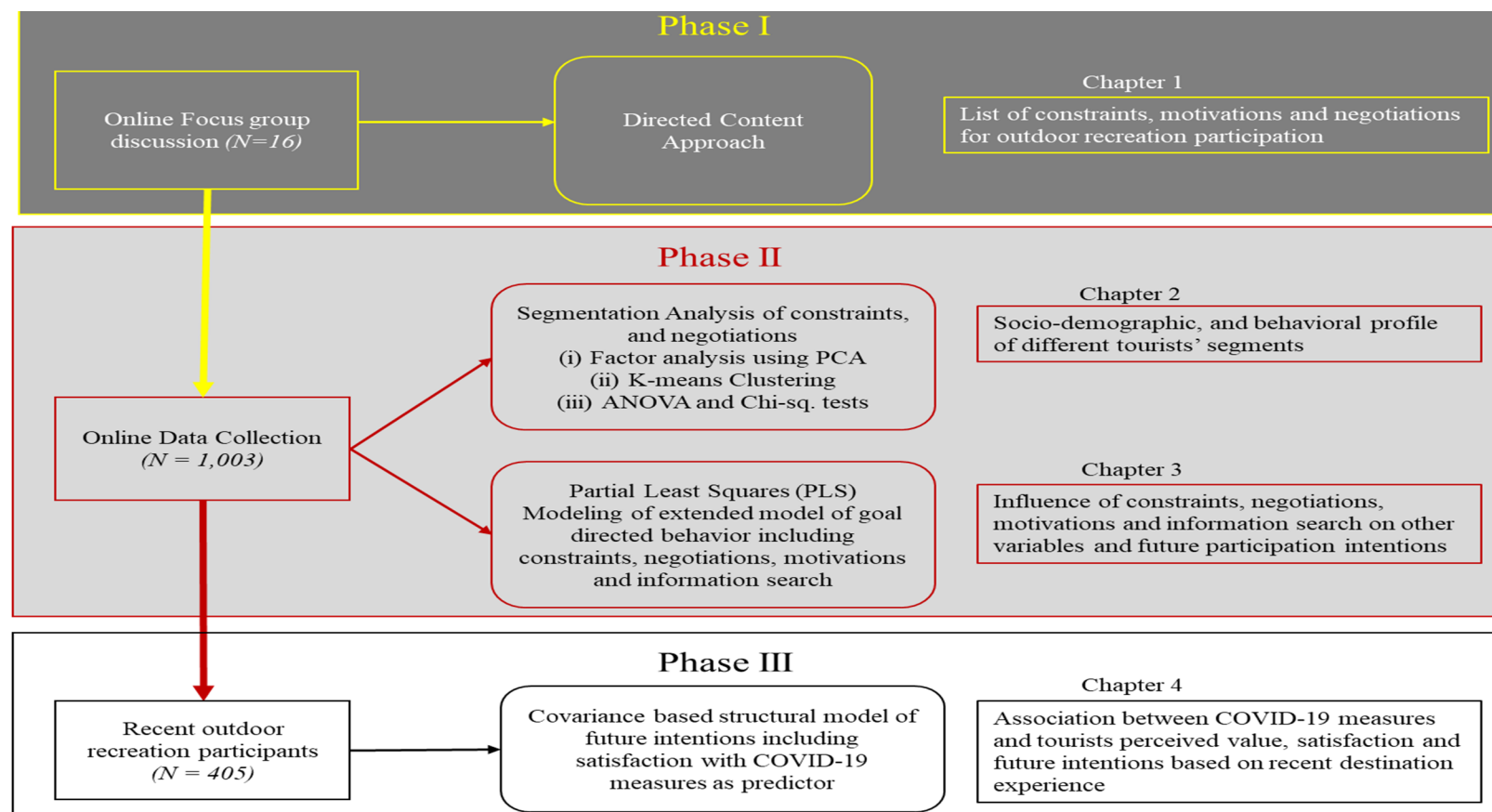
The first phase of this dissertation adopted a qualitative method (focus group discussions) to entice rich descriptions of tourists' perceptions and opinions (Neuman, 2006) regarding making outdoor recreation trips during the COVID-19 pandemic. Then, using the directed content approach, items pertaining to constraints, negotiation strategies, and motivating factors were illuminated to address the research question #1. The constraint, negotiation, and motivating items identified via the focus group discussions were then converted into survey questions using suitable scales of measurement, for further empirical analyses.

The second phase dealt with the dissemination of large-scale survey questionnaires to a Qualtrics online panel. A quota sampling strategy was deployed so that the sample approximately represented the U.S. population in terms of age, gender, household income, education, and geographical regions. The survey questionnaires were guided by the analysis of focus group discussions along with borrowing items from previous tourism literature measuring the relevant latent constructs. The data was then analyzed considering the full sample to answer research questions #2 and #3.

The third phase analyzed the data from a reduced sample of those respondents who went on outdoor recreation trips from March 2020 to the survey date, in response to research question #4. In other words, only the recent outdoor recreation participants were allowed to answer the questions regarding COVID-19 measures at the destination, future intentions, and other constructs of the study. Compared to pre-trip perceptions of tourists regarding outdoor recreation trips, this analysis captured the post-trip experience of tourists.

Figure 1.1

Conceptual framework and organization of the dissertation



1.5 Overview

The dissertation is structured into several chapters that address the four research questions. A general introduction has been presented in Chapter 1. The remaining chapters are summarized in the following paragraphs.

Chapter 2, which is titled “Exploring tourists’ motivations, constraints, and negotiations regarding outdoor recreation trips during COVID-19 through a focus group study”, begins with a brief literature review of constraints-negotiation theory. Next, a review of past crisis studies is carried out with an aim to illuminate the effect of crisis (pathogen threat or man-made disasters) on tourists’ outdoor recreation behaviors as well as tourists’ perception of constraints, negotiations, and motivations. Further, tourists’ perception of constraints, motivations, and negotiation strategies could be unique to the COVID-19 context and requires exploration. To investigate the dynamic effects of COVID-19 on outdoor recreation, an online focus group study was conducted to investigate tourists’ constraints, motivations, and negotiation strategies. Details of the online focus group proceedings, sample questions, along participants’ socio-demographics, are provided. Finally, the findings of the focus group study including different dimensions of constraints, negotiations, and motivations for outdoor recreation participation are reported, along with some theoretical and management implications.

Chapter 3 dealt with the segmentation analysis of tourists with perceptions of constraints and negotiation strategies as the discriminating criteria. This section, “Segmentation of U.S. outdoor recreation tourists by constraints and negotiations: A study during the early COVID-19 pandemic”, identifies segments of tourists who are

impacted by similar kinds of constraints, and are willing to apply similar negotiation strategies. Along with identifying segments of tourists, this study also developed a socio-demographic profile of segments and finally expands on the behavioral differences between these segments in terms of motives, future intentions, and latent demand (unfulfilled demand for outdoor recreation trips).

Chapter 4 has the objective of “extending the model of goal directed behavior to understand outdoor recreation intentions during COVID 19: the role of constraints, negotiations, motivations and information search”. This section first addresses the measurement issues related to the construction of second-order constructs of constraints, motivations, and negotiations. Using the partial least squares approach, the conceptual model incorporates constraints (1st order), negotiations and motivations (2nd order), and information search behavior (1st order) were the predictors of the model of goal directed variables, including future intentions. Finally, the specific (direct) effects of several constraints, negotiations, motivations, and information search behaviors on the formation of attitudes, positive or negative emotions, perceived behavioral control, and intentions were calculated.

Chapter 5, titled “Examining relationships between COVID-19 destination practices, value, satisfaction, and behavioral intentions for tourists’ recent outdoor recreation trips”, discusses the use of data of recent participants to investigate how satisfaction with COVID-19 measures at the destination was associated with their evaluation of value, overall destination satisfaction, and intentions to revisit and recommend the destination to others. This section also illuminates the differences of

destination-related attributes (such as accommodation, type of destination) and socio-demographic characteristics (such as age) in tourists' evaluation of COVID-19 measures at the destination. Finally, a multiple group analysis was performed to assess whether the associations between variables vary based on the tourists' familiarity with the destination (first-time visitors vs. repeat visitors).

Finally, Chapter 6 concludes the dissertation, discussing the contribution of the study, drawing theoretical and managerial implications, stating the limitations of the study, and providing recommendations for future research.

References

- Bae, S. Y., & Chang, P.-J. (2021). The effect of coronavirus disease-19 (COVID-19) risk perception on behavioral intention towards 'untact' tourism in South Korea during the first wave of the pandemic (March 2020). *Current Issues in Tourism*, 24(7), 1017–1035. <https://doi.org/10.1080/13683500.2020.1798895>
- Baloglu, S. (2000). A Path Analytic Model of Visitation Intention Involving Information Sources, Socio-Psychological Motivations, and Destination Image. *Journal of Travel & Tourism Marketing*, 8(3), 81–90. https://doi.org/10.1300/J073v08n03_05
- Bimonte, S., & Faralla, V. (2015). Happiness and outdoor vacations appreciative versus consumptive tourists. *Journal of travel Research*, 54(2), 179-192. <https://doi.org/10.1177/0047287513513171>
- Bischoff, E. E., & Koenig-Lewis, N. (2007). VFR tourism: The importance of university students as hosts. *International Journal of Tourism Research*, 9(6), 465-484. <https://doi.org/10.1002/jtr.618>
- Bureau of Economic Analysis (2017). How will Outdoor Recreation be defined? <https://www.bea.gov/help/faq/1194>
- Bureau of Economic Analysis (2020). Outdoor Recreation Satellite Account, U.S. and states, 2019. <https://www.bea.gov/data/special-topics/outdoor-recreation>
- Chiu, W., & Cho, H. (2021). The Model of Goal-Directed Behavior in Tourism and Hospitality: A Meta-analytic Structural Equation Modeling Approach. *Journal of Travel Research*, 004728752199124. <https://doi.org/10.1177/0047287521991242>
- Clawson, M., & Knetsch, J. L. (2013). *Economics of outdoor recreation*. Routledge.

- Cordell, H. K. (2012). Outdoor recreation trends and futures: a technical document supporting the Forest Service 2010 RPA Assessment. Gen. Tech. Rep. SRS-150. Asheville, NC: US Department of Agriculture Forest Service, Southern Research Station, 167 p., 150, 1-167. <https://doi.org/10.2737/SRS-GTR-150>
- Crawford, D. W., & Godbey, G. (1987). Reconceptualizing barriers to family leisure. *Leisure Sciences*, 9(2), 119–127. <https://doi.org/10.1080/01490408709512151>
- Crawford, D. W., Jackson, E. L., & Godbey, G. (1991). A hierarchical model of leisure constraints. *Leisure Sciences*, 13(4), 309–320. <https://doi.org/10.1080/01490409109513147>
- Floyd, M. F., Gibson, H., Pennington-Gray, L., & Thapa, B. (2004). The Effect of Risk Perceptions on Intentions to Travel in the Aftermath of September 11, 2001. *Journal of Travel & Tourism Marketing*, 15(2–3), 19–38. https://doi.org/10.1300/J073v15n02_02
- Godbey, G., Crawford, D. W., & Shen, X. S. (2010). Assessing Hierarchical Leisure Constraints Theory after Two Decades. *Journal of Leisure Research*, 42(1), 111–134. <https://doi.org/10.1080/00222216.2010.11950197>
- Hajibaba, H., Gretzel, U., Leisch, F., & Dolnicar, S. (2015). Crisis-resistant tourists. *Annals of Tourism Research*, 53, 46–60. <https://doi.org/10.1016/j.annals.2015.04.001>
- Highfill, T., & Franks, C. (2019). Measuring the US outdoor recreation economy, 2012–2016. *Journal of Outdoor Recreation and Tourism*, 27, 100233. <https://doi.org/10.1016/j.jort.2019.100233>

- Hjerpe, E. E. (2018). Outdoor recreation as a sustainable export industry: A Case Study of the Boundary Waters Wilderness. *Ecological Economics*, 146, 60-68.
<https://doi.org/10.1016/j.ecolecon.2017.10.001>
- Huang, J. H., & Min, J. C. (2002). Earthquake devastation and recovery in tourism: The Taiwan case. *Tourism Management*, 23(2), 145-154. [https://doi.org/10.1016/S0261-5177\(01\)00051-6](https://doi.org/10.1016/S0261-5177(01)00051-6)
- Hubbard, J., & Mannell, R. C. (2001). Testing Competing Models of the Leisure Constraint Negotiation Process in a Corporate Employee Recreation Setting. *Leisure Sciences*, 23(3), 145–163. <https://doi.org/10.1080/014904001316896846>
- Humagain, P., & Singleton, P. A. (2021). Exploring tourists’ motivations, constraints, and negotiations regarding outdoor recreation trips during COVID-19 through a focus group study. *Journal of Outdoor Recreation and Tourism*, 100447.
<https://doi.org/10.1016/j.jort.2021.100447>
- Iwasaki, Y., Mannell, R. C., Smale, B. J., & Butcher, J. (2005). Contributions of leisure participation in predicting stress coping and health among police and emergency response services workers. *Journal of health psychology*, 10(1), 79-99.
<https://doi.org/10.1177/1359105305048557>
- Iwasaki, Y., MacKay, K., & Mactavish, J. (2005). Gender-based analyses of coping with stress among professional managers: Leisure coping and non-leisure coping. *Journal of Leisure Research*, 37(1), 1-28. <https://doi.org/10.1080/00222216.2005.11950038>
- Jackson, E. L., Crawford, D. W., & Godbey, G. (1993). Negotiation of leisure constraints. *Leisure Sciences*, 15(1), 1–11.
<https://doi.org/10.1080/01490409309513182>

- Jackson, E. L. (1997). In the eye of the beholder: 1 a comment on Samdahl & Jekubovich (1997), “a critique of leisure constraints: Comparative analyses and understandings”. *Journal of Leisure Research*, 29(4), 458-468.
- Kement, U., Çavuşoğlu, S., Demirağ, B., Durmaz, Y., & Bükey, A. (2020). Effect of perception of COVID-19 and nonpharmaceutical intervention on desire and behavioral intention in touristic travels in Turkey. *Journal of Hospitality and Tourism Insights*. <https://www.emerald.com/insight/2514-9792.htm>
- Kock, F., Josiassen, A., Assaf, A. G., Karpen, I., & Farrelly, F. (2019). Tourism Ethnocentrism and Its Effects on Tourist and Resident Behavior. *Journal of Travel Research*, 58(3), 427–439. <https://doi.org/10.1177/0047287518755504>
- Kock, F., Nørfelt, A., Josiassen, A., Assaf, A. G., & Tsionas, M. G. (2020). Understanding the COVID-19 tourist psyche: The Evolutionary Tourism Paradigm. *Annals of Tourism Research*, 85, 103053. <https://doi.org/10.1016/j.annals.2020.103053>
- Kono, S., Ito, E., Walker, G. J., & Gui, J. (2020). Predictive power of leisure constraint-negotiation models within the leisure-time physical activity context: A partial least squares structural equation modeling approach. *Journal of Leisure Research*, 51(3), 325–347. <https://doi.org/10.1080/00222216.2019.1687266>
- Kozak, M., Crotts, J. C., & Law, R. (2007). The impact of the perception of risk on international travellers. *International Journal of Tourism Research*, 9(4), 233-242. <https://doi.org/10.1002/jtr.607>

- Lo, A. S., Cheung, C., & Law, R. (2011). Hong Kong Residents' Adoption of Risk Reduction Strategies in Leisure Travel. *Journal of Travel & Tourism Marketing*, 28(3), 240–260. <https://doi.org/10.1080/10548408.2011.562851>
- Liu, Y., Shi, H., Li, Y., & Amin, A. (2021). Factors influencing Chinese residents' post-pandemic outbound travel intentions: An extended theory of planned behavior model based on the perception of COVID-19. *Tourism Review*, 76(4), 871–891. <https://doi.org/10.1108/TR-09-2020-0458>
- Madrigal, R. (1995). Cognitive and affective determinants of fan satisfaction with sporting event attendance. *Journal of leisure research*, 27(3), 205-227.
- Makhanova, A., & Shepherd, M. A. (2020). Behavioral immune system linked to responses to the threat of COVID-19. *Personality and Individual Differences*, 167, 110221. <https://doi.org/10.1016/j.paid.2020.110221>
- McCabe, S. (2009). Who needs a holiday? Evaluating social tourism. *Annals of Tourism Research*, 36(4), 667-688. <https://doi.org/10.1016/j.annals.2009.06.005>
- Mortensen, C. R., Becker, D. V., Ackerman, J. M., Neuberg, S. L., & Kenrick, D. T. (2010). Infection breeds reticence: The effects of disease salience on self-perceptions of personality and behavioral avoidance tendencies. *Psychological science*, 21(3), 440-447. <https://doi.org/10.1177/0956797610361706>
- Navarrete, C. D., & Fessler, D. M. T. (2006). Disease avoidance and ethnocentrism: The effects of disease vulnerability and disgust sensitivity on intergroup attitudes. *Evolution and Human Behavior*, 27(4), 270–282. <https://doi.org/10.1016/j.evolhumbehav.2005.12.001>

- Neuburger, Larissa, and Roman Egger. "Travel risk perception and travel behaviour during the COVID-19 pandemic 2020: A case study of the DACH region." *Current Issues in Tourism* 24.7 (2021): 1003-1016.
- Nordh, H., Vistad, O. I., Skår, M., Wold, L. C., & Bærum, K. M. (2017). Walking as urban outdoor recreation: Public health for everyone. *Journal of outdoor recreation and tourism*, 20, 60-66. <https://doi.org/10.1016/j.jort.2017.09.005>
- Nyaupane, G. P., Morais, D. B., & Graefe, A. R. (2004). Nature Tourism Constraints. *Annals of Tourism Research*, 31(3), 540–555. <https://doi.org/10.1016/j.annals.2004.01.006>
- Nyaupane, G. P., & Andereck, K. L. (2008). Understanding Travel Constraints: Application and Extension of a Leisure Constraints Model. *Journal of Travel Research*, 46(4), 433–439. <https://doi.org/10.1177/0047287507308325>
- Park, K., & Reisinger, Y. (2010). Differences in the perceived influence of natural disasters and travel risk on international travel. *Tourism Geographies*, 12(1), 1-24. <https://doi.org/10.1080/14616680903493621>
- Pearce, P. L. (2011). Travel motivation, benefits and constraints to destinations. *Destination marketing and management: Theories and applications*, 39-52.
- Peters, M., & Pikkemaat, B. (2005). *Innovation in hospitality and tourism*. Routledge.
- Prokosch, M. L., Gassen, J., Ackerman, J. M., & Hill, S. E. (2019). Caution in the time of cholera: Pathogen threats decrease risk tolerance. *Evolutionary Behavioral Sciences*, 13(4), 311.

- Raymore, L., Godbey, G., Crawford, D., & von Eye, A. (1993). Nature and process of leisure constraints: An empirical test. *Leisure Sciences*, 15(2), 99–113.
<https://doi.org/10.1080/01490409309513191>
- Reisinger, Y., & Mavondo, F. (2006). Cultural differences in travel risk perception. *Journal of Travel & Tourism Marketing*, 20(1), 13-31.
https://doi.org/10.1300/J073v20n01_02
- Schaller, M., & Park, J. H. (2011). The behavioral immune system (and why it matters). *Current directions in psychological science*, 20(2), 99-103.
<https://doi.org/10.1177/0963721411402596>
- Sirgy, M. J., Kruger, P. S., Lee, D. J., & Yu, G. B. (2011). How does a travel trip affect tourists' life satisfaction? *Journal of Travel research*, 50(3), 261-275.
<https://doi.org/10.1177/0047287510362784>
- Shinew, K. J., Floyd, M. F., & Parry, D. (2004). Understanding the relationship between race and leisure activities and constraints: Exploring an alternative framework. *Leisure sciences*, 26(2), 181-199.
<https://doi.org/10.1080/01490400490432109>
- Sng, O., Neuberg, S. L., Varnum, M. E., & Kenrick, D. T. (2018). The behavioral ecology of cultural psychological variation. *Psychological review*, 125(5), 714.
<https://doi.org/10.1037/rev0000104>
- Son, J. S., Mowen, A. J., & Kerstetter, D. L. (2008). Testing Alternative Leisure Constraint Negotiation Models: An Extension of Hubbard and Mannell's Study. *Leisure Sciences*, 30(3), 198–216. <https://doi.org/10.1080/01490400802017308>

- Tourism Economics. (2021). Weekly Coronavirus impact on travel expenditures in the U.S. Retrieved from https://www.ustravel.org/sites/default/files/media_root/document/TE_Coronavirus_WeeklyImpacts_01.22.21.pdf
- Tribe, J. (2020). *The economics of recreation, leisure and tourism*. Routledge.
- Wang, I. M., & Ackerman, J. M. (2019). The Infectiousness of Crowds: Crowding Experiences Are Amplified by Pathogen Threats. *Personality and Social Psychology Bulletin*, 45(1), 120–132. <https://doi.org/10.1177/0146167218780735>
- Wen, Z., Huimin, G., & Kavanaugh, R. R. (2005). The Impacts of SARS on the Consumer Behaviour of Chinese Domestic Tourists. *Current Issues in Tourism*, 8(1), 22–38. <https://doi.org/10.1080/13683500508668203>
- White, D. D. (2008). A Structural Model of Leisure Constraints Negotiation in Outdoor Recreation. *Leisure Sciences*, 30(4), 342–359. <https://doi.org/10.1080/01490400802165131>
- Xu, W., Youn, H.-J., & Lee, C.-K. (2021). Role of Non-Pharmaceutical Interventions for COVID-19 in Cruise Tourists' Decision-Making Process: An Extended Model of Goal-Directed Behavior. *Sustainability*, 13(10), 5552. <https://doi.org/10.3390/su13105552>.
- Zenker, S. & Kock, F. (2020). The coronavirus pandemic – A critical discussion of a tourism research agenda. *Tourism Management*, 4. <https://doi.org/10.1016/j.tourman.2020.104164>

Chapter 2

Exploring tourists' motivations, constraints, and negotiations regarding outdoor recreation trips during COVID-19 through a focus group study

Published in Journal of Outdoor Recreation and Tourism

Humagain, P., & Singleton, P. A. (2021). Exploring tourists' motivations, constraints, and negotiations regarding outdoor recreation trips during COVID-19 through a focus group study. *Journal of Outdoor Recreation and Tourism*, 36, 100447.

<https://doi.org/10.1016/j.jort.2021.100447>

Abstract

The current COVID-19 outbreak has duly influenced tourists' psychology and subsequently their behavior and decision making to participate in outdoor activities. The purpose of this paper is to illuminate tourists' motivations, perceived constraints, and negotiation strategies to participate in outdoor recreation trips, within the current COVID-19 context. To explore and categorize motivating factors, constraints, and negotiation strategies, we employed a qualitative approach via semi-structured online focus group discussion with 16 tourists (mostly residents of Utah, United States) during late summer 2020. First, COVID-19 related restrictions and fewer opportunities to go outdoors were found to encourage outdoor recreation, for novelty-seeking and experiencing normalcy. Through content analysis, we found that tourists experience a blend of personal, social, practical, and ethical constraints. Additionally, we identified how tourists negotiate their constraints through different ways: by extensive planning and information searching, avoiding crowds, and changing leisure aspirations. Finally, we discuss theoretical and managerial implications of the study, followed by recommendations for future research. Management implications: Understanding of tourists' motivations, constraints, and negotiation strategies—relevant to outdoor recreation trips—provides several managerial implications to destination managers and marketers, as outlined below:

- Lack of centralized and reliable information was frequently cited as a constraint in the focus group discussions. In order to provide adequate and timely information to

potential participations, we proposed a novel website template including details about information to be presented.

- As our study sheds light on tourists' companionship preferences, activity choice, and evaluation of a destination's COVID-related operational practices, we propose several advertising strategies and destination operational guidelines to attract tourists.

Keywords: Constraints, negotiation, motivations, information search, COVID-19, Tourism, Outdoor Recreation

2.1 Introduction

In 2020, the novel coronavirus COVID-19, transmitted by respiratory droplets (human interaction) (Wilder-Smith & Freedman, 2020), expanded shortly to the whole world after first being identified in Wuhan, China, in December 2019. In response, most countries (including the US) initiated nonpharmaceutical interventions (Gosling et al., 2020) to curb the transmission rate by deploying various measures such as lockdowns (stay-at-home orders, regulatory quarantine), physical distancing, closures of facilities (restaurants, schools/universities, nonessential businesses), bans on larger public gatherings, and cancellations or postponements of events (such as concerts, conferences, sports).

The impact of the COVID-19 pandemic in the hospitality and tourism industry is unprecedented. In 2020 alone, travel spending in the United States recorded a staggering loss of \$492 billion compared to 2019, representing a 42% decline. International and business travel suffered a significant decline of more than 70%, whereas leisure and domestic travel spending fell by 27% and 26% respectively (Tourism Economics, 2021). The effect of COVID-19 was observed all over the US with 18 states experiencing more than a 40% downfall in travel spending (Tourism Economics, 2021). Additionally, the rate of hotel occupancy also decreased more than 44% in 2020, resulting in a loss of more than 7 million jobs (Tourism Economics, 2021). As the tourism industry contributes to about 3% of the gross domestic product of the US (in 2019) (Bureau of Economic Analysis, 2021), along with generating employment for millions, it is of prominence to understand how the pandemic has shaped tourist behaviors and decision making processes (Zenker & Kock, 2020; Kock et al., 2020), to aid tourism recovery in the US.

Along this line, this study takes a primitive step in understanding tourists' psyches during the initial timeline of pandemic emergence.

The COVID-19 pandemic in general and specific COVID-19 related restrictions are likely to affect tourists' outdoor recreation behavior. More specifically, the coronavirus pandemic could have profound psychological impacts in tourists' thinking, feeling, and emotions, and thereby modify tourists' outdoor decision-making processes. Tourists' outdoor recreation behaviors could be shaped by subjective evaluations of safety and hygiene considerations, social-peer pressure and responsibility, destination image, uncertainty, and behaviors of local communities (Kock et al., 2019a; Kock et al., 2019b; Baloglu, 2000). Destination related factors such as the closure of facilities, limited opportunities for food, lodging, and accommodation, plus lack of socialization could further hinder outdoor recreation participation. Furthermore, changes in time use patterns initiated by working remotely or being unemployed could also provide additional incentives for people to travel outdoors.

One way to examine tourists' behaviors is well-documented in leisure literature as the study of motivations, constraints, and negotiations. Interaction between these factors are found to influence outdoor (or leisure) participation (Crawford and Godbey, 1987; Crawford et al., 1991; Godbey et al., 2010). This study adopts a qualitative approach via focus groups to illuminate these three key dimensions of tourists' behaviors during the current pandemic situation. The study particularly focuses on an outdoor recreation trip, which is defined as a "journey involving at least one overnight stay away from home, and where the purpose is to engage in recreational activities in an outdoor or natural environment." The rationale for attention to overnight trips in an outdoor environment in

the current context is because of the complexity in decision making to participate on such trips; tourists' social, personal, and ethical constraints, and tourists' direct involvement with multiple facets of the tourism industry.

The paper is structured as follows. First, a brief review of the leisure constraint-negotiation process and learnings of tourists' behavior from past disasters is presented. Then, research questions are proposed for the study. The following data section describes the sample and details the data collection process. Then, findings from the data analysis are displayed in the results section. Finally, a discussion of results as well as theoretical and managerial implications along with limitations and a direction for future research are outlined.

2.2 Relevant literature

There are scant studies focused on outdoor recreation in post-disaster and crisis contexts (Kono, 2018). In the following section, an overview of leisure research in terms of theoretical frameworks (constraints, negotiation, and motivations) is first provided. Second, the literature on tourists' behavior post-disasters is reviewed, focusing on behavioral changes and coping mechanisms that affects tourists' outdoor recreation behaviors. Finally, research gaps are noted and the study's specific research questions are specified.

2.2.1 Leisure constraints, negotiations, and motivations

Over the last four decades, leisure constraints and related concepts have been used extensively to examine leisure behaviors, in general or for a particular leisure activity, such as hunting (e.g. Metcalf et al., 2016), fishing (e.g. Lyu and Oh, 2014), and outdoor

recreation (White, 2008). First, Crawford and Godbey (1987) posited that participation in leisure-related activities could be inhibited by three types of constraints: intrapersonal, interpersonal, and structural constraints. Intrapersonal constraints such as fear, anxiety, and attitudes are individual-level psychological attributes that affect preference for an activity. These types of constraints are relatively unstable and constantly evolving depending upon contextual and environmental factors (Godbye et al., 2010).

Interpersonal constraints such as the unavailability of companions or partners for participation in a leisure activity might interact with both preference and participation. These constraints depend upon life cycle stage, marital status, or activity type (Crawford and Godbey, 1987). Structural constraints are intervening factors affecting both leisure preference and participation, such as time and cost, information, weather, etc. (Godbye et al., 2010). The leisure constraint model also suggests that these three constraints are encountered hierarchically, with intrapersonal constraints being the most proximal and structural constraints the most distant (Crawford et al., 1991).

As the leisure constraint research matured, the concept of the negotiation of constraints emerged (Jackson et al., 1993), which suggests that constraints do not necessarily cause non-participation, but rather that people find ways to reduce the impacts of these constraints in their preferred leisure activities (Hubbard and Mannell, 2001; Godbey et al., 2010). Negotiation strategies could include changes in leisure, such as timing and schedule, and changes to non-leisure aspects of life, such as the rearrangement of work schedules and the reduction of other expenses, in order to facilitate leisure participation (Lyu and Oh, 2014).

The other important attribute in the conceptualization of leisure constraints, negotiation, and participation is motivation. Motivation can be thought of as comprising the “push factors” which determine why people engage in a particular leisure activity (Manfredo et al., 1996). The motivation to participate in a leisure activity might stem from psychological or sociological pursuits of an individual. Some of the reasons to participate in leisure activities are achievement (gaining self-confidence), enjoying nature, escaping from the routine environment, and socialization. The outcomes of the negotiation process depend upon the relative strengths of constraints and motivations for participation, hence the relationship between constraints and motivation is assumed to be inversely related (see Hubbard and Mannell, 2001; Son et al., 2008; White, 2008).

In summary, a lot of quantitative as well as qualitative studies have explored different dimensions of constraints and how people overcome constraints to ensure continuing participation in leisure activities. In this study, we attempt to add to the theoretical dimension by first exploring a constraint item pool and the relationships with subsequent negotiation process during a novel contextual setting of the COVID-19 pandemic.

2.2.2 Post-disaster tourists' behavior

The tourism industry has been compromised by past disasters and crises throughout history, and a review of post-disaster behaviors can shed light onto how a pandemic (or pathogen threat) shapes tourists' behaviors in different ways. Although not exactly described in the literature as “constraints,” the issues that disasters introduce can be thought of as representing the same idea: i.e., factors that hinder tourism or outdoor recreation participation. Similarly, the coping strategies formed by tourists to participate

in their preferred activity can be thought of as negotiation strategies. In the following section, we discuss relevant constraints and negotiation strategies that are initiated by diseases and pathogen threats.

First, research shows that a vital constraint to tourism participation is crowdedness; i.e., the threat of disease transmission can shift tourists' behaviors in such a way that results in the avoidance of overcrowded destinations in favor of wilderness areas and less populated destinations (Wang & Ackerman, 2019). Another constraining factor can be termed xenophobia (Faulkner et al., 2004): fear of strange things and uncertainty. Kock et al. (2019b) suggests that influenza or pathogen threats could result in a disinclination towards foreign travel and trying foreign food, plus a preference for group travel as well as getting vaccinations and travel insurance. The idea that people develop collective responsibility towards a disease threat (Cashdan and Steele, 2013), and try to support their local economy by selecting nearby or domestic destinations, is referred to as tourism ethnocentrism (Kock et al., 2019 a).

Now, we look back at the impacts of SARS—a similar pathogen outbreak which emerged in China in 2003—on tourists' behaviors, as it shares considerable similarities with the current pandemic due to the nature of the virus as well as the nature of imposed restrictions. A study of SARS' impact on tourist psychology by Lei (2003) pointed out that a possible blowout of demand post-SARS would be due to several factors, including stimulus-seeking, sentience-depriving, expectation positive contract, release of tension, and account separation. Jiacheng (2003) postulated that there would occur certain changes in companionship preferences, with most people likely to tour with people they know including family and relatives. The authors suggested that activities that result in

less contact with people and demand for natural and eco-tourism would be more popular, with people changing their leisure preferences: length of stay, travel mode, etc.

Interestingly, the SARS outbreak had Chinese travelers thinking more about hygiene and safety while traveling (Wen et al., 2005), and the perceived impacts of SARS on travel intention, behavior, and patterns was different from people with different demographic profiles. The impact of SARS on tourists' life, attitudes, and safety and hygiene considerations was found to vary depending upon age (younger people had a stronger preference for outdoor activities), income and education (high income and educated people had greater safety concerns), and job type (medical workers and relatives were more conservative about the virus) (Wen et al., 2005). Other disasters such as Ebola, the bird flu, and influenza pandemics (Zeng et al., 2005; Cahyanto et al, 2016; Page et al., 2006) show similar impacts on tourists' behaviors as mentioned above.

In cases of natural disasters that damaged tourist destinations (such as earthquakes, volcanos, and tsunamis), the initial period was usually characterized by a decrease in tourist arrivals (Peters & Pikkemaat, 2005; Huang & Min, 2002; Park & Reisinger, 2010). Tourists' perceptions of natural disasters and travel risks were influenced to a greater extent by their familiarity with the destination and knowledge of the local culture at the destination (Millman & Pizam, 1995; Han, 2005; Reisinger & Mavondo, 2006; Seddighi et al., 2001). Similar to a pathogen threat, tourists generally preferred to travel with family or friends in their immediate circle, in the aftermath of natural disasters (Weber & Hsee, 1998). Like the cases of pathogen threat, tourists' experiences of constraints regarding risks posed by natural disasters also varied across

socio-demographic characteristics such as gender (Brugg et al., 2004; Kozak et al., 2007), education (Sönmez & Graefe, 1998), and age (Gibson & Yiannakis, 2002).

Additionally, manmade disasters such as 9/11, the war in Iraq, and Middle East chaos have been observed to influence tourists' perceptions on air travel, safety, destination image, and willingness to participate (e.g., Floyd et al., 2004). In short, both natural and manmade disasters, within their context, have been shown to have both comparable and unique impacts on tourists' behaviors. As tourists' perceptions of constraints, motivations, and negotiation strategies evolve dynamically with situational and environmental contexts, we add to this literature through a detailed exploration of these concepts within the current COVID-19 pandemic.

2.2.3 Research gaps

An emerging body of research is dedicated to elucidating tourists' perceptions and behavioral responses to the COVID-19 threat. Early pandemic research focused on identifying the dimensions of risk posed by COVID-19 (e.g. Xu et al., 2021) and investigating the effects of risk perception on behavioral intentions (revisitation and recommendation intentions to travel in the future) (Bae & Chang, 2021; Zhu and Deng, 2020; Neuburger & Egger, 2021). Another line of research was centered around the financial and social costs of COVID-19 on tourism (Ameuw et al., 2020; Chaudhari et al., 2020; Qui et al., 2020; Khalid et al., 2021) and recommendations for tourism recovery strategies and policies (Qiu et al., 2020; Odendahl et al., 2020). Other studies explain future intentions for leisure participation using traditional variables such as attitudes, motives, and self-efficacy, along with COVID-19 induced attributes such as perceived COVID-19 infect-ability, risk awareness, and information acquisition, through extending

past models such as the Theory of Planned Behavior (Seong & Hong, 2021; Kock et al., 2020; Sanchez-Canizares et al., 2021; Das et al., 2021). All of these studies aim to provide empirical evidence of relationships between variables, but they fail to provide a complete picture of what tourists consider or what strategies they develop for leisure participation. Hence, what is lacking in the current COVID-19 research is a detailed assessment of tourists' decision-making processes considering a broad array of individual, social, and ethical barriers to outdoor recreation participation. There is also a need to evaluate the consequences of government restrictions and regulations on tourist behaviors. In an attempt to fill this literature gap and provide a complete picture of tourists' decision-making processes, this study captures tourists' first-hand perceptions of constraints, negotiations, and motivations for outdoor recreation participation during the COVID event through a focus group setting. In other words, the objective of this study is to find answers to the following research questions:

- What motivates tourists to participate in outdoor recreation trips during the current COVID-19 pandemic?
- What types of constraints on outdoor recreation do tourists experience during the pandemic?
- What negotiation strategies do tourists apply to overcome these constraints?

2.3 Data

A qualitative methodology was used to explore a small sample of tourists' perceptions, motivations, constraints, and negotiation strategies during decision-making and while participating on an outdoor recreation trip. The use of qualitative methods is

more suitable than quantitative methods because of their ability to entice a rich description of people's perceptions and opinions (Neuman, 2006) regarding making outdoor recreation trips during the COVID-19 pandemic.

Data were collected through focus group sessions with 16 adult tourists in the US, conducted online through the video meeting platform Zoom. Participants were primarily recruited through social media (LinkedIn, Twitter, Nextdoor, Meetup, etc.). To participate in the study, participants were first required to sign up via an initial survey, which asked about their demographics, past frequency of participation in outdoor recreational trips, and a ranking question about constraints. Further, participants were provided with options to choose a particular focus group session, based on their availability. Once participants completed the initial survey, they were provided with a Zoom link for the focus group session. To reduce the drop-off in attendance, participants were reminded via email of the focus group session one day before with a message to notify researcher if they were unable to attend the session. Additionally, participants were provided with a \$10 online gift card as an incentive, once they completed the initial survey and attended a focus group session.

The sample consisted of participants of varied age, income, gender, and employment attributes. Most of the respondent were Utah residents, except 2 participants who resided in the District of Columbia and California. Moreover, the sample was somewhat non-representative in the case of race (with more white participants) and education (all participants had at least a bachelor's degree), compared to the US population. See Table 2.1 for details.

Table 2.1*Sample demographics (N = 16)*

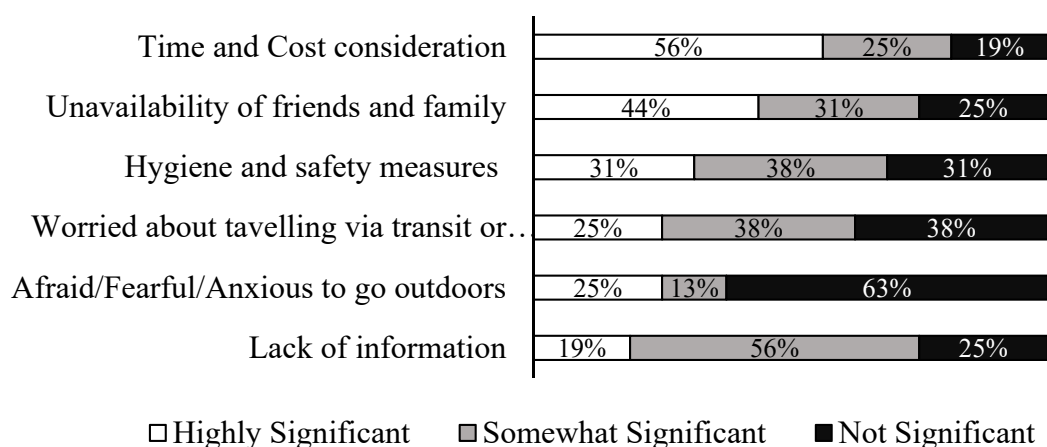
Variable	#	%
Age		
18-24	3	18.8
25-34	5	31.3
35-44	1	6.3
45-54	5	31.3
55-64	2	12.5
Household Size		
1	5	31.2
2+	11	68.8
Education		
Bachelors or undergraduate degree	10	62.5
Graduate or professional degree	6	37.5
Employment		
Full time	8	50.0
Part time	6	37.5
Unemployed	2	12.5
Retired	0	0.0
Gender		
Male	9	56.3
Female	7	43.8
Ethnicity		
Asian	3	18.8
White	11	68.8
Latino or Spanish origin	2	12.5
Past Participation Frequency		
0	3	18.8
1	3	18.8
2	3	18.8
3	1	6.3
4	1	6.3
5+	5	31.3

In the initial survey, respondents were asked to rate six constraints according to their significance (1 was Least Significant, 6 was Most Significant) in decision-making for going on an outdoor recreation trip. As shown in Figure 1, most respondents (>50%) indicated time and cost considerations as their most significant constraint, followed by

unavailability of friends and family (44%) and hygiene and safety measures during travel and at destinations (31%). Additionally, respondents did not seem to be fearful or anxious to go outdoors due to COVID-19, as that particular factor was perceived to be the least significant (63% respondents had ranked it as lowest). Furthermore, respondents also did not seem to be much concerned about information about facilities and services at destinations and traveling via transit or flights.

Figure 2.1

Ranking of constraints (N = 16)



2.4 Focus group proceedings

Five online focus group sessions were conducted with 2, 3, 4, 3, and 4 participants respectively in each session. Each session was about 45-60 minutes long. All of the focus group sessions took place during August and September 2020, before the availability of COVID-19 vaccines. Focus group sessions were scheduled during the morning and evening on weekdays and during mid-day on the weekend. The focus group sessions followed a semi-structured approach beginning with a probing question about each

participant's recent outdoor recreation trip (the definition of an outdoor recreation trip was provided at the start of the session), and moving on to more specific questions about their motivations, constraints, and negotiation strategies. These specific questions were derived from previous qualitative studies related to motivations, constraints, and negotiation (Koca et al., 2009; Fendt and Wilson, 2012). Sample focus group questions are included in Table 2. The audio for each session was recorded on the moderator's (first author's) local computer and then transcribed manually. No personal names are employed in the paper to protect the privacy of the participants. These research procedures were reviewed and approved by the [university] Institutional Review Board, Protocol #11318.

Table 2.2

Sample focus group questions

When was your recent outdoor recreation trip and how was the experience?
What motivates you or what experiences you seek when going on an outdoor recreation trip?
Does COVID-19 related restrictions drive you more to go on outdoor recreation trip?
What are the factors that affect your decision going on an outdoor recreation trip?
What are the difficulties that has been raised for your participation in outdoor recreation trip or in other words, think of ways that this pandemic has caused any inconveniences?
What are some of the ways that you could tackle or overcome those inconveniences/obstacles when planning or during your outdoor recreation trip? In other words, how will you prepare yourself?

2.5 Data analysis

The data analysis followed a directed content analysis approach, where existing theory guides the initial coding scheme or relationship between codes (Hseih and Shannon, 2005). First, the audio of the focus group recordings was transcribed manually. Then, each item was coded under the separate categories of motivations, constraints, and negotiation strategies. Codes which were similar and described a certain theme were

grouped together, as described in the previous studies. For instance, “unable to find friends to travel with” or “don’t feel safe travelling with friends” were kept under the category of interpersonal constraints as suggested by Crawford et al. (1979). Any new codes found were kept in a different category and were grouped together into a new theme according to the commonalities and differences. Any new codes collected were constantly compared to their fit with already existing themes. In this way, data were broken down into more meaningful units and subthemes, and hence processes and relationships could be identified.

The concept of saturation was used to determine the adequacy of the sample size. Saturation refers to the stage in data collection where similar ideas and issues begin to be repeated and further data collection becomes redundant (Hennink, Kaiser and Weber, 2019). For this purpose, the author compared codes of previous focus group discussions with the new ones. When going through the focus group transcripts, only two new codes were identified during the fifth focus group discussion, which suggested that almost all key ideas were covered by the focus groups and that saturation was reached.

2.6 Findings

2.6.1 Motivations

Using the directed content approach and thematic analysis, 27 motivating items for outdoor recreation participation was found. These items pertaining to motivations were then grouped under seven themes (domains) listed in the Recreation Experience Preference Scale (Manfredo et al., 1996); a new COVID-built motivation theme was also identified. As expected, most of the motivations mentioned by participants during the focus group were similar to items used in previous quantitative studies (Hubband and

Mannell, 2001; White, 2008; Son et al., 2008) for constraint-negotiation models, as well as findings from previous qualitative studies (e.g., Fendt and Wilson, 2012).

Table 2.3

Tourists' motivations for outdoor recreation trips

Themes	Motivations	Number of references [#]
Enjoy Nature	To view scenery/beautiful destinations To be closer to nature To enjoy smells and sound of nature	10
Autonomy	To be alone To detach from other things	5
Physical fitness	To get exercise To be physically fit	6
Rest	To relax and rest To reenergize and be in peace	4
Escape personal-social-physical pressure	To experience peace and tranquility To be on my own To break norm To be away from people and civilization To be away from technology To be away from cars	9
Family and friends	To enjoy with friends To do things with people who enjoy same things To bond with family and friends To have family time	5
Novelty experience	To see things you've never seen before To explore tourist places you've never been before To experience a new city To have new experiences	14
COVID-built motivations*	To be away from toxic news in the environment To set yourself free from having to stay at home To experience normalcy To feel safe in an outdoor environment	8

Notes: * new themes emerged due to COVID, [#] the numbers in this column do not equal 16 as each participant stated several motivating factors

As many people were mostly confined within the four walls of their homes due to changes in work environments (working remotely) or fewer opportunities to go outside, due to COVID related restrictions, novelty experience (seeing new destinations) and exploration remained the most repeated themes in the focus group sessions. As shown in Table 2.3, COVID-19 related restrictions and the environment was one of the driving factors behind people participating in an outdoor recreation trip. Interestingly, most tourists perceived the outdoors as being safe from COVID and regarded outdoor recreation trips as a way to get away from toxic news in the environment.

May be for most part, going outdoors is very safe, unless you are in sustained contact with any person passing in trail.

I don't have a fear being outside and catching COVID. I know it can happen, I have not looked at statistics, but I feel very safe when I am outside, especially when I practice social distancing.

For me, a big driver is to get away from my phone and toxic news in my environment and it works pretty well. So I seek out places where there are no cell service and can't use my phone.

Some participants also cited that going on these trips and connecting with nature would allow them to relive some sort of normalcy like before the COVID-19 outbreak. Additionally, some participants felt that a lack of other people's participation in outdoor recreation trips has provided opportunities to visit destinations that would generally be crowded.

If I were to take a recreation trip that would be overnights, a big draw for me would be to get back to normalcy in some aspects, such as without wearing masks, or all other things that I have to worry about when going to a grocery store. Getting back to normalcy before pandemic settings like that.

I am climbing a wall in Yosemite this fall, because of lack of people in Yosemite right now, and that's been inspiring me like now's the time, because usually these walls are difficult to get on and not be stacked up with other people.

One of the advantages of being outdoors since mid-March, there seems to be not nearly people taking advantage of opportunities of exploring national parks or other beautiful places. Most people are fearful of leaving homes. It's been really easy to access these areas than it has ever been.

2.6.2 Constraints

As described above, 36 different constraints could be identified, and using the directed content approach, they were then grouped broadly into 10 different themes, including intrapersonal constraints, interpersonal constraints, and others (Crawford and Godbey, 1987), in an effort to elucidate the factors that limited tourists' participation in outdoor recreation trips. The structural constraint was not used as a grouping theme, as previous studies have suggested the possibility of multiple sub-dimensions within the structural context such as time and cost (e.g. Nyaupane and Andereck, 2008; Hawkins, 1999; Nyaupane et al., 2004). The constraints that these 16 participants faced align with previous concepts of leisure constraints proposed by Crawford and Godbey (1987), along

with new constraints added due to the COVID-19 outbreak and restrictions that followed with it.

Table 2.4

Tourists constraints to outdoor recreation

Themes	Constraints	Number of references [#]
Intrapersonal	Fear of being exposed to COVID* Fear of being a carrier* Anxious when going to gas stations and grocery stores at destination* Don't know what to do if I feel sick at destination*	5
Interpersonal	Friends little hesitant to go Don't know if my friends have been quarantining or practicing social-distancing* Don't feel safe travelling with friends* Putting someone at my family on risk (older people) * Travelling with family is the only option* Travelling with people you don't know* People having different perceptions of COVID* Lack of partners/friends to go with	16
Safety and Hygiene	Inadequate sanitization measures at destination or nearby services at gas stations* Lack of public restrooms and ventilation (air circulation) * Lack of health facility/hospitals at/near the destination*	8
Crowd	Too much crowds make it scary * Unable to practice social distancing when it is overcrowded*	12
Facilities	Closure of facilities at the destination* Closure of restaurants/Only pick-up * Fewer options for food* Not getting the full outdoor experience, due to COVID* Finding accommodation to stay before/after outdoor experience	12
Time and Cost	Destination too far away to drive/bike School and family schedules	8

	Personal, family and schedules of friends mixed and matched	
Travel	Driving is the only option It's not safe/comfortable to travel via flights * It's about getting to and from the destination Cannot go to very far or remote tourist places because of added complications*	9
Weather	Weather not favorable	4
Information	Lack of central information about state and county-specific COVID-19 laws * Lack of credible information sources about state and county specific COVID-19 laws* Varying laws in different states* Don't know where to go or whom to contact if I feel sick during travel or during the trip* Lack of preventive measures at destination or during travel*	11
Local Community Perceptions	People being more hostile towards tourists* Environment not being friendly-everyone thinks others are a threat* Local people not receptive to tourists*	5

Notes: * new items emerged due to COVID, # the numbers in this column do not equal 16 as each participant stated several constraints

As seen in Table 2.4, tourists felt predominantly limited by interpersonal constraints, particularly being unable to find people to go on a recreation trip with, as well as added complications that come with going outdoors with others. Responses were coherent in a sense that most participants perceived traveling with family and roommates as being safe. However, people having high-risk family members, such as older people, were more reluctant to go on outdoor trips, fearing of COVID transmission.

Right now, it's only family first for things. Even if we drive in separate cars, to the same destination with friends, you have to think about maintaining social distancing and how close you are when hiking and it is sort of annoying and it's a mental burden. No one is reaching out to anyone anymore and doing things.

I have family in Southern Utah, and I typically stay 2-3 weeks in a year there. But this year, I have a grandpa who is a high risk. And I don't want to put her in danger.

Similarly, participants also acknowledged that people have varied perceptions about COVID: some are conservative while others are liberal regarding following regulations and overall about COVID. Such varied perceptions and practices that people follow make it difficult to plan for and go on an outdoor trip.

However, it was interesting just the other day, I went climbing with my friend, and she was pretty COVID-wary and she was like "Are you guys using the toilet when you camp?" and I said Yes, and she said "We don't use toilet." It's interesting people's different perspectives and different factors that might be inhibiting them in travel or camping.

Also everyone has their own perceptions of risk. Some think that this is overblown and some I have not seen over months. A big part of recreation trip is enjoying with family and friends. Some of the friends go to trips by themselves or family. Their comfort level I don't think that it would change for those people in the next year as well. My pool of people that I would go with has severely decreased.

Regarding interpersonal constraints, participants were fearful and anxious to go on outdoor recreation trips, because of possibility of exposing themselves as well as being a carrier of COVID and transmitting it to others.

Other prevalent constraints that were raised during the discussion included the presence of crowds and the unavailability of facilities in and around the destination. Additionally, a lack of and unreliability of information about facilities around the destination plus COVID-19 related information and state/county specific regulation was cited frequently in the focus group sessions as being a barrier.

For sure, unclear messaging has not helped. It's like hard to figure out what is the right activity to do or like the health experts are telling us to do. Because there is no centralized message about and it's hard to trust too. Because the message of COVID has been very political like out of public health perspective and political. Do I follow what state of Utah says or what CDC says, or who do I listen to? Do I Listen to what NY times is saying? So that's definitely the hardest part.

For me, it's been confusion. I don't know what's open, like national parks might be open but trails might be closed. Are restaurants open? In California, things are open, closed don't know. Like to me, 20 minutes' beach would be open and you could go another beach that would be closed. No reason, because its different county. What are you allowed to do, or not?

Some participants also were wary of sanitization practices at destinations, unavailability of public restrooms, and a lack of health facilities in and around the destination. Other additional obstacles to outdoor recreation participation included time availability, cost of travel and lodging, and accessibility to destinations. Many focus group participants agreed that fear of traveling on flights plus inadequate sanitization measures and high occupancy of flights has constrained their outdoor participation.

And I am also thinking about the risk of danger like on these trips, which I would have not thought about previously. Like what's going to happen if I get hurt on a trail, what resources I am going to be stressing as a result of being hurt in the trail and could I be exposed to COVID because of going to deal with the healthcare system in this new place.

COVID-19 has impacted not only tourists' personal space, but also communities in and around the destination. A few focus group participants argued that the destination communities were not welcoming of tourists during the first few months of pandemic, which hindered their willingness to travel. Additionally, people were wary that they could not get the full outdoor experience, because everyone perceived others to be threat during the time, and socializing with other people would be extremely difficult.

People are more hostile, towards others. There's not like friendly smiley hikes. Everyone is a threat. That's been really interesting and weird shift.

Finally, constraints of time, cost and weather seemed to be universal, taking up a larger part in planning and decision making to make outdoor recreation trips.

2.6.3 Negotiation of constraints

From the content analysis of focus group discussions, 30 negotiation strategies were identified. In the current sample of focus group participants, 11 participants went on outdoor trips after the start of the pandemic (i.e., after March 2020), whereas 5 others did not take part. Hence, the following strategies reflect actions of successful outdoor participants as well as potential participants (who had not participated). During the thematic analysis, negotiation strategies were categorized in such a way that they mitigate

a particular constraint. For instance, as crowding was one of the constraints, a way to negotiate the constraint is to try to go to destination on weekdays, when there is less crowding.

Table 2.5

Negotiation strategies

Themes	Negotiation Strategies	Number of references [#]
Interpersonal	<ul style="list-style-type: none"> Try to go with people you know Try to find people with similar perceptions about COVID Try to find people with similar health standards Try to convince people to apply social distancing and safety measures during the recreation trip 	10
Avoid Crowding/Timing	<ul style="list-style-type: none"> Try to go on weekdays, with less crowd Try to go on destination that you know there would not be more people Try to maintain social distancing with people, and travel with groups less than four Try to avoid travelling on holidays like 4th of July or Thanksgiving Try to wear masks Try to interact with crowds less often Try to go to wilderness areas 	16
Planning and Preparing	<ul style="list-style-type: none"> Try to spend lot of time planning (cannot travel on a whim anymore) Try to plan ahead of time Try to notify companions and family members in advance Try to book hotels and campground well in advance 	8
Information Search	<ul style="list-style-type: none"> Collect information about facilities and activities at destination Search for COVID-19 related county/state policies Search for COVID-19 related spread Seek information about health facilities/hospitals in and around the destination 	3
Changing Leisure Aspirations	<ul style="list-style-type: none"> Try to go to tourist places that are accessible by car Try to travel within state and within country 	12

	Try to go to familiar destinations Try to avoid flying, until necessary	
Food and logistics	Try to get your own food Try to bring your own tent Try to prepare checklist of things needed Try to bring extra food Try to minimize the number of stops during travel	5
Destination related	Try to go to destinations with limited occupancy Try to find destinations with adequate health and hygiene measures adopted	3

A predominant negotiation strategy, which all participants agreed upon, was to go to outdoor trips in locations with fewer crowds, avoid holidays, and try to go to wilderness areas. These strategies would allow them to conveniently maintain social distancing with people and get the full outdoor experience.

I think you can really take advantage going places. It's smart to travel with at least another person. Focus on destination that you know there would not be more people. It's not smart to go on 4th of July on popular areas, when so many people in US were outside. It's all about timing. If you go on weekdays, then you're going to encounter fewer people in state parks or popular areas or Bear Lake on weekends.

Specially, for now, you could go to places that are not visited. I think Basin is more favorable than Moab, right now. Or go to places where there are no people, and pack everything you need and food. Like a backpacking in wilderness, is more safe than going to Zion camping.

To mitigate interpersonal constraints, several approaches were outlined by focus group participants such as finding people with similar perceptions about COVID, people

with good health, and to go on recreation trips with people who would properly follow social distancing and other sanitization measures.

But, it's kind of you have to suppose find people who have similar thoughts about the virus as you do. You can be very conservative or very liberal about the virus. Either way, you have to find people who are similar minded. Some people just want to be depressed and don't want to travel; others might feel great. It also benefits having people with similar standards of health.

Furthermore, most respondents also hinted at going to familiar tourist places nearby within driving distance by car, and trying to avoid flights and out-of-country travel, to mitigate the logistics, uncertainty, and mental burden that comes up with long-distance trips.

At least half of respondents argued that the decision to go on an outdoor overnight trip requires more research and extensive planning than it did before the COVID-19 outbreak. To add to the planning strategy, respondents also recommended to look for information about COVID-spread or state/county regulations, information about facilities in and around destinations, and information about health facilities around the destination. Most people felt that state or destination website information might not be reliable, so they had to dig deeper into online reviews and ask their peers and relatives about a particular destination, in order to get the accurate information.

I just think it takes a lot of time to plan in advance, however long it takes to. Some people like to travel in a whim, and kind of figure out when you get there. Others like to do advance planning. So I would think you cannot travel on a whim

anymore or spur of the moment. You should have to do some kind of advance planning to make sure you can get to your destination or if they are allowing in.

I also look at COVID spread at the county, when I plan a trip. Because, initially around Feb/March, Moab had high cases and then around April/June it had low cases. That is the thing I look which I did not use to before. Definitely restaurants, see if there are good restaurants around. And if I am going for camping, look at the hiking trips there. I seek out somebody who has already been there and to seek a more personal view rather than reading on the sites.

Some respondents also mentioned various action plans to minimize their impacts on the local community such as bringing your own food (if possible) and minimizing the number of stops at the destination (see Table 2.5 for more strategies). Camping and backpacking trips were considered by the majority of respondents as safe and pleasurable activities during outdoor trips.

So, something I really think about, as living in a rural community here in Idaho, when I am outdoors and visiting other communities is that how can I minimize the impacts in rural community that I am going. So, think about masks in the gas station, we are not going to stop and do groceries, we make sure that we have everything with us, because that's what I would want people coming through my town to do.

Finally, some of the participants also discussed about finding a destination which had adopted adequate sanitization measures and had limited occupancy, in order to have a safer and productive outdoor experience.

2.7 Discussion

First, from our focus group discussion, we were able to discern tourists' perceived motivations, constraints, and negotiation strategies. These findings provide a theoretical foundation of how a pandemic (COVID-19) affects tourists' psychology, interpersonal relations, and overall decision-making. In other words, the decision to go on an outdoor recreation trip entails a complex interaction of an individual's and their peers' perceptions and beliefs of COVID, plus an individual's perception of the effect on local communities. Although fear and anxiety of transmission and being a carrier of COVID was one of the issues hindering tourists' outdoor experiences, an inability to find suitable companions and a lack of socialization opportunities were more of a concern. Crowdedness as a constraining factor offers support to previous research (e.g., Wang and Ackerman, 2019) which suggests that negative perceptions of crowding are amplified during events of pathogen threat.

Furthermore, the sense of "guilt" while going on outdoor recreation trips was evident when some respondents outlined the effects on local tourism communities; i.e. people's empathy towards local communities (social factors) have a bigger role to play in the current pandemic condition than otherwise (Godbey et al., 2010; Crawford and Stodolska, 2008). However, findings of our study also imply that constraints such as time and cost, closure of facilities, weather, and a lack of information are still persistent and are dominant factors in people's decision-making processes as well as during participation in outdoor recreation trips. An incentive for the tourism industry is that individuals are still finding a number of ways to negotiate through their perceived constraints to participate in outdoor recreation (11 of the 16 focus group respondents took

an outdoor recreation trip since the start of the COVID outbreak in March 2020). Our findings offer support to the social cognitive theory (Maddux, 1993), which is suggestive of the idea that people either alter their situational and environmental conditions, instead of passively accepting unfavorable states. As one participant answered when asked about inconveniences in outdoor recreation participation:

I would say there are more inconveniences than obstacles. I think everything is manageable. I don't have a fear being outside and catching COVID.

In the current state, in the absence of vaccines for COVID, and when transmission through physical contact is possible, people are modifying outdoor recreation behaviors in such a way that they can get an outdoor experience as well as remain safe while doing so. Modification in leisure-related behavioral strategies include avoiding crowds, changing leisure aspirations, and finding similarly-minded people. This is in line with previous research on disasters, and supports the idea of tourists' xenophobia and ethnocentrism (Faulkner et al., 2004; Kock et al., 2019b). Alternatively, rearrangement of work schedules, managing finances, and a preference for family trips fall into non-leisure behavioral strategy's. Specifically, collection of large amounts of information, and from various information sources, plus extensive planning beforehand are some of the strategies tourists apply in order to reduce psychological discomfort and to enhance confidence when going on outdoor recreation trips.

In the study context, we find that people have desires to substitute outdoor overnight (and long-distance) trips with day-trips and trips to familiar and nearby outdoor locations. This finding complements the theory of substitutability proposed by Iso Ahola

(1986), and research by Hall and Shelby (2000) who suggested that individuals can substitute place (nearby instead of long-distance trips) and timing (like going in weekdays instead of weekends, to avoid crowds) when performing an activity (outdoor recreation trips) if the experience is likely to be accomplished elsewhere with more convenience and safety.

2.8 Managerial implications

The COVID-19 pandemic continues to negatively impact the tourism sector. In the absence of vaccines, the tourism sector must continue to evolve and find ways to attract tourists through extensive preparation and novel strategies. By gaining an understanding of tourists' perceived constraints and their negotiation strategies, this study paves the way for some actions that can attenuate COVID-19 impacts and simultaneously attract tourists.

2.8.1 Centralized information

Leisure literature contains a plethora of research examining the influence of information availability, information search behavior, and destination image on tourists' behaviors (e.g., Gursoy and McCleary, 2004; Baloglu, 2000). Visitation intention has been found to be influenced by destination image (perceptual/cognitive reflection), the amount of information, and the type of information source (Baloglu, 2000). As findings of our study underline the importance of information search during planning and decision-making processes, it is crucial for destinations to provide accurate, reliable, and timely information to tourists. Online sources are the most used information sources

currently; so, we propose a website template for destinations, incorporating our findings; see Figure 2.2.

Figure 2.2

Proposed website template for destination



Adding the date of publication reduces doubts about the unreliability and timeliness of information. Information about COVID-related spread and

policies/regulations helps tourists to prepare themselves accordingly for travel and follow regulations during visitation. Similarly, information about facilities and activities around the destination, including closures of facilities and food/lodging options, will certainly aid planning and decision-making. As focus group participants advocated for personal recommendations, recent photos of the destination and recent user reviews will reinstate tourists' trust in the information and encourage visitation.

2.8.2 Advertising strategies

Primarily, our study sheds light on tourists' preferences for outdoor trips with family or people you know/live with. Hence, destination marketers and managers should focus on planning for and marketing of family tour packages, with appropriate physical distancing measures. For example, a 2-/3-day family tour with visitation around the destination, and adequate options for food and lodging, may be popular.

Furthermore, tourists were more inclined to participate in backpacking and camping trips, and to wilderness areas, in order to avoid crowds and increase the convenience of maintaining physical distancing. This certainly provides incentives for tourism marketers to promote longer hiking trails, campsites, and wilderness areas through multi-channel strategies such as short promotional videos, brochures, or direct mailing options. The effect of crowds could be even more pronounced in destinations with confined spaces (such as cities or beaches), which calls for proper implementation of social distancing and other COVID-19 regulations to increase tourists' confidence and safety.

Additionally, tourists were found to be concerned about safety and hygiene measures at the destination. It is imperative for destination managers and marketers to promote the operational practices applied at the destination—such as the placement of sanitizers, signage around the destination, and availability and state of public restrooms—to remove such concerns. As online information search behavior is trending in the current world, tourism marketers can look to target avid travelers, e.g., young people with a low risk of COVID, through targeted social media ads (Twitter, Facebook, etc.). Additionally, advertising strategies could focus on a unique segment of population: “crisis-resistant” tourists, who continue to travel in such events (Hajibaba et al., 2015).

2.8.3 Operational practices at destinations

COVID-related operational practices at destinations might affect how tourists evaluate destination satisfaction or overall satisfaction with their outdoor recreation trips, which impacts their re-visitation or recommendation intentions (Um et al., 2006; Abdullah and Lui, 2018). Hence, destination managers should look to apply adequate provisions for allowing a full outdoor experience. Tourists’ perceived constraints and negotiation strategies mentioned above provide recommendations on types of practices that can be applied at destinations (COVID-19 Perceptions of Risk Travel Survey, 2020), such as:

- Signage placed to encourage people staying six feet apart from one another in crowded areas
- Efforts to enforce social distancing and use masks/face coverings
- Staff efforts to regularly wipe down surfaces

- Advising visitors with flu-like symptoms to stay home
- Provision of station touchless hand sanitizers
- Providing employees with personal protective equipment (e.g. gloves, masks)
- Well-ventilated and clean restrooms
- Providing limited occupancy on crowded areas

2.9 Conclusion, limitations, and future research

Although a rising amount of empirical research on the impacts of COVID-19 on outdoor recreation demand can be observed recently, virtually no studies have examined tourists' perceptions regarding outdoor recreation in relation to the pandemic. We have attempted to fill this research gap in this study. First, tourists are found to be constrained in their outdoor recreation participation by the COVID threat as well as some broader psycho-social interactions and uncertainties brought about by the combination of COVID and government-issued restrictions and regulations. Specifically, looking at types of constraints and negotiation strategies from this focus group study, several commonalities and some differences with past disaster research could be detected. The carryover of perceptions post-pandemic will certainly affect tourists' behaviors in terms of destination choice, companionship preferences, and leisure activity preferences.

The implications of this study to existing literature are threefold. This study is one of the first efforts to offer deeper insights into tourists' decision-making processes during COVID-19 (initial phase) through a qualitative study. In doing so, we explored and categorized perceptions of constraints, motivations, and negotiation strategies in the COVID-affected tourism system. Second, we provide a number of tourism demand

recovery strategies through managerial implications: emphasizing the provision of centralized information, advertising strategies to attract demand, and COVID-19 management at the destination. The third implication of this research is academic: implying that the dimensions of constraints, negotiations, and motivations (especially the COVID-19 related ones) found in this study could be used in future tourism research for developing new theoretical models or strengthening the past models (e.g., Kock et al., 2020).

There are certain limitations to this study, specifically the sample size and distribution. Although saturation of key ideas was achieved with a low sample size (which is found in many other focus group studies as well, see Hennink et al., 2019), future research could look to capture such nuances utilizing qualitative approaches in a larger, broader, and representative size. Specifically, perceptions of high-risk populations (older adults) and lower-income communities could differ, due to the nature of lifestyle constraints that they encounter in their daily lives. For example, lower-income families are financially constrained to greater degree and they may be more liable to forego long-distance trips in favor of trips to local destinations. Additionally, research to understand perceptions of local communities might be vital in preparing and planning for a swift recovery in tourism participation.

Another limitation of our study is the lack of cross-national generalizability. It is pertinent to acknowledge that populations across different cultures and countries perceive risks differently (Fuchs & Reichel, 2004; Kozak et al., 2007; Resisinger and Mavondo, 2006). For example, tourists from Singapore, China, and Malaysia were found to perceive higher risks (than Westerners) during events of natural disaster, pathogen threat, and

terrorist attacks (Hofstede & Hofstede, 2005; Kozak et al., 2007). Similarly, US, Australian, and Hong Kong tourists perceived higher levels of travel risks than Greek and Canadian tourists (Reisinger & Mavondo, 2006). While we believe that many items of constraints, negotiations, and motivations found in our study (such as the use of sanitizers, or adequate preparation before making a trip) will be common across tourists in any area, there might be differences in tourists' perceptions due to diverse cultural backgrounds (Reisinger & Mavondo, 2006) and government responses to COVID-19. Hence, it generates a promising area of future research to compare the nature of constraints, motivations, and negotiations across different geographies.

Constraints are activity-specific: i.e. different constraints are encountered in the pursuit of different leisure activities. While we consider a general definition of outdoor recreation in our study (as any trip undertaken for any recreation purpose), future research could benefit from the exploration of these concepts for specific recreational activities such as skiing, rock climbing, beaches, mountain destinations, etc. Furthermore, the findings of this study could be used to conduct a larger quantitative survey to illuminate and extend the leisure constraint-negotiation model (such as Hubbard and Mannell, 2001), unique to this pandemic context. The interrelationships between motivations, constraints, and negotiations on tourists' intentions to participate in outdoor recreation require further empirical inquiry, and such studies could help to provide recommendations for tourism recovery in the post-pandemic context.

Finally, the data collected here represent perceptions of tourists at one point in time. As people learn more about pathogen threats (such as COVID-19), perceptions of risk could change, and tourists could prepare adequately for their trips, which would

affect the variables in the study. The availability of vaccines would help negotiate constraints related to fear of COVID-19 transmission and ethical dilemmas during traveling to enhance outdoor recreation experiences. Hence, a longitudinal study to understand tourists' perceptions through different time periods such as the first three months of a novel pathogen threat, the stability period (when there is adequate information), the period after the introduction of vaccines, and the period after the adequate distribution of vaccines, might be more relevant. This would be helpful for destination managers to tailor different action plans to different phases to attract tourists if there is another pathogen threat issue in the future.

References

- Abdullah, S.I.N.W., & Lui, E. (2018). Satisfaction Drivers And Revisit Intention of International Tourists in Malaysia. *Journal of Tourism, Hospitality and Environment Management*, 3(9), 1-13.
- Bae, S. Y., & Chang, P.-J. (2021). The effect of coronavirus disease-19 (COVID-19) risk perception on behavioral intention towards ‘untact’ tourism in South Korea during the first wave of the pandemic (March 2020). *Current Issues in Tourism*, 24(7), 1017–1035. <https://doi.org/10.1080/13683500.2020.1798895>.
- Baloglu, S. (2000). A Path Analytic Model of Visitation Intention Involving Information Sources, Socio-Psychological Motivations, and Destination Image. *Journal of Travel & Tourism Marketing*, 8(3), 81–90. https://doi.org/10.1300/J073v08n03_05
- Brug, J., Aro, A. R., Oenema, A., De Zwart, O., Richardus, J. H., & Bishop, G. D. (2004). SARS risk perception, knowledge, precautions, and information sources, the Netherlands. *Emerging infectious diseases*, 10(8), 1486. <https://10.3201/eid1008.040283>
- Bureau of Economic Analysis. (2021). Travel and Tourism. <https://www.bea.gov/data/special-topics/travel-and-tourism>
- Cahyanto, I., Wiblishauser, M., Pennington-Gray, L., & Schroeder, A. (2016). The dynamics of travel avoidance: The case of Ebola in the U.S. *Tourism Management Perspectives*, 20, 195–203. <https://doi.org/10.1016/j.tmp.2016.09.004>
- Cashdan, E., & Steele, M. (2013). Pathogen Prevalence, Group Bias, and Collectivism in the Standard Cross-Cultural Sample. *Human Nature*, 24(1), 59–75. <https://doi.org/10.1007/s12110-012-9159-3>

- COVID-19 Perceptions of Risk Travel Survey. (2020, October). Retrieved from <https://tcmi.hhp.ufl.edu/covid-19-travel-survey>.
- Crawford, D. W., & Godbey, G. (1987). Reconceptualizing barriers to family leisure. *Leisure Sciences*, 9(2), 119–127. <https://doi.org/10.1080/01490408709512151>
- Crawford, D. W., Jackson, E. L., & Godbey, G. (1991). A hierarchical model of leisure constraints. *Leisure Sciences*, 13(4), 309–320. <https://doi.org/10.1080/01490409109513147>
- Crawford, J. L., & Stodolska, M. (2008). Constraints Experienced by Elite Athletes with Disabilities in Kenya, with Implications for the Development of a New Hierarchical Model of Constraints at the Societal Level. *Journal of Leisure Research*, 40(1), 128–155.
- Das, S. S., & Tiwari, A. K. (2021). Understanding international and domestic travel intention of Indian travellers during COVID-19 using a Bayesian approach. *Tourism Recreation Research*, 46(2), 228–244.
- Faulkner, J., Schaller, M., Park, J. H., & Duncan, L. A. (2004). Evolved Disease-Avoidance Mechanisms and Contemporary Xenophobic Attitudes. *Group Processes & Intergroup Relations*, 7(4), 333–353. <https://doi.org/10.1177/1368430204046142>
- Fendt, L. S., & Wilson, E. (2012). ‘I just push through the barriers because I live for surfing’: How women negotiate their constraints to surf tourism. *Annals of Leisure Research*, 15(1), 4–18. <https://doi.org/10.1080/11745398.2012.670960>
- Floyd, M. F., Gibson, H., Pennington-Gray, L., & Thapa, B. (2004). The Effect of Risk Perceptions on Intentions to Travel in the Aftermath of September 11, 2001. *Journal*

of Travel & Tourism Marketing, 15(2–3), 19–38.

https://doi.org/10.1300/J073v15n02_02

Fuchs, G., & Reichel, A. (2006). Tourist destination risk perception: The case of Israel. *Journal of Hospitality & Leisure Marketing*, 14(2), 83-108.

https://doi.org/10.1300/J150v14n02_06

Gibson, H., & Yiannakis, A. (2002). Tourist roles: Needs and the lifecourse. *Annals of tourism research*, 29(2), 358-383. [https://doi.org/10.1016/S0160-7383\(01\)00037-8](https://doi.org/10.1016/S0160-7383(01)00037-8)

Godbey, G., Crawford, D. W., & Shen, X. S. (2010). Assessing Hierarchical Leisure Constraints Theory after Two Decades. *Journal of Leisure Research*, 42(1), 111–134.

<https://doi.org/10.1080/00222216.2010.11950197>

Gössling, S., Scott, D., & Hall, C. M. (2020). Pandemics, tourism and global change: A rapid assessment of COVID-19. *Journal of Sustainable Tourism*, 1–20.

<https://doi.org/10.1080/09669582.2020.1758708>

Gursoy, D., & McCleary, K. W. (2004). Travelers' Prior Knowledge and its Impact on their Information Search Behavior. *Journal of Hospitality & Tourism Research*, 28(1), 66–94. <https://doi.org/10.1177/1096348003261218>

Hajibaba, H., Gretzel, U., Leisch, F., & Dolnicar, S. (2015). Crisis-resistant tourists. *Annals of Tourism Research*, 53, 46–60.

<https://doi.org/10.1016/j.annals.2015.04.001>

Hall, T., & Shelby, B. (2000). Temporal and Spatial Displacement: Evidence from A High-Use Reservoir and Alternate Sites. *Journal of Leisure Research*, 32(4), 435–

456. <https://doi.org/10.1080/00222216.2000.11949926>

- Han, J.Y. (2005). The relationships of perceived risk to personal factors, knowledge of destination, and travel purchase decisions in international leisure travel. PhD dissertation, Department of Hospitality and Tourism Management, Virginia Polytechnic Institute and State University.
- Hawkins, B.A., Joanne Peng, Ch. (1999). Leisure Constraints: A Replication and Extension of Construct Development. *Leisure Sciences*, 21(3), 179–192.
<https://doi.org/10.1080/014904099273066>
- Hennink, M. M., Kaiser, B. N., & Weber, M. B. (2019). What Influences Saturation? Estimating Sample Sizes in Focus Group Research. *Qualitative Health Research*, 29(10), 1483–1496. <https://doi.org/10.1177/1049732318821692>
- Hofstede, G. and Hofstede, G. (2005) *Cultures and Organizations; Software of the Mind*, 2nd edn (New York: McGraw-Hill).
- Hsieh, H.-F., & Shannon, S. E. (2005). Three Approaches to Qualitative Content Analysis. *Qualitative Health Research*, 15(9), 1277–1288.
<https://doi.org/10.1177/1049732305276687>
- Huang, J. H., & Min, J. C. (2002). Earthquake devastation and recovery in tourism: The Taiwan case. *Tourism Management*, 23(2), 145-154.
[https://doi.org/10.1016/S0261-5177\(01\)00051-6](https://doi.org/10.1016/S0261-5177(01)00051-6)
- Hubbard, J., & Mannell, R. C. (2001). Testing Competing Models of the Leisure Constraint Negotiation Process in a Corporate Employee Recreation Setting. *Leisure Sciences*, 23(3), 145–163. <https://doi.org/10.1080/014904001316896846>
- Iso-Ahola, S. E. (1986). A theory of substitutability of leisure behavior. *Leisure Sciences*, 8(4), 367–389. <https://doi.org/10.1080/01490408609513081>

- Jackson, E. L., Crawford, D. W., & Godbey, G. (1993). Negotiation of leisure constraints. *Leisure Sciences*, 15(1), 1–11.
<https://doi.org/10.1080/01490409309513182>
- Jiachen, C. (2003) Pay attention to the influences of SARS on the psychological changes of tourists. *China Tourism News*.
- Khalid, U., Okafor, L. E., & Burzynska, K. (2021). Does the size of the tourism sector influence the economic policy response to the COVID-19 pandemic? *Current Issues in Tourism*, 1–20.
- Koca, C., Henderson, K. A., Asci, F. H., & Bulgu, N. (2009). Constraints to leisure-time physical activity and negotiation strategies in Turkish women. *Journal of Leisure Research*, 41(2), 225–251.
- Kock, F., Josiassen, A., & Assaf, A. G. (2019a). The xenophobic tourist. *Annals of Tourism Research*, 74, 155–166. <https://doi.org/10.1016/j.annals.2018.11.005>
- Kock, F., Josiassen, A., Assaf, A. G., Karpen, I., & Farrelly, F. (2019b). Tourism Ethnocentrism and Its Effects on Tourist and Resident Behavior. *Journal of Travel Research*, 58(3), 427–439. <https://doi.org/10.1177/0047287518755504>
- Kock, F., Nørfelt, A., Josiassen, A., Assaf, A. G., & Tsionas, M. G. (2020). Understanding the COVID-19 tourist psyche: The evolutionary tourism paradigm. *Annals of tourism research*, 85, 103053.
<https://doi.org/10.1016/j.annals.2020.103053>.
- Kono, S. (2018). Constraining, Negotiating, and Facilitating Leisure after Disaster: A Case of the Great East Japan Earthquake and Tsunami. *International Journal of the Sociology of Leisure*, 1(2), 171–195. <https://doi.org/10.1007/s41978-018-0011-0>

- Kozak, M., Crotts, J. C., & Law, R. (2007). The impact of the perception of risk on international travellers. *International Journal of Tourism Research*, 9(4), 233-242.
<https://doi.org/10.1002/jtr.607>
- Liu, Feng (2003) Analysis and Solutions of the Impact of SARS on China's Tourism Industry,
Special Issues on SARS 11. National Report.
- Lyu, S. O., & Oh, C.-O. (2014). Recreationists' Constraints Negotiation Process for Continual Leisure Engagement. *Leisure Sciences*, 36(5), 479–497.
<https://doi.org/10.1080/01490400.2014.920702>
- Maddux, J. E. (1993). Social cognitive models of health and exercise behavior: An introduction and review of conceptual issues. *Journal of Applied Sport Psychology*, 5(2), 116–140. <https://doi.org/10.1080/10413209308411310>
- Manfredo, M. J., Driver, B. L., & Tarrant, M. A. (1996). Measuring Leisure Motivation: A Meta-Analysis of the Recreation Experience Preference Scales. *Journal of Leisure Research*, 28(3), 188–213. <https://doi.org/10.1080/00222216.1996.11949770>
- Metcalf, E. C., Graefe, A. R., Trauntvein, N. E., & Burns, R. C. (2015). Understanding Hunting Constraints and Negotiation Strategies: A Typology of Female Hunters. *Human Dimensions of Wildlife*, 20(1), 30–46.
<https://doi.org/10.1080/10871209.2015.957366>
- Milman, A., & Pizam, A. (1995). The role of awareness and familiarity with a destination: The central Florida case. *Journal of travel research*, 33(3), 21-27.
<https://doi.org/10.1177/004728759503300304>

- Neuburger, L., & Egger, R. (2021). Travel risk perception and travel behaviour during the COVID-19 pandemic 2020: A case study of the DACH region. *Current Issues in Tourism*, 24(7), 1003–1016. <https://doi.org/10.1080/13683500.2020.1803807>.
- Neuman, W.L. 2006. *Social research methods: Qualitative and quantitative approaches*, 6th Ed. Boston, MA: Pearson Allyn and Bacon.
- Nyaupane, G. P., Morais, D. B., & Graefe, A. R. (2004). Nature Tourism Constraints. *Annals of Tourism Research*, 31(3), 540–555. <https://doi.org/10.1016/j.annals.2004.01.006>
- Nyaupane, G. P., & Andereck, K. L. (2008). Understanding Travel Constraints: Application and Extension of a Leisure Constraints Model. *Journal of Travel Research*, 46(4), 433–439. <https://doi.org/10.1177/0047287507308325>
- Page, S., Yeoman, I., Munro, C., Connell, J., & Walker, L. (2006). A case study of best practice—Visit Scotland’s prepared response to an influenza pandemic. *Tourism Management*, 27(3), 361–393. <https://doi.org/10.1016/j.tourman.2006.01.001>
- Park, K., & Reisinger, Y. (2010). Differences in the perceived influence of natural disasters and travel risk on international travel. *Tourism Geographies*, 12(1), 1-24. <https://doi.org/10.1080/14616680903493621>
- Peters, M., & Pikkemaat, B. (2006). Crisis management in Alpine winter sports resorts—the 1999 avalanche disaster in Tyrol. *Journal of Travel & Tourism Marketing*, 19(2-3), 9-20. https://doi.org/10.1300/J073v19n02_02
- Qiu, R. T., Park, J., Li, S., & Song, H. (2020). Social costs of tourism during the COVID-19 pandemic. *Annals of Tourism Research*, 84, 102994. <https://doi.org/10.1016/j.annals.2020.102994>

- Reisinger, Y., & Mavondo, F. (2006). Cultural differences in travel risk perception. *Journal of Travel & Tourism Marketing*, 20(1), 13-31. https://doi.org/10.1300/J073v20n01_02
- Sönmez, S.F. & Graefe, A.R. (1998) Influence of terrorism risk on foreign tourism decisions, *Annals of Tourism Research*, 25(1), pp. 112–144.
- S´anchez-Cañizares, S. M., Cabeza-Ramírez, L. J., Muñoz-Fern´andez, G., & Fuentes-García, F. J. (2021). Impact of the perceived risk from Covid-19 on intention to travel. *Current Issues in Tourism*, 24(7), 970–984. <https://doi.org/10.1080/13683500.2020.1829571>.
- Seong, B. H., & Hong, C. Y. (2021). Does Risk Awareness of COVID-19 Affect Visits to National Parks? Analyzing the Tourist Decision-Making Process Using the Theory of Planned Behavior. *International Journal of Environmental Research and Public Health*, 18(10), 5081. <https://doi.org/10.3390/ijerph18105081>.
- Son, J. S., Mowen, A. J., & Kerstetter, D. L. (2008). Testing Alternative Leisure Constraint Negotiation Models: An Extension of Hubbard and Mannell’s Study. *Leisure Sciences*, 30(3), 198–216. <https://doi.org/10.1080/01490400802017308>
- Tourism Economics. (2021). Weekly Coronavirus impact on travel expenditures in the U.S. Retrieved from https://www.ustravel.org/sites/default/files/media_root/document/TE_Coronavirus_WeeklyImpacts_01.22.21.pdf
- Um, S., Chon, K., & Ro, Y. (2006a). Antecedents of revisit intention. *Annals of Tourism Research*, 33(4), 1141–1158. <https://doi.org/10.1016/j.annals.2006.06.003>

- Wang, I. M., & Ackerman, J. M. (2019). The Infectiousness of Crowds: Crowding Experiences Are Amplified by Pathogen Threats. *Personality and Social Psychology Bulletin*, 45(1), 120–132. <https://doi.org/10.1177/0146167218780735>
- Weber, E. U., & Hsee, C. (1998). Cross-cultural differences in risk perception, but cross-cultural similarities in attitudes towards perceived risk. *Management science*, 44(9), 1205-1217.
- Wen, Z., Huimin, G., & Kavanaugh, R. R. (2005). The Impacts of SARS on the Consumer Behaviour of Chinese Domestic Tourists. *Current Issues in Tourism*, 8(1), 22–38. <https://doi.org/10.1080/13683500508668203>
- White, D. D. (2008). A Structural Model of Leisure Constraints Negotiation in Outdoor Recreation. *Leisure Sciences*, 30(4), 342–359. <https://doi.org/10.1080/01490400802165131>
- Wilder-Smith, A., & Freedman, D. O. (2020). Isolation, quarantine, social distancing and community containment: pivotal role for old-style public health measures in the novel coronavirus (2019-nCoV) outbreak. *Journal of travel medicine*, 27(2). <https://doi.org/10.1093/jtm/taaa020>.
- Xu, W., Youn, H.-J., & Lee, C.-K. (2021). Role of Non-Pharmaceutical Interventions for COVID-19 in Cruise Tourists' Decision-Making Process: An Extended Model of Goal-Directed Behavior. *Sustainability*, 13(10), 5552. <https://doi.org/10.3390/s13105552>.
- Zeng, B., Carter, R. W., & De Lacy, T. (2005). Short-term Perturbations and Tourism Effects: The Case of SARS in China. *Current Issues in Tourism*, 8(4), 306–322. <https://doi.org/10.1080/13683500508668220>

Zenker, S. & Kock, F. (2020). The coronavirus pandemic – A critical discussion of a tourism research agenda. *Tourism Management*, 4.

<https://doi.org/10.1016/j.tourman.2020.104164>

Chapter 3

Segmentation of U.S. outdoor recreation tourists by constraints and negotiations: A study during the early COVID-19 pandemic

Abstract

The purpose of this study is to segment U.S. outdoor recreation tourists according to perceived constraints and application of negotiation strategies during the initial phase of the COVID-19 pandemic (first six months). Data were collected by distributing an online questionnaire to a Qualtrics online panel during the late summer of 2020; the 1,003 responses were representative of the U.S. population in terms of age, gender, education, household income, and education. Through data-driven segmentation using k-means clustering, three different customer segments were identified according to the strength of perceived constraints and the frequency of negotiation efforts: (1) all-but personally constrained; (2) moderately constrained; and (3) overall constrained. These segments were further profiled using analysis of variance (ANOVA) and chi-square tests to reveal socio-demographic differences and behavioral differences (intentions, motivations, and latent demand) across segments. At the end of the study, conclusions were drawn and managerial implications discussed along with outlining study limitations and recommendations for future research.

Keywords: Constraints, negotiation, motivations, segmentation, tourism, COVID-19

3.1 Introduction

Market segmentation is a useful tool to identify subgroups of consumers who share common characteristics, needs, and priorities (Smith, 1956; Kuo et al., 2012; Wedel & Kamakura, 2000). Tourism is an amalgamation of “tangible and intangible elements such as natural cultural and man-made resources... that creates an overall visitor experience including emotional aspects of potential customers” (UNWTO, 2019). Tourism, as a consumer product, benefits largely from segmentation, since tailored marketing strategies can be developed to meet the desires, motives, and expectations of particular subgroups of tourists (Brent et al., 2003; Dolnicar et al., 2012; Hennessey et al., 2012). As such, a large volume of tourism research has applied segmentation techniques to identify homogenous groups of tourists based on various psychographic, demographic, and behavioral criteria (Alexandris et al., 2009; Choi et al., 2011; Konu et al., 2011). The present study adds to the segmentation literature by classifying tourists based on the constraints and negotiations experienced during the COVID-19 pandemic.

The tourism industry suffered a serious loss due to the unprecedented coronavirus pandemic (COVID-19). The current pandemic could have severe long term effects on tourists’ behaviors and decisions to participate in outdoor recreation (Kock et al., 2020; Zenker & Kock, 2020). The risk of COVID-19 transmission along with government-introduced non-pharmaceutical interventions such as lockdowns and physical distancing has presented a completely unique tourism environment (Gossling et al., 2020). Hence, tourists must consider a plethora of factors, much more than during the pre-COVID era, in order to experience outdoor recreation. In this study, we define an outdoor recreation trip as a “journey involving at least one overnight stay away from home, and where the

purpose is to engage in recreational activities in an outdoor or natural environment.” This definition entails a more generalized approach to study tourists’ outdoor recreation behaviors during the pandemic, instead of following conventional practices of targeting a particular market segment (such as nature-based, skiing, or other outdoor sports). The decision to participate in an outdoor recreation trip during a pandemic threat is a high-risk decision. Past studies have already illuminated the heterogeneous nature of risk perceptions and influences during previous natural disasters (such as volcanos, earthquakes) or man-made disasters (such as 9/11, the war in Iraq) (Kozak et al., 2007; Park & Reisinger, 2010). This provides yet another incentive for segmentation of tourists according to the strength of constraints and negotiations applied by tourists.

The present study is different from past studies in considering both the constraint factors and negotiations strategies as the two key segmentation variables for engagement in domestic overnight outdoor recreation trips. As Jackson, Crawford, and Godbey (1993) posit, “participation depends not on the absence of constraints but on negotiation through them.” Similarly, Hubbard and Mannell (2001) further suggest that the strength of constraints and ability to negotiate through those constraints determine the level of participation in leisure activities. In other words, in this study we inquired how tourists differ by their experiences of being constrained and simultaneously by their ability to cope with the constraints for outdoor recreation participation, during the current pandemic. To examine the constraining factors and negotiation strategies, we use the sub-dimensions of the “negotiations of leisure constraints model” (such as inter-personal and intra-personal constraints), along with consideration of other social and ethical constraints due to COVID-19. Additionally, by linking the tourist segments with

demographics and behavior (latent demand, motivations, future intentions), we aim to create a profile of the segments. In other words, this study offers better insights regarding the composition of different tourist segments, so that appropriate strategies can be formed by destination and marketing managers to engage the target audiences.

The paper is structured as follows. First, we review the literature on leisure constraint negotiation, past studies of pathogen threats, and segmentation in tourism. Then, we present the data and methods used, and further elaborate on the results of our study. Finally, we draw conclusions and discuss theoretical and managerial implications.

3.2 Relevant literature

3.2.1 Leisure constraint negotiation process

The concept of leisure constraints and negotiations has gained much scholarly attention in the recent tourism literature, especially as a mechanism to investigate tourists' decision-making processes for leisure activity participation. Early research in the 1960s to 1980s demonstrated the impact of constraints on leisure participation (e.g., Clawson & Knetch, 1966; McClellan & Menrich, 1969; Rodgers, 1973; Wall, 1981), and a sound theoretical and empirical extension of the leisure constraints negotiation process was developed in the late 1980s and 1990s. First, Crawford and Godbye (1987) contextualized the concept of a constraint in terms of the preference–participation relationship as “any factor which intervenes between the preference for an activity and participation in it” (p.120, Crawford & Godbey, 1987). Building upon this research, a hierarchical model of leisure constraints was proposed (Crawford et al., 1991) and validated across by a number of studies (Raymore et al., 1993; Hubbard & Mannell, 2001; Nyaupane et al., 2004), positing that leisure constraints are experienced

sequentially for successful leisure participation. The first constraints to be encountered in the hierarchy are intra-personal constraints, which stem from an individual's psychological attributes (such as a lack of interest, anxiety, depression, stress, or perceived ability) (Crawford & Godbey, 1987; Nyaupane & Andereck, 2008).

Incorporating the social nature of humans, the second type are inter-personal constraints, where participation in a leisure activity may be affected by an individual's relationships with other people (such as being unable to find people to travel with, a lack of interest from family members). On the other hand, structural constraints are an amalgam of several other constraints that intervene leisure preferences and participation and include a lack of time, finances, information, weather, etc. (Nyaupane & Andereck, 2008; White, 2008; Hubbard & Mannell, 2001; Godbye et al., 2010).

Although early research conceptualized constraints as "barriers" resulting in non-participation, emerging from later research was the idea of the negotiation of constraints: as individual's efforts to overcome or negotiate the constraints in order to experience leisure (Crawford et al., 1991; Nyaupane & Andereck, 2008). In other words, the presence of constraints alone does not inhibit participation; rather, an individual attempts to negotiate through those constraints (Crawford et al., 1991). Some of the negotiation strategies common in the literature include time management, skill-acquisition, management of finances, information search, etc. (Crawford et al., 1991; Hubbard & Mannell, 2001; Son et al., 2008, White, 2008). The importance of negotiation is also highlighted in the hierarchal model of leisure constraints, which postulates that intra-personal constraints should be negotiated first, followed by inter-personal and then structural constraints for participation. The other important attribute in the context of the

leisure negotiation process is motivation, which can be thought of as desires and/or factors that determine an individual's engagement in a particular leisure activity (Manfredo et al., 1996). The different interplay between constraints, motivations, and negotiations in turn influence participation in many ways, as reported by the models of Hubbard and Mannell (2001), Son et al. (2008), and White (2008). A general consensus among many research studies is that the level of leisure participation depends upon the relative strength of motivations and constraints experienced (Jackson et al., 1993: balance proposition) and that negotiation strategies inhibit the level of constraints experienced (Hubbard & Mannell, 2001).

3.2.2 Constraints, negotiations, and the global pandemic

The nature of COVID-19 transmission through human contact (Wilder-Smith & Freedman, 2020), culminating in higher risks of fatality, induces novel constraints and subsequent negotiation strategies that tourists cultivate in order to experience outdoor recreation. In addition, government-imposed restrictions such as lockdowns and bans on social gatherings could act as a positive motivator for people to pursue trips in outdoor settings for reliving normalcy and experiencing positive emotions (peace, calm, satisfaction, and happiness) (Humagain & Singleton, 2021). Tourists' considerations of factors (constraints, negotiations) for decisions to travel outdoors in the unique COVID-19 affected tourism system can be acknowledged to some extent by learning of tourists' behaviors during previous relevant disasters (such as 9/11, earthquakes) and pathogen threats (Ebola, SARS).

From the perspective of behavioral ecology, pathogen threats (COVID-19) and associated uncertainties are critical socio-ecological factors that result in changes in

tourists' psyches and associated behaviors (called phenotypic plasticities: Sng et al., 2018). Along this line, we can regard constraints as psychological states of fear or stress due to COVID-19 (or perceived infectability: Kock et al., 2020) and negotiations as disease-avoidance strategies. However, it should also be acknowledged that the constraints considered in the past studies (without COVID-19) should be equally applicable in the relevant context; for example, time and cost to reach the destination (Nyaupane & Andereck, 2008). One significant constraint to outdoor recreation participation in cases of pandemic threat is crowding or its perception (Kock et al., 2020; Wang & Ackerman., 2019). Wang and Ackerman (2019) suggested that the threat of disease transmission can tilt a tourist's preferences towards less populated and wilderness areas to avoid crowdedness. Study of the post-SARS period also identified contact with people as a constraining factor, which led to Chinese tourists' increased demand for natural and eco-tourism (Jiacheng, 2003). Similarly, Wen et al. (2005) illustrated the importance of hygiene and safety during travel and during the destination visit as another critical decision-making factor. Another set of constraints relevant during pathogen threats are individuals' social and ethical responsibility regarding disease transmission. Particularly, local communities could be burdened by visitors and become less receptive of incoming tourists (Chien & Rithcien, 2018). Similarly, participating in outdoor recreation is a decision with risk, and disease transmission to one may lead to transfer to other high-risk and susceptible individuals, creating an ethical dilemma (constraints) to outdoor recreation travel (Humagain & Singleton, 2021). Another behavior associated with disease avoidance that applies to outdoor recreation participation is the selection of travel companionship. Basically, in cases of pathogen threat, tourists would confer with

their in-group members (such as close friends/family) and try to avoid strangers or those outside of their circle (Navarrete & Fessler, 2006; Kock et al., 2020). The interference of government regulations should not be overlooked, especially the closure of facilities, unavailability of campgrounds, closure of hotels, etc., which are prime drivers of satisfaction and destination loyalty and act as constraints. Some research also indicates the (lower) amount of information available to tourists is a significant deterrent to outdoor participation, especially during uncertainty (Baloglu, 2000).

An innate human nature is for mobility and to travel. Even within the COVID-19 influenced environment, tourists still travel. The motivations could arise from any one or a combination of factors, such as experiencing novelty (Farmaki et al., 2019), reliving normalcy and rest, or social responsibility (enhancing the local economy, tourist ethnocentrism). In terms of leisure negotiation, some tourists still find ways to overcome or negotiate the constraints induced by COVID-19. Such risk-averse tourist segments are perceived as “crisis resistant tourists” (Hajibaba et al., 2015). One strategy is adequate preparation and planning based on information search (Humagain & Singleton, 2021; Lo et al., 2011). Processes of discussing or listening to others’ positive words regarding the safety of the destination aids in increased confidence to make outdoor trips. Other strategies include finding people with similar health standards or similar COVID-19 risk perceptions. Finally, traveling in tour groups with an excluded personal circle is another strategy (Lo & Lam, 2004). The use of sanitizers, social-distancing, and bringing one’s food, camping gear, etc. are other non-pharmaceutical ideas that tourists could look to when participating in outdoor recreation.

3.2.3 Segmentation in tourism literature

Tsiotsou (2006) emphasized the goal of market segmentation as “identifying homogeneous group[s] of consumers with similarities.” Segmentation in the tourism market is relevant as tourists adhere to different lifestyles, geographies, and personalities and select tourist destinations and leisure activities based on expected benefits, motives, and interests (Gonzalez & Bello, 2002; Konu et al., 2011; Priporas et al., 2015). Segmentation methodology can be dichotomized into a priori segmentation (when the segmenting variable is known in advance of data collection) and post hoc (or a posteriori) segmentation (data-driven segmentation without prior knowledge of groups) (Dolnicar & Leish, 2003; Formica & Usyal, 1996; Nyaupane et al., 2006). We follow the latter methodology in this study.

Segmentation studies (post hoc) vary by the type of segmenting variables, targeted market area, and specific leisure activities. The most common form of segmentation is based on demographics and geographic areas (Dolnicar et al., 1999; Hudson, 2000). Other forms of studies pertain to segmentation using behavioral or psychographic variables such as beliefs, opinions, and leisure activities (Zografos & Allcroft, 2007; Konu et al., 2011). Tourists’ experiences of constraints, negotiations, and motivations remain a central theme in outdoor recreation research. As such, a large volume of studies has been dedicated to identifying heterogeneity in terms of these variables. A number of studies have used motivations, benefits, or destination choice attributes as the basis of segmentation (e.g., Alexandris et al., 2009; Dolnicar & Leisch, 2003, Jang et al., 2002; Park & Yoon, 2009; Nyaupane et al., 2006). For example, Park and Yoon (2009) classified 252 rural tourists into four segments of “family togetherness,”

“passive tourists,” “want it all tourists,” and “learning and excitement” based on motives for rural tourism. The authors also identified differences in socio-demographic attributes (age, gender) pertaining to those segments. Using constraints as a segmenting variable is also found common in the tourism literature. Studies based on constraints have identified different segments of ski-tourists (Priporas et al., 2015; Konu et al., 2011), recreational swimmers (e.g., Alexandris et al., 2013), wine-driven tourists (e.g., Cho et al., 2017), and park visitors (Scott & Mowen, 2010).

To the best of our knowledge, past studies have considered only one variable (e.g., constraints or motivations or destination choice) during the segmentation process. Similarly, the studies are all targeted to specific tourism markets and are carried out in “normal” situations. Our study differs from other studies as we use both constraints and negotiations to outdoor recreation trips (which is defined as an overnight trip for participating in any outdoor leisure activity, a more general approach) as the discriminating criteria and in the special COVID-19 context. Doing so, we consider a broad array of social, ethical, and other novel constraints plus novel negotiation strategies applied by tourists for outdoor recreation participation. We believe that it is only through the use of both constraints and negotiations that we can provide a clear picture of different groups of people, their decision-making processes, and relevant tourism strategies. Finally, we also develop socio-demographic profiles of segments and compare their behavioral attributes such as motivations, latent demand, and intentions.

3.3 Data and methods

3.3.1 Sample and procedures

We collected data using an online questionnaire survey conducted during October and November of 2020, administered to U.S. adults (18 years and older) via a Qualtrics online panel. The Qualtrics online panel is a pre-arranged pool of respondents who have agreed to be contacted by Qualtrics in order to respond to a survey (Qualtrics, 2021). For each survey response, the respondents are paid a certain amount as per their agreement with Qualtrics. A quota sampling strategy was employed to select respondents from the Qualtrics online panel in order to be approximately representative of U.S. Census data on age, race, gender, education, household income, and U.S. regions. Although the use of online panels has been on the rise in the field of tourism research due to the increased speed of data collection, higher response rates, and cost effectiveness (Dolnicar et al., 2013), caution should be applied to remove careless, random, and straight-lined responses (Shannon & Berning, 2020). As such, we used three criteria for selecting valid responses:

- Time to complete the survey: Respondents who completed the survey in less than five minutes were removed (careless responders).
- Validity checks: Two questions were designed to check the validity of responses. Participants who reported that they participated in a greater number of outdoor recreation trips since March, 2020 compared to the whole year (since January 2020) were removed.
- Straight-lining: Those who selected the same choice for more than 80% of items on several survey questions were removed.

Around 200 responses were removed from the initial sample obtained from Qualtrics. Then, after another round of the survey, the final sample included 1003 responses that passed all three criteria. The demographic profile of the final sample of respondents is displayed in Table 2.1.

Table 3.1

Sample demographics (N = 1,003)

Variables	#	%
Age		
18-25	103	10.27
25-34	223	22.23
35-44	235	23.43
45-54	91	9.07
55-64	161	16.05
65+	190	18.94
Gender		
Female	491	48.95
Male	506	50.45
Transgender/ Don't identify as male/female/transgender	6	0.60
Education		
No degree	277	27.62
Below undergrad	297	29.61
Undergrad	196	19.54
Graduate	233	23.23
Household income		
\$0-\$25,000	159	15.85
\$25,000-50,000	201	20.04
\$50,000-75,000	203	20.24
\$75,000-100,000	148	14.76
\$100,000-150,000	152	15.15
\$150,000+	127	12.66
Don't know	13	1.30
Household size		
1	132	13.16
2	312	31.11
3	193	19.24
4	236	23.53
5+	130	12.96
Employment		

Unemployed	162	16.15
Employed, full-time	494	49.25
Employed, part-time	148	14.75
Retired	199	19.81
Disability (any kind of disability that hinders ability to move, pregnancy or recent birth, infant younger than 5 years, adult older than 65 years, any kind of respiratory or heart diseases)		
Yes	531	52.94
No	437	43.57
Region		
Midwest	199	19.84
Northeast	203	20.24
South	409	40.78
West	191	19.04

3.3.2 Measures of constraints, negotiations, motivations, and intentions

Items measuring constraints, negotiations, and motivations have been developed and validated across a number of studies in past (e.g., Hubbard & Mannell, 2001; Son et al., 2008; Nyaupane & Anderick, 2008). Many other studies have modified those scales to be suitable to a specific activity and context (e.g., for outdoor recreation: Shrestha & Burns, 2016). The COVID-19 pandemic has had a novel effect on tourists' decision-making process, specifically increasing constraints (fear of COVID-19 transmission), intensifying negotiation efforts (more information search and planning), and new motivations (escape from home, be away from crowds). To incorporate such COVID-19 specific impacts on tourists' perceived constraints, negotiations, and motivations, an online focus group was first conducted to guide the questionnaire formulation. Items derived from the focus group study were then distributed to the experts of the field and a small pre-test was carried out to validate the questionnaires. (Details of the focus group study can be found in Humagain & Singleton, 2021). Hence, the final questionnaire included items from past studies, as well as a set of new ones resulting from the focus

group study. All items relevant to constraints, motivations, and negotiations were measured on five-point scales. The questions were prefaced with the description below:

“The statements below include conditions that may limit your outdoor recreation trip participation, some of which may be initiated by current COVID-19 pandemic. Please specify to what extent you agree or disagree with these statements regarding constraints to your recreation travel.”

(Strongly disagree to Strongly agree)

“Here are some strategies, that you could try to do when planning or participating on an outdoor recreation trip. To what extent do you try to do the following?” (Never to Always)

“Thinking about outdoor recreational travel in general, here are some different things that may or may not be important to you when going on such trips. For each item, please specify to what extent it is an important reason or motivation for your outdoor recreational participation.” (Not at all important to Extremely important)

Intentions for traveling on outdoor recreation trips in the future were captured by two items measured on a similar five-point Likert scale (Strongly disagree to Strongly agree). Another variable of interest considered was latent demand. Representing “unfulfilled interest” (Lyu & Lee, 2016), latent demand was measured by two questions elucidating tourists’ interest in participating in outdoor recreation trips this year, and in the next twelve months, if there were no COVID-19. The specific questions were:

“If the COVID-19 pandemic did not occur and everything was normal, how many outdoor recreation trips of would you have taken this year (2020)?”

“If the COVID-19 pandemic did not occur and everything was normal, how many outdoor recreation trips of one or more nights from home would you be interested in going in the next twelve months?”

3.3.3 Statistical analysis

Analysis was conducted following a three-phase format in line with studies of Konu et al. (2011) and Priporas et al. (2015), with slight modifications. The first phase dealt with evaluating the theoretical properties of key constructs: constraints, motivations, and negotiations. For this purpose, exploratory factor analysis (EFA) using principle component analysis (PCA) with varimax rotation was carried out. The particular method extracts uncorrelated factors, implying that items represent only one construct, which is more suitable for segmentation purposes than other EFA approaches (Park & Yoon, 2009). The internal consistency of the theoretical dimensions of the variables was measured using Cronbach’s (1951) alpha reliability score.

In the second phase, k-means cluster analysis was carried out to classify outdoor recreation tourists according to their constraint and negotiation patterns. The scores for constraints, negotiations, and motivations were calculated as the mean score of the variables based on the factors that emerged from the EFA (as in Konu et al., 2011 and Priporas et al., 2015). Next, to determine the number of clusters, several goodness-of-fit measures including the silhouette width, gap statistics, and elbow plot were used. Several

iterations that varied the number of clusters were used to find an optimal number of clusters.

The third phase included analysis of variance (ANOVA) and chi-square tests to explore socio-demographic and behavioral (motivations, intentions, and latent demands) differences between segments

3.4 Results

3.4.1 Exploratory factor analysis

EFA using PCA with varimax rotation was utilized to identify underlying dimensions among 28 constraints, 22 negotiation strategies, and 17 motivations. The Kaiser-Mayer-Olkin measure of sample adequacy and Bartlett's test of sphericity regarding the factorability of item structures were computed to examine data suitability for factor analysis. The values of KMO were found to be greater than the recommended threshold of 0.6 for constraints (KMO = 0.96), negotiations (KMO = 0.95), and motivations (KMO = 0.95). Similarly, the results of Bartlett's test yielded significant p-values for constraints (16510.13/378, $p < 0.001$), negotiations (11956.76/231, $p < 0.001$), and motivations (7645.312/153, $p < 0.001$). After carrying out the factor analysis, two constraint items and four negotiation items (and no motivation items) were removed based on low loadings (< 0.5) and/or higher cross-loadings on more than one factor (> 0.3). All of the factor dimensions within constraints, negotiations, and motivations also had Eigenvalues greater than 1. The final factor analysis result revealed a 7-factor structure for constraints (with 26 items), a 6-factor structure for negotiations (18 items), and a 4-factor structure for motivations (17 items). The overall variance explained by dimensions of constraints (71%), negotiations (73%), and motivations (61%) were more

than recommended threshold (Hair et al., 1998). Similarly, Cronbach's alpha values were found to be larger than 0.8, which implies high internal consistency. Table 3.2 details the results of the EFA, factor loadings, and variance explained.

Table 3.2

EFA (PCA with varimax rotation) results for constraints (seven factors), negotiations (six factors), and motivations (six factors)

Items	Mean	S.D.	Loading	Variance explained	Eigen-value
Constraints (Cronbach's alpha = 0.95)					
Intrapersonal				15.00	19.256
I have no interest in going on an outdoor recreation trip	2.91	1.50	0.710		
I don't have the physical ability and skills for outdoor recreation	2.62	1.43	0.810		
I am afraid to go on an outdoor recreation trip	2.75	1.44	0.660		
I don't have people to go with	2.63	1.44	0.690		
Interpersonal				12.00	3.880
I don't know if my friends have been practicing social-distancing	2.97	1.36	0.590		
Friends have varied perceptions of COVID	3.43	1.26	0.800		
People I know are hesitant to go on an outdoor recreation trip	3.36	1.27	0.520		
Time and cost				11.00	2.331
I have no time to take a trip	2.73	1.42	0.650		
I have family and work commitments	3.26	1.37	0.710		
Going on an outdoor recreation trip impacts my finances	3.32	1.30	0.710		
I cannot afford to go on a recreational trip	3.00	1.40	0.700		
The destination is too far away	2.92	1.32	0.560		
Destination related				10.00	1.788
Closure of facilities at the destination	3.45	1.15	0.720		
Fewer options for food	3.33	1.25	0.730		
All activities are not offered at the destination	3.35	1.17	0.730		
Health and information				9.00	1.695
Inadequate sanitization measures at the destination and nearby services	3.40	1.24	0.750		

Lack of public restrooms and ventilation	3.46	1.22	0.770		
Lack of health facility/hospitals at or near the destination	3.33	1.25	0.780		
Lack of information about state and county-specific COVID-19 laws	3.34	1.26	0.790		
Lack of information about preventive measures at the destination or during travel	3.30	1.24	0.610		
Socialization				8.00	1.455
Unable to socialize with other people	3.30	1.25	0.680		
Unfriendly environment: everyone thinks others are a threat to them	3.22	1.28	0.640		
Local people being less receptive to tourists	3.32	1.22	0.580		
Ethical				7.00	1.348
It's unethical to take a trip during the pandemic	3.26	1.32	0.710		
Traveling will help spread the virus	3.55	1.27	0.750		
Traveling during the pandemic makes me socially irresponsible	3.38	1.32	0.750		
<hr/>					
Negotiations (Cronbach's alpha = 0.94)					
Inter-personal				14.00	11.804
Find people with similar perceptions about COVID	3.438	1.309	0.830		
Find people with similar health standards	3.576	1.272	0.820		
Planning				13.00	2.324
Plan ahead of time	3.783	1.233	0.680		
Plan around when my family and friends are free	3.624	1.200	0.750		
Notify companions and family members in advance	3.751	1.204	0.720		
Cost				12.00	1.651
Budget money	3.754	1.241	0.680		
Set aside money to use for outdoor recreation trip	3.690	1.251	0.750		
Look for cheaper ways or discounts/deals	3.730	1.206	0.720		
Crowding and social distancing				12.00	1.561
Use face coverings and use sanitizers more often	3.984	1.215	0.810		
Go on destination with limited occupancy and adequate health and hygiene measures	3.701	1.240	0.670		

Maintain social distancing, and travel with smaller groups	3.904	1.190	0.820		
Minimize impacts				11.00	1.126
Go to wilderness areas	3.401	1.269	0.810		
Bring your own food	3.605	1.204	0.670		
Minimize visits to services (for groceries and others) at destination	3.530	1.208	0.600		
Refrain from talking and socializing with other people	3.331	1.283	0.500		
Travel				11.00	1.073
Go to places that are accessible by car	3.888	1.091	0.570		
Travel within state	3.591	1.143	0.810		
Go to familiar destination	3.620	1.138	0.730		
<hr/>					
Motivations (Cronbach's alpha = 0.92)					
Family/friends bond				20.00	8.660
To be with people who enjoy the same things	4.14	1.09	0.760		
To bond with family and do things together	4.24	1.04	0.730		
To be with friends and enjoy	4.27	1.05	0.690		
Escape				15.00	1.298
To get away from the demands of life	4.17	1.07	0.650		
To get away from cars, people and crowds	3.97	1.15	0.710		
To get away from technology and toxic news in the environment	3.92	1.21	0.740		
To experience normalcy	4.39	0.92	0.490		
Nature and peace				14.00	1.267
To clear your mind and enjoy outdoors	4.31	1.00	0.670		
To re-energize myself	4.24	1.02	0.490		
To experience the peace and calm	4.39	0.92	0.590		
To view scenic places	4.22	1.03	0.750		
To be close to nature	4.14	1.05	0.720		
To view or take advantage of natural beauty	4.29	0.97	0.740		
Fitness and interests				13.00	1.229
To get exercise and fresh air	4.16	1.04	0.620		
To keep physically fit	3.91	1.11	0.790		
To take advantages of reduced crowds	4.03	1.11	0.480		
To experience cultural diversity around the area	3.86	1.19	0.680		

3.4.2 Cluster analysis

The seven constraint factors and six negotiation factors were used as composite variables for input into the clustering process. The use of k-means clustering is increasing in the tourism literature for segmentation purposes (e.g., Konu et al., 2011, Priporas et al., 2015). In order to determine an optimal number of clusters, several statistical fit indices suggested by Kassambara (2017) were used. Using the “NbClust” function in R, 30 different fit indices were calculated which revealed the optimum number of clusters to be between two and four. Then, other relevant tools such as the elbow method, silhouette width, and gap statistics were used which also suggested a similar number of clusters. In k-means, researchers are required to specify the number of clusters, so multiple feasible solutions are possible. After varying the number of clusters from two to five (as suggested by other indices), three clusters provided the most meaningful and interpretative solution and so three clusters were used for further analyses.

The ANOVA results—shown in Table 3.3—illustrate that all constraint factors and three negotiation factors (inter-personal, minimize impacts, and travel) were significantly varying across the three segments. Although some negotiation factor scores (planning, cost, and crowding, and social distancing) were similar for Cluster I and Cluster III, Cluster II was found to be significantly different from both of the other clusters. The F-statistic values displayed that the three segments are highly distinct in terms of all perceived constraints, especially: intra-personal ($F = 637.100$), social ($F = 449.700$), time and cost ($F = 427.400$), and health and information ($F = 421.000$). This indicates that heterogeneity in individuals’ perceptions is mostly due to their perceived constraints, and less so due to negotiation strategies.

Table 3.3*Segments of recreation tourists*

Constraints and negotiations	Mean Values			F-value	p-value
	Cluster I: All-but personally constrained (n = 338)	Cluster II: Moderately constrained (n = 289)	Cluster III: Overall constrained (n = 376)		
Constraints					
Intrapersonal	1.892	2.517	3.638	637.100	<0.001
Interpersonal	2.754	2.805	4.056	418.400	<0.001
Time and cost	2.447	2.740	3.814	427.400	<0.001
Destination related	2.916	2.937	4.129	347.900	<0.001
Health and information	2.915	2.744	4.249	421.000	<0.001
Social	2.764	2.737	4.154	449.700	<0.001
Ethical	2.986	2.668	4.320	321.700	<0.001
Negotiation					
Inter-personal	3.784	2.417	4.096	16.230	<0.001
Planning	4.200* ^{ac}	2.669* ^{ab,bc}	4.094	0.611	0.435
Cost	4.121	2.797* ^{ab,bc}	4.081	0.000	0.994
Crowding and social-distancing	4.409* ^{ac}	2.704* ^{ab,bc}	4.263	1.425	0.233
Minimize impacts	3.652	2.622	3.949	21.670	<0.001
Travel	3.907	2.903	4.126	13.390	<0.001

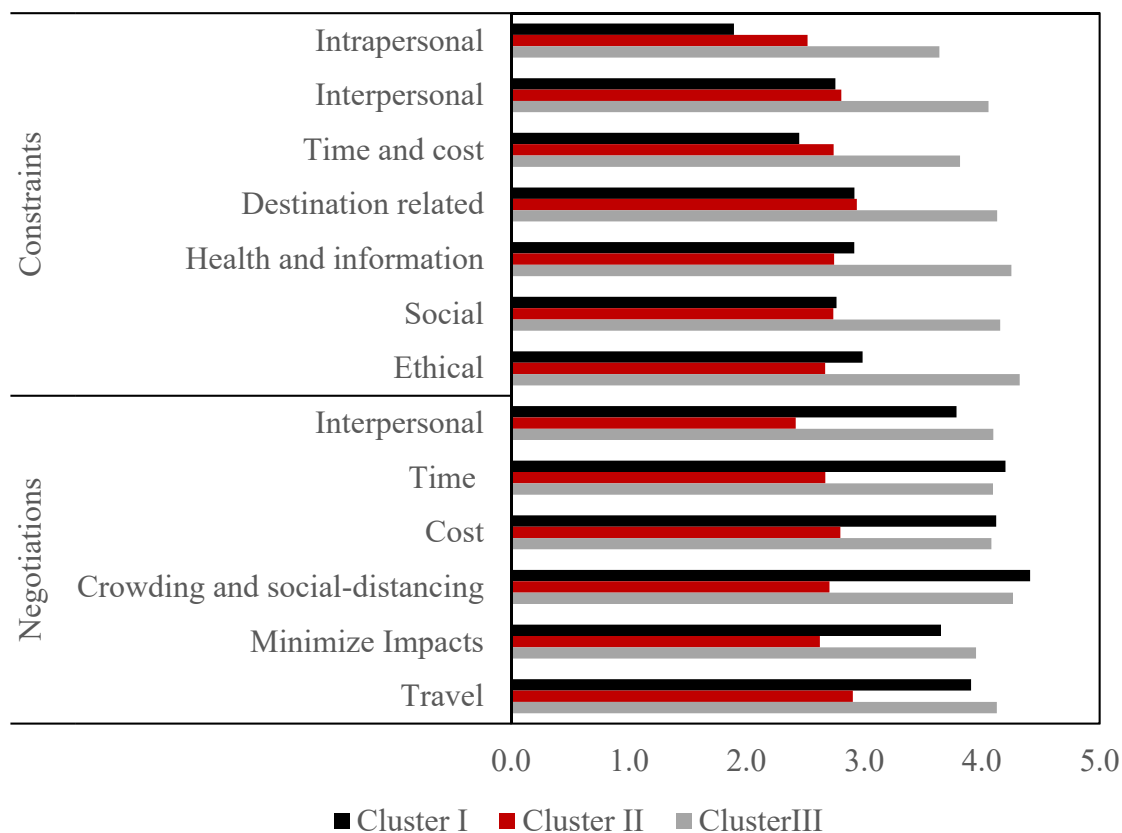
Notes: Bold is $p < 0.001$, *a,c is $p < 0.05$ for Welch's t-tests for mean difference with other clusters (a is All-but personally constrained, c is Overall constrained)

The median value of a 5-point Likert scale is 2.5, which suggests that mean scores above 2.5 represent significant constraint and negotiation items. Table 3.3 and Figure 3.1 display cluster-mean scores for each constraint and negotiation factor. The first cluster can be called all-but personally constrained due to the lower mean values pertaining to personal constraints, moderate mean values for COVID-19 perceptions, time and cost, and destination related constraints, and higher mean values for planning and crowding and social distancing than Cluster III and for all negotiation factors than Cluster II. The second cluster includes tourists who reported higher values for personal, time and cost, and destination related constraints than Cluster I but lower values for the same factors

than Cluster III. They perceived health and information, social, and ethical constraints lower than Cluster I. However, this group of tourists was reluctant to apply negotiation strategies, displayed by significantly lower mean values for all negotiation factors than the Cluster I and Cluster III tourists (from series of Welch's t-tests). Hence, they are described here as moderately constrained. The third cluster formed consisted of outdoor recreation tourists' who scored high on all the constraints and could negotiate through the constraints significantly greater than Cluster II (for all negotiations), and Cluster I (in inter-personal, minimize impacts, and travel) and hence can be called overall constrained.

Figure 3.1

Mean values of constraints and negotiations for the three clusters



3.4.3 Socio-demographics

Table 3.4 shows the results of cross-tabulations and chi-square tests for the three clusters considering socio-demographic attributes. Previous studies have illuminated differences pertaining to age, gender, income, and education level in describing segments (Ekinci & Chen, 2002; Lima et al., 2012; Konu et al., 2011, Priporas et al., 2015). We found that all-but personally constrained included more people of older age (55-64 and 65+) whereas the proportion of 35-44 age group was predominant in overall constrained segment implying that these people are more efficient in negotiation as they belong to higher risks associated with COVID-19, and perceive the higher amount of risks. The young population, on the other hand, were mostly moderately constrained, and weak negotiators (and mostly in moderately constrained segment). Similarly, women were more likely to belong to all-but personally constrained group. The underlying reason behind this could be that women are generally found to avoid high-risk situations, and hence apply more negotiation strategies than men when planning or participating in outdoor recreation trips (Konu et al., 2011). Additionally, high-income people, those who are full-time employees, and those with greater household size are found to be members of the overall constrained group. These populations represent individuals who are more conscious of COVID-19 impacts (hence experience all the constraints higher than other segments), and are keener on negotiating the constraints when planning or participating in outdoor recreation trips. Further, the moderately constrained group is composed of more tourists with disabilities (i.e., any kind of disability that hinders the ability to move, pregnancy or recent birth, infant younger than 5 years, adult older than 65 years, any kind of respiratory or heart diseases) which explains the relatively moderate amount of

perceived constraints and inability to negotiate through those constraints than other segments. The effect of COVID-19 in the social circle is influential, evidenced by people with more household members composing the overall constrained group. Traveling to outdoor recreation spots could not only transmit the disease to visitors but affect other people in their family as well, in long term. Cautioned by this, people could take efforts to minimize the impact of constraints, i.e. strong negotiators. Finally, the chi-square results confirm that the perception of constraints did not vary spatially across the three segments, illustrating that these perceptions are mostly influenced by individual and social psychology rather than the COVID-19 spread or government regulations at the origin.

3.4.4 Outdoor recreation frequency and latent demand

Through the perspective of outdoor recreation participation (see Table 3.4), overall constrained were found to be most frequent recreationists indicated by their higher propensity to undertake more recreation trips (in 2019), during the year 2020 (From January-September, 2020) and during March-September, 2020, followed by all-but personally constrained. A chi-square test on latent demand revealed that overall constrained tourists had greater interests in outdoor recreation participation in the year 2020 and in the next twelve months, followed by overall constrained and lastly moderately constrained.

Table 3.4*Differences between outdoor recreation tourists' segments*

	All-but personally constrained (n = 338)	Moderately constrained (n = 289)	Overall constrained (n = 376)	p-value, chi- square test
Socio-demographics				
Frequency (%)				
Age				
18-24	32 (9.47)	36 (12.46)	35 (9.31)	$\chi^2(10) =$ 37.798, p < 0.001
25-34	71 (21.01)	76 (26.3)	76 (20.21)	
35-44	64 (18.93)	57 (19.72)	114 (30.32)	
45-54	26 (7.69)	18 (6.23)	47 (12.5)	
55-64	70 (20.71)	45 (15.57)	46 (12.23)	
65+	75 (22.19)	57 (19.72)	58 (15.43)	
Gender				
Female	188 (55.62)	129 (44.64)	174 (46.28)	$\chi^2(2) =$ 9.669, p = 0.008
Male	147 (43.49)	158 (54.67)	201 (53.46)	
Education				
No college degree	99 (29.29)	89 (30.8)	89 (23.67)	$\chi^2(6) =$ 35.082, p < 0.001
Below Undergrad	111 (32.84)	98 (33.91)	88 (23.4)	
Undergraduate	67 (19.82)	53 (18.34)	76 (20.21)	
Graduate	61 (18.05)	49 (16.96)	123 (32.71)	
Household Size				
1 (just me)	39 (11.54)	54 (18.69)	39 (10.37)	$\chi^2(8) =$ 57.575, p < 0.001
2	126 (37.28)	99 (34.26)	87 (23.14)	
3	64 (18.93)	54 (18.69)	75 (19.95)	
4	55 (16.27)	51 (17.65)	130 (34.57)	
5+	54 (15.98)	31 (10.73)	45 (11.97)	
Household Income				
\$0-25k	49 (14.5)	51 (17.65)	59 (15.69)	$\chi^2(10) =$ 20.688, p = 0.023
\$25-50k	62 (18.34)	67 (23.18)	72 (19.15)	
\$50-75k	78 (23.08)	61 (21.11)	64 (17.02)	
\$75-100k	57 (16.86)	36 (12.46)	55 (14.63)	
\$100-150k	47 (13.91)	45 (15.57)	60 (15.96)	
\$150k+	39 (11.54)	23 (7.96)	65 (17.29)	
Prefer not to answer	6 (1.78)	6 (2.08)	1 (0.27)	
Employment				
Unemployed	63 (18.64)	48 (16.61)	51 (13.56)	$\chi^2(6) =$ 24.863, p < 0.001
Employed, full time	144 (42.6)	131 (45.33)	219 (58.24)	
Employed, part time	47 (13.91)	48 (16.61)	53 (14.1)	
Retired	84 (24.85)	62 (21.45)	53 (14.1)	
Disability				

Yes	159 (47.04)	168 (58.13)	204 (54.26)	$\chi^2(2) = 8.108,$ $p = 0.017$
No	179 (52.96)	121 (41.87)	172 (45.74)	
Region				
Midwest	78 (23.08)	61 (21.11)	60 (15.96)	$\chi^2(6) = 9.726,$ $p = 0.137$
Northeast	61 (18.05)	56 (19.38)	86 (22.87)	
South	142 (42.01)	109 (37.72)	158 (42.02)	
West	57 (16.86)	62 (21.45)	72 (19.15)	
# outdoor recreation trips in 2019 (last year)				
1	81 (23.96)	93 (32.18)	92 (24.47)	$\chi^2(10) = 36.61,$ $p < 0.001$
2	71 (21.01)	50 (17.3)	43 (11.44)	
3	53 (15.68)	57 (19.72)	73 (19.41)	
4	49 (14.5)	42 (14.53)	47 (12.5)	
5	36 (10.65)	14 (4.84)	54 (14.36)	
6	48 (14.2)	33 (11.42)	67 (17.82)	
# outdoor recreation trips in 2020				
1	160 (47.34)	125 (43.25)	148 (39.36)	$\chi^2(10) = 50.91,$ $p < 0.001$
2	74 (21.89)	39 (13.49)	56 (14.89)	
3	46 (13.61)	42 (14.53)	45 (11.97)	
4	19 (5.62)	39 (13.49)	25 (6.65)	
5	19 (5.62)	24 (8.3)	54 (14.36)	
6	20 (5.92)	20 (6.92)	48 (12.77)	
#outdoor recreation trips during March-Sep 2020				
0	214 (63.31)	157 (54.33)	195 (51.86)	$\chi^2(10) = 59.84,$ $p < 0.001$
1	66 (19.53)	48 (16.61)	44 (11.7)	
2	26 (7.69)	35 (12.11)	38 (10.11)	
3	11 (3.25)	29 (10.03)	32 (8.51)	
4	10 (2.96)	7 (2.42)	43 (11.44)	
5+	11 (3.25)	13 (4.5)	24 (6.38)	
Latent Demand # potential outdoor recreation trips in 2020 (if no COVID-19)				
0	53 (15.68)	83 (28.72)	75 (19.95)	$\chi^2(10) = 32.76,$ $p < 0.001$
1	53 (15.68)	50 (17.3)	63 (16.76)	
2	61 (18.05)	63 (21.8)	73 (19.41)	
3	60 (17.75)	33 (11.42)	48 (12.77)	
4	42 (12.43)	21 (7.27)	57 (15.16)	
5+	69 (20.41)	39 (13.49)	60 (15.96)	

# outdoor recreation trips in next 12 months (without COVID-19)				
0	47 (13.91)	67 (23.18)	64 (17.02)	$\chi^2(10) = 26.76,$ $p = 0.003$
1	50 (14.79)	52 (17.99)	59 (15.69)	
2	71 (21.01)	59 (20.42)	77 (20.48)	
3	56 (16.57)	51 (17.65)	54 (14.36)	
4	39 (11.54)	21 (7.27)	59 (15.69)	
5+	75 (22.19)	39 (13.49)	63 (16.76)	

3.4.5 Motivations and intentions

Motivation is critical in the leisure-negotiation process due to the moderating effect of motivation in the relationship between constraints and participation (Son et al., 2008). Results of ANOVA tests in Table 3.4 suggest that all-but personally constrained and overall constrained both have stronger motivations for outdoor recreation participation than moderately constrained. However, results from Welch's two sample t-tests indicate that all but personally constrained tourists were more likely to be motivated by a desire to experience nature and relive normalcy, whereas overall constrained tourists were motivated by escape from home and psychological stresses due to COVID-19. The effect of constraints, negotiations, and motivations on participation has been widely discussed in past studies. As such, intentions (which is the proximal antecedent to actual behavior) to participate in outdoor recreation trips was found to be significantly higher

for overall constrained followed by all-but personally constrained and lowest for moderately constrained.

Table 3.5

Motivation and intentions of visitor segments

	All-but personally constrained (n = 338)	Moderately constrained (n = 289)	Overall constrained (n = 376)	F-value	p-value, ANOVA
Motivations					
Family	4.370	3.860* ^{ab, bc}	4.360	0.022	0.883
Escape	4.120	3.720* ^{ab, bc}	4.202	2.134	0.144
Nature and peace	4.480	3.874	4.369	2.937	0.080
Fitness	4.217* ^c	3.648* ^{ab, bc}	4.180	0.115	0.735
Intentions	3.202	2.725	3.584	30.6	0.000

*Bold~ $p < 0.000$ from ANOVA test, *a,c $\rightarrow p < 0.000$ for Welch two sample t-tests for mean difference with other clusters (a \rightarrow All-but personally constrained, c \rightarrow Overall constrained)

3.5 Discussion and conclusions

By segmenting tourists on the basis of the magnitude of constraints experienced and the frequency of negotiation strategies applied, this study adds to the ongoing discussion around COVID-19 impacts on tourist behavior (Zenker & Kock, 2020). The data collected was cross-sectional and during the months of September-October, 2020 in the U.S. Similarly, COVID-19 vaccines had not yet been approved and were unavailable to travelers. As such, the study characterizes tourists' perceptions that fall in the timeline between the emergence of the pandemic and before widespread vaccination. Specifically, the results of this study aid in identifying target groups who are more likely to shape the tourism demand and are more relevant in the tourism recovery amidst the pandemic

threat during that timeline (Hajibaba et al., 2015). In the following paragraphs, we highlight and interpret our study's key findings.

First, factor analysis results revealed multiple dimensions of constraints and negotiations. Some constraints such as time and cost to reach the destination are universal, whereas COVID-19 generated other constraints related to health, hygiene, lack of information, inadequate opportunities for socialization, ethical issues relevant to traveling, and services at the destination (such as the closure of facilities). The heterogeneity in perception of COVID-19 among an individual's social circle and increased fear of traveling further deterred tourists from outdoor recreation participation. However, as informed by social-cognitive theory and the leisure negotiation process, tourists alter their situational and environmental conditions instead of passively accepting unfavorable states, i.e., negotiation of constraints (Maddux, 1983; Jackson et al., 1993). In the face of novel constraints due to COVID-19 impacts, tourists emphasize adequate planning, minimize contact with people by avoiding crowding and through social distancing, try to minimize impacts on local communities, and modify their travel or visitation patterns by traveling to nearby destinations. The novelty of this research lies in exploring and validating new dimensions of constraints and negotiations during the pathogen threat. Different dimensions identified here align considerably with pathogen avoidance psychology, which is usually referred to as "prophylactic behaviors" (Prokosch et al., 2019). Prophylactic behaviors are activated when humans detect pathogen-relevant cues (such as interaction with strangers, sneezing/coughing, or crowding) in the environment. In the context of this study, tourists' preferences to travel with people with similar COVID perceptions, use of sanitizers, social-distancing, and

preference for wilderness areas (i.e., negotiations) can all be considered prophylactic behaviors trying to minimize COVID-19 threats.

According to the cluster analysis results, tourist segments were differentiated by the number of constraints perceived rather than a specific constraint per se, except for one segment which did not experience intrapersonal constraints (all but personally constrained). In other words, constraint segmentation research in the past has generally found some constraints to be critical to one group more than others (e.g., Konu et al., 2011; Priporas et al., 2015). However, the segments found in this study were mostly characterized by differences in the magnitude of perceived constraints, lower for all-but personally constrained and moderately constrained and higher for overall constrained. Further, the frequency of negotiation strategies was almost similar for two segments (all-but personally constrained and overall constrained), even when they experienced different levels of constraints. This provides further empirical support to the negotiation proposition developed by Jackson et al. (1993) which states that negotiation efforts can be triggered by encountering higher levels of constraints (for overall constrained), and that negotiation efforts can inhibit the negative effects of constraints (for all but personally constrained). Furthermore, a higher degree of motivation for overall constrained and all but personally constrained highlights the importance of motivation in the negotiation process and offers support to previous studies that found direct/indirect links between constraints, motivations, negotiations, and participation (Son et al., 2008; White, 2008; Hubbard & Mannell, 2001). Our findings also indicate that tourists who frequently participate in outdoor recreation are likely to be highly constrained but efficient in negotiation, which is in line with the findings of Kay and Jackson (1991) that

those who are more likely to experience the benefits of leisure are more sensitive to factors that deny them of leisure opportunities. Alternatively, it can also be argued that those who participated in outdoor recreation during COVID-19 developed strategies and identified resources to combat constraints to outdoor recreation participation (Son et al., 2008). Further, behavioral differences across groups such as differences in latent demand and future intentions is noteworthy. Greater intentions for overall constrained tourists reflect their awareness of the COVID-19 threat as well as their ability to cope with those constraints for a higher frequency of participation. Similarly, the higher latent demand for overall constrained and all-but personally constrained highlights the greater interests for outdoor recreation participation among these groups.

This study includes a representative sample of the U.S. population in exploring the socio-demographic differences pertaining to different tourism segments, compared to past studies which are confined to a particular area or definite population (e.g., Alexandris et al., 2009; Konu et al. 2011). In this sense, the implications can be more generalized than other studies. A higher composition of older adults among overall constrained and all-but personally constrained tourists implies that irrespective of the amount of constraints perceived, they are willing to increase their negotiation efforts to prevent COVID-19 transmissions when participating in outdoor recreation. Older adults pass through various lifecycle stages where they cope with a number of experiences of negative events and stresses, which could allow them to cultivate strategies required for the successful negotiation of events such as a pathogen threat (Hubbard & Mannell, 2001; Son et al., 2008). Similarly, this finding also compliments well the risk literature that illustrates the higher risk perceptions for younger populations during events of pathogen

threat or natural disasters (Park & Reisinger, 2010; Cui et al., 2016). Educated people, those with higher household income, and people with a permanent job perceived higher levels of constraints and greater negotiation efforts, which may be related to a greater level of information acquisition, stronger amounts of risk perceived (Cui et al., 2016), and increased cognitive abilities to counter such risks.

Our study provides several managerial implications. The results indicate that most people (around 70% belonging to Clusters I and III) have greater intentions and higher interests (latent demand) to travel on outdoor recreation trips during the pandemic. Destination managers are hence urged to develop strategies to maintain this intention and interest of these different segments and turn them into actual visits (Vassiladis et al., 2018). In particular, assisting outdoor recreationists to overcome or negotiate more effectively with constraints could encourage tourists' visitation, loyalty towards the destination, and length of stay at the destination. First, a lack of COVID-19 related information and services offered by the destination (higher loadings; see Table 3.2) was found to be a major barrier, which calls for destination managers to adequately maintain their websites, increase connection with the potential visitors, and provide additional amenities for information (such as reviews of people who went to visit the destination) (Baloglu, 2000; Lo et al., 2011; Humagain & Singleton, 2021). The effects of crowding can be inhibited by maintaining proper social-distancing, setting limited attendance on vulnerable areas, and advertising lower contact activities like backpacking trips and hiking trails. Since individuals are aware of impacts on local communities, the situation of pathogen threat calls for more collective action of local communities in providing a welcoming environment for incoming tourists (Zenker & Kock, 2020). Other COVID-19

management strategies such as adequate signage, provision of touchless hand sanitizers, well-ventilated and clean restrooms, employees with personal protective equipment, etc. might increase people's confidence in making outdoor trips to the destination.

As tourism demand drops significantly after events of pathogen threats and natural disasters, it is critical for managers to exploit segments of the population with higher interests and motives for outdoor recreation participation. As such, targeting the moderately constrained tourists should be a lower priority, as they represent a small segment (28%) and are less frequent and more disinterested visitors. In contrast, the tourist segments comprised of overall constrained and all-but personally constrained must be a top priority, as they represent frequent and interested visitors with greater intentions for outdoor recreation participation. In other words, advertising strategies could be directed towards middle-aged people (35-54 years), people with higher household incomes, full time-employees, and large households.

3.6 Limitations and recommendations for future research

The main limitation of the study is the focus on domestic outdoor recreation trips and a more general definition of outdoor recreation trips. Since constraints and negotiations can be specific for particular leisure activity and preference (Hung & Petrick, 2010; Godbey et al., 2010), the segmentation in this study should be viewed with caution, and work is needed to extend it to other activity types. The other limitation of this study is a lack of cross-national generalizability, considering that the segmentation was performed on a representative sample of U.S. tourists. Hofstede and Hofstede (2006) suggest that tourists from low Uncertainty Avoidance (UAI) cultures tend to perceive

higher risks of infectious diseases and pathogen threats. Other risk perception studies indicate that Asian tourists perceive higher travel risks than Americans or Europeans (westerners) (Kozak et al., 2007; Park & Yeisinger, 2010). Hence, it provides a promising field for future research to compare and contrast the nature of segments of the population across different geographies (Humagain & Singleton, 2021).

Another limitation of the study is concerned with the timeline of this study. This study was conducted during the early fall of 2020 when vaccines were unavailable and people were not fully experienced or equipped with ways of dealing with the COVID-19 threat during outdoor recreation participation. Hence, the segments found in this study refer to the sub-group of population during the first six months of the pandemic's emergence. As tourists' perceptions could change over time, especially after the availability of vaccines (because of their increased ability to negotiate COVID-19 transmission and ethical dilemmas), there is the possibility of diversification of people in different segments. Hence, this calls for a longitudinal study to track segments during different periods of pathogen threat: the first three months, the stability period (adequate information about COVID-19), the period after the availability of vaccines, and the period after an adequate distribution of vaccines. Understanding the dynamic shift of tourist segments would offer better insights into tourists' behaviors and would assist destination managers to tailor different action plans in different time periods.

References

- Alexandris, K., Kouthouris, C., Funk, D., & Tziouma, O. (2013). The use of negotiation strategies among recreational participants with different involvement levels: The case of recreational swimmers. *Leisure Studies*, 32(3), 299–317.
<https://doi.org/10.1080/02614367.2012.660189>
- Alexandris, K., Kouthouris, C., Funk, D., & Giovani, C. (2009). Segmenting winter sport tourists by motivation: The case of recreational skiers. *Journal of Hospitality Marketing & Management*, 18(5), 480-499.
- Baloglu, S. (2000). A Path Analytic Model of Visitation Intention Involving Information Sources, Socio-Psychological Motivations, and Destination Image. *Journal of Travel & Tourism Marketing*, 8(3), 81–90. https://doi.org/10.1300/J073v08n03_05
- Brent R., John R., & Geoffrey Ian Crouch. (2003). *The Competitive Destination: A Sustainable Tourism Perspective*. Cambridge, UK: CABI.
- Chien, P. M., & Ritchie, B. W. (2018). Understanding intergroup conflicts in tourism. *Annals of Tourism Research*, 72, 177–179.
<https://doi.org/10.1016/j.annals.2018.03.004>
- Cho, M., Bonn, M. A., & Brymer, R. A. (2017). A constraint-based approach to wine tourism market segmentation. *Journal of Hospitality & Tourism Research*, 41(4), 415-444.
- Choi, H. S. C., Murray, I., & Kwan, K. (2011). Activity-Based Segmentation of Canadian Domestic Pleasure Travelers to New Brunswick. *International Journal of Hospitality & Tourism Administration*, 12(3), 202–224.
<https://doi.org/10.1080/15256480.2011.590736>

- Clawson, D., & Knetsch, J. L. (1966). *Economics of outdoor recreation*. Baltimore: The John Hopkins Press
- Crawford, D. W., & Godbey, G. (1987). Reconceptualizing barriers to family leisure. *Leisure Sciences*, 9, 119-127. Crawford, D. W., Jackson, E. L., & Godbey, G. (1991). A hierarchical model of leisure constraints. *Leisure Sciences*, 13, 309-320
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16(3), 297-334.
- Cui, F., Liu, Y., Chang, Y., Duan, J., & Li, J. (2016). An overview of tourism risk perception. *Natural Hazards*, 82(1), 643-658.
- Dolnicar, S., Grabler, K., & Mazanec, J. A. (1999). Analyzing destination images: a perceptual charting approach. *Journal of Travel & Tourism Marketing*, 8(4), 43e45.
- Dolnicar, S., & Leisch, F. (2003). Data-driven market segmentation-a structure-based conceptual framework for management decision support.
<https://ro.uow.edu.au/commpapers/319>
- Dolnicar, S., Kaiser, S., Lazarevski, K., & Leisch, F. (2012). Biclustering: Overcoming Data Dimensionality Problems in Market Segmentation. *Journal of Travel Research*, 51(1), 41–49. <https://doi.org/10.1177/0047287510394192>
- Dolnicar, S., Grün, B., & Yanamandram, V. (2013). Dynamic, interactive survey questions can increase survey data quality. *Journal of Travel & Tourism Marketing*, 30(7), 690-699.
- Farmaki, A., Khalilzadeh, J., & Altinay, L. (2019). Travel motivation and demotivation within politically unstable nations. *Tourism Management Perspectives*, 29, 118–130.
<https://doi.org/10.1016/j.tmp.2018.11.004>

- Formica, S. and Uysal, M. 1996. A market segmentation of festival visitors: Umbria Jazz Festival in Italy. *Festival Management & Event Tourism*, 3: 175–182
- Godbey, G., Crawford, D. W., & Shen, X. S. (2010). Assessing Hierarchical Leisure Constraints Theory after Two Decades. *Journal of Leisure Research*, 42(1), 111–134. <https://doi.org/10.1080/00222216.2010.11950197>
- Gonzalez, Ana M., & Laurentino B. (2002). “The Construct ‘Lifestyle’ in Market Segmentation: The Behaviour of Tourist Consumers.” *European Journal of Marketing*, 36,(1/2): 51-85.
- Gössling, S., Scott, D., & Hall, C. M. (2020). Pandemics, tourism and global change: A rapid assessment of COVID-19. *Journal of Sustainable Tourism*, 1–20. <https://doi.org/10.1080/09669582.2020.1758708>
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis* (5th ed.). Upper Saddle River, New Jersey: Prentice Hall.
- Hennessey, S., Yun, D., & Macdonald, R. (2012). Segmenting the market of first-time visitors to an island destination. *International Journal of Culture, Tourism and Hospitality Research*. <https://doi.org/10.1108/17506181211233081>
- Hofstede, G. and Hofstede, G. (2005) *Cultures and Organizations; Software of the Mind*, 2nd edn (New York: McGraw-Hill).
- Hubbard, J., & Mannell, R. C. (2001). Testing Competing Models of the Leisure Constraint Negotiation Process in a Corporate Employee Recreation Setting. *Leisure Sciences*, 23(3), 145–163. <https://doi.org/10.1080/014904001316896846>
- Hung, K., & Petrick, J. F. (2010). Developing a measurement scale for constraints to cruising. *Annals of Tourism Research*, 37(1), 206-228.

- Hudson, S. (2000). The Segmentation of Potential Tourists: Constraint Differences between Men and Women. *Journal of Travel Research*, 38(4), 363–368.
<https://doi.org/10.1177/004728750003800404>
- Humagain, P., & Singleton, P. A. (2021). Exploring tourists' motivations, constraints, and negotiations regarding outdoor recreation trips during COVID-19 through a focus group study. *Journal of Outdoor Recreation and Tourism*, 36, 100447.
<https://doi.org/10.1016/j.jort.2021.100447>
- Jackson, E. L., Crawford, D. W., & Godbey, G. (1993). Negotiation of leisure constraints. *Leisure Sciences*, 15(1), 1–11.
<https://doi.org/10.1080/01490409309513182>
- Jang, S. C., Morrison, A. M., & O'Leary, J. T. (2002). Benefit segmentation of Japanese pleasure travelers to the USA and Canada: selecting target markets based on the profitability and risk of individual market segments. *Tourism Management*, 23(4), 367-378.
- Jiacheng, C. (2003) Pay attention to the influences of SARS on the psychological changes of tourists. *China Tourism News*.
- Kassambara, A. (2017). *Practical guide to cluster analysis in R: Unsupervised machine learning* (Vol. 1). Sthda.
- Kay, T., & Jackson, G. (1991). Leisure despite constraint: The impact of leisure constraints on leisure participation. *Journal of leisure research*, 23(4), 301-313.
- Kock, F., Nørfelt, A., Josiassen, A., Assaf, A. G., & Tsionas, M. G. (2020). Understanding the COVID-19 tourist psyche: The Evolutionary Tourism Paradigm.

Annals of Tourism Research, 85, 103053.

<https://doi.org/10.1016/j.annals.2020.103053>

- Kuo, R. J., Akbaria, K., & Subroto, B. (2012). Application of particle swarm optimization and perceptual map to tourist market segmentation. *Expert Systems with Applications*, 39(10), 8726-8735. <https://doi.org/10.1016/j.eswa.2012.01.208>
- Konu, H., Laukkanen, T., & Komppula, R. (2011). Using ski destination choice criteria to segment Finnish ski resort customers. *Tourism Management*, 32(5), 1096–1105.
- Kozak, M., Crotts, J. C., & Law, R. (2007). The impact of the perception of risk on international travellers. *International Journal of Tourism Research*, 9(4), 233-242. <https://doi.org/10.1002/jtr.607>
- Lo*, A., & Lam, T. (2004). Long-haul and short-haul outbound all-inclusive package tours. *Asia Pacific Journal of Tourism Research*, 9(2), 161-176.
- Lo, A. S., Cheung, C., & Law, R. (2011). Hong Kong Residents' Adoption of Risk Reduction Strategies in Leisure Travel. *Journal of Travel & Tourism Marketing*, 28(3), 240–260. <https://doi.org/10.1080/10548408.2011.562851>
- Lyu, S. O., & Lee, H. (2016). Latent demand for recreation participation and leisure constraints negotiation process: Evidence from Korean people with disabilities. *Journal of Leisure Research*, 48(5), 431-449.
- Maddux, James E. "Social cognitive models of health and exercise behavior: An introduction and review of conceptual issues." *Journal of Applied Sport Psychology* 5.2 (1993): 116-140.

- Manfredo, M. J., Driver, B. L., & Tarrant, M. A. (1996). Measuring Leisure Motivation: A Meta-Analysis of the Recreation Experience Preference Scales. *Journal of Leisure Research*, 28(3), 188–213. <https://doi.org/10.1080/00222216.1996.11949770>
- McClellan, K., & Medrich, E. A. (1969). Outdoor recreation: Economic considerations for optimal site selection and development. *Land Economics*, 45, 174-182.
- Navarrete, C. D., & Fessler, D. M. T. (2006). Disease avoidance and ethnocentrism: The effects of disease vulnerability and disgust sensitivity on intergroup attitudes. *Evolution and Human Behavior*, 27(4), 270–282. <https://doi.org/10.1016/j.evolhumbehav.2005.12.001>
- Nyaupane, G. P., Morais, D. B., & Graefe, A. R. (2004). Nature Tourism Constraints. *Annals of Tourism Research*, 31(3), 540–555. <https://doi.org/10.1016/j.annals.2004.01.006>
- Nyaupane, G. P., White, D. D., & Budruk, M. (2006). Motive-based tourist market segmentation: An application to native American cultural heritage sites in Arizona, USA. *Journal of Heritage Tourism*, 1(2), 81-99. <https://doi.org/10.2167/jht010.0>
- Nyaupane, G. P., & Andereck, K. L. (2008). Understanding Travel Constraints: Application and Extension of a Leisure Constraints Model. *Journal of Travel Research*, 46(4), 433–439. <https://doi.org/10.1177/0047287507308325>
- Park, D.-B., & Yoon, Y.-S. (2009). Segmentation by motivation in rural tourism: a Korean case study. *Tourism Management*, 30(1), 99e108.
- Park, K., & Reisinger, Y. (2010). Differences in the perceived influence of natural disasters and travel risk on international travel. *Tourism Geographies*, 12(1), 1-24. <https://doi.org/10.1080/14616680903493621>

- Priporas, C.-V., Vassiliadis, C. A., Bellou, V., & Andronikidis, A. (2015). Exploring the Constraint Profile of Winter Sports Resort Tourist Segments. *Journal of Travel Research*, 54(5), 659–671. <https://doi.org/10.1177/0047287514528285>
- Prokosch, M. L., Gassen, J., Ackerman, J. M., & Hill, S. E. (2019). Caution in the time of cholera: Pathogen threats decrease risk tolerance. *Evolutionary Behavioral Sciences*, 13(4), 311.
- Raymore, L., Godbey, G., Crawford, D., & von Eye, A. (1993). Nature and process of leisure constraints: An empirical test. *Leisure Sciences*, 15(2), 99–113. <https://doi.org/10.1080/01490409309513191>
- Rodgers, B. (1973). The demand for recreation. *The Geographical Journal*, 139, 467-473
- Scott, D., & Mowen, A. J. (2010). Alleviating Park Visitation Constraints through Agency Facilitation Strategies. *Journal of Leisure Research*, 42(4), 535–550. <https://doi.org/10.1080/00222216.2010.11950217>
- Shamon, H., & Berning, C. C. (2020). Attention Check Items and Instructions in Online Surveys: Boon or Bane for Data Quality? *Survey Research Methods*, 55-77 Pages. <https://doi.org/10.18148/SRM/2020.V14I1.7374>
- Shrestha, S. K., & Burns, R. C. (2016). Integrating Constraints to the Theory of Planned Behavior in Predicting Deer Hunting Participation. *Human Dimensions of Wildlife*, 21(5), 445–459. <https://doi.org/10.1080/10871209.2016.1187779>
- Smith, W. R. (1956). Product differentiation and market segmentation as alternative marketing strategies. *Journal of marketing*, 21(1), 3-8. <https://doi.org/10.1177/002224295602100102>

- Sng, O., Neuberg, S. L., Varnum, M. E., & Kenrick, D. T. (2018). The behavioral ecology of cultural psychological variation. *Psychological review*, 125(5), 714. <https://doi.org/10.1037/rev0000104>
- Son, J. S., Mowen, A. J., & Kerstetter, D. L. (2008). Testing Alternative Leisure Constraint Negotiation Models: An Extension of Hubbard and Mannell's Study. *Leisure Sciences*, 30(3), 198–216. <https://doi.org/10.1080/01490400802017308>
- Tsiotsou, R. (2006). Using visit frequency to segment ski resorts customers. *Journal of Vacation Marketing*, 12(1), 15–26. <https://doi.org/10.1177/1356766706059029>
- UNWTO (2019). Product Development. <https://www.unwto.org/tourism-development-products>
- Vassiliadis, C. A., Bellou, V., Priporas, C.-V., & Andronikidis, A. (2018). Exploring the Negotiation Thesis Application Among Ski Resort Tourists: A Segmentation Approach. *Journal of Hospitality & Tourism Research*, 42(5), 716–739. <https://doi.org/10.1177/1096348015597030>
- Wall, G. (1981). Research in Canadian recreational planning and management. In B. Mitchell and W. R. D. Sewell (Eds.), *Canadian resource policies: Problems and prospects* (pp. 233-261). Toronto: Methuen Publications
- Wang, I. M., & Ackerman, J. M. (2019). The Infectiousness of Crowds: Crowding Experiences Are Amplified by Pathogen Threats. *Personality and Social Psychology Bulletin*, 45(1), 120–132. <https://doi.org/10.1177/0146167218780735>
- Wedel, M., & Kamakura, W. A. (2000). *Market segmentation: Conceptual and methodological foundations*. Springer Science & Business Media.

- Wen, Z., Huimin, G., & Kavanaugh, R. R. (2005). The Impacts of SARS on the Consumer Behaviour of Chinese Domestic Tourists. *Current Issues in Tourism*, 8(1), 22–38. <https://doi.org/10.1080/13683500508668203>
- White, D. D. (2008). A Structural Model of Leisure Constraints Negotiation in Outdoor Recreation. *Leisure Sciences*, 30(4), 342–359. <https://doi.org/10.1080/01490400802165131>
- Wilder-Smith, A., & Freedman, D. O. (2020). Isolation, quarantine, social distancing and community containment: pivotal role for old-style public health measures in the novel coronavirus (2019-nCoV) outbreak. *Journal of travel medicine*, 27(2). <https://doi.org/10.1093/jtm/taaa020>
- Zenker, S. & Kock, F. (2020). The coronavirus pandemic – A critical discussion of a tourism research agenda. *Tourism Management*, 4. <https://doi.org/10.1016/j.tourman.2020.104164>
- Zografos, C., & Allcroft, D. (2007). The environmental values of potential ecotourists: A segmentation study. *Journal of Sustainable Tourism*, 15(1), 44-66. <https://doi.org/10.1016/j.tourman.2010.09.010>

Chapter 4

Extending the model of goal directed behavior to understand outdoor recreation intentions during COVID 19: the role of constraints, negotiations, motivations and information search.

Abstract

This study presents a conceptual model incorporating the effects of perceived constraints, negotiations, information search behavior, and psychological motives into the model of goal directed behavior (MGD), to understand tourists' future intentions for participation in multi-day outdoor domestic recreation trips in the aftermath of COVID-19. Data from 1,003 responses—collected via a Qualtrics online panel—was then used to validate the conceptual model. The resulting complex model was analyzed using the partial least squares structural equation modeling (PLS-SEM) approach. Results of the structural model displayed the differentiated effects of constraints, negotiations, motivations, negotiations, and information search behavior on MGD variables and tourists' intentions. Ethical and personal constraints negatively influenced attitudes, personal behavioral control and intentions, whereas negotiations and motivations also had significant associations with attitudes, and intentions. Additionally, tourists' information search behavior was linked with increased efforts of negotiation and positive intentions. Finally, theoretical and management implications of the study are discussed, including limitations of the study and recommendations for future research.

Keywords: COVID-19, model of goal-directed behavior, outdoor recreation, tourism, constraints, negotiations, motivations

4.1 Introduction

The tourism industry is very sensitive to natural disasters (Park & Reisinger, 2010), pathogen threats (Cahyanto et al., 2016; Lee et al., 2012), health and safety problems, political turmoil (Floyd et al., 2004), and economic crises. Although the tourism industry has dealt with events of pathogen threat in the past (like Ebola, SARS, H1N1), the effects of the most recent coronavirus (COVID-19) pandemic are quite novel because of the nature of transmission of the virus (through human contact) (Wilder-Smith & Freedman, 2020), the rate of fatalities, and the use of government-instigated non-pharmaceutical interventions (such as lockdowns and bans on social gatherings). As such, increased feelings of fear and risks involved in traveling initiated a rapid decline in domestic travel in the US. To facilitate the tourism industry's revival and predict tourists' decision-making in this new tourism environment, it is important to understand tourists' behaviors, specifically their intentions to travel in the current environment with the transmission risk of COVID-19 (Wen et al., 2020; Zenker & Kock, 2020).

A tourist's decision-making process is complex in nature (Chiu & Cho, 2012) and driven by an individual's psychology, health, relationships, lifestyle, personality, social perceptions, and social responsibilities. Explicit understanding of tourists' behaviors requires conceptualization from various aspects of geography, sociology, anthropology, and economics. Hence, a prominent rise of socio-psychological theories such as the theory of planned behavior (TBP) (Ajzen, 1991), and the model of goal directed behavior (MGD) (Perugini & Bagozzi, 2001) is observed in tourism research. These models can comprehensively capture psychological components such as attitudes, emotions, beliefs, social elements (subjective norms), and habitual behavior (recency and past

participation), all of which are relevant to the tourism experiences. An advantage of applying socio-psychological models is the opportunity of improving/extending the model through the use of predictors that can capture a significant proportion of variance in the endogenous constructs or the outcome variable (such as intention) (Ajzen, 1991; Chiu & Cho, 2021); this is referred to as theory broadening and deepening (Perrugini & Bagozzi, 2001). Hence, MGD (and TPB) have also been successfully applied in the post-COVID-19 (or post-disaster) context to investigate tourists' future behaviors and intentions.

The recent COVID-19 research investigating future tourists' intentions (and psychology) using TPB and MGD are centered around four main areas:

- i. Identifying types of risks perceived by tourists due to COVID-19 (Bae & Chang, 2020; Peric et al., 2021; Sánchez-Cañizares et al., 2021; Zhu & Deng, 2020);
- ii. The effects of perceptions attributed to COVID-19, including anxiety and fear (Das & Tiwari, 2020; Lui et al., 2021; Luo & Lam, 2020; Kement et al., 2020; Rather, 2021);
- iii. Perceptions of and willingness to use non-pharmaceutical interventions (NPI's) (Bhati et al., 2020; Das & Tiwari, 2020; Lui et al., Kement et al., 2020; Xu et al., 2021); and
- iv. The influence of mass-media and destination image (Qiao et al., 2021).

While risk perception, the use of NPI's, and information/knowledge about COVID-19 certainly play a role in tourists' intentions to travel outdoors, these are just a few

components among a large facet of attributes that tourists consider when planning or deciding on an outdoor recreation trip during the pandemic. The recent tourism literature has overlooked several other determinants of tourists' intentions, mainly time and costs to reach the destination (Nyaupane & Andereck, 2008), the ethical issues (Humagain & Singleton, 2021) related to traveling, social perceptions of COVID-19, the influence of government regulations (such as the closure of facilities), influences on local communities (tourists' ethnocentrism), etc. Hence, what is largely missing in the literature is the consideration of comprehensive determinants of tourists' decision-making processes, as well as the interaction between these determinants to influence tourist intentions.

In this study, we attempt to address this literature gap by integrating four critical decision-making variables—constraints, negotiations, motivations, and information search behaviors—in the original MGD model to better explain tourists' intentions to participate in outdoor recreation trips in the future, as measured during the early or first wave of the COVID-19 pandemic. We define an outdoor recreation trip as a “journey involving at least one overnight stay away from home, and where the purpose is to engage in recreational activities in an outdoor or natural environment.” This definition entails a more generalized approach to study tourists' outdoor recreation behaviors during the pandemic, instead of targeting a particular market segment or leisure activity (such as nature-based, skiing, or other outdoor sports). We assume that this approach would have implications in a variety of outdoor recreation activities (such as skiing, national parks, and other types of destinations), as activity participation entails interaction with the outdoor environments. This study considers psycho-social and destination-related factors

inhibiting tourists' outdoor recreation participation (constraints: personal, social, ethical, time and cost, etc.), tourists' efforts to cope with the constraints for successful participation (negotiations: NPIs, finding friends, etc.), and tourist's motives (motivations: escape from home, relaxation-seeking, etc.). In other words, we provide a holistic study framework to understand multi-dimensional elements affecting tourists' decision-making processes and future intentions for multiday outdoor domestic trips. By using survey items derived from focus group sessions (Humagain & Singleton, 2021) and previous studies, and collecting nationally-representative survey data, the conceptual model presented in this study is then analyzed using the partial least squares structural equation modeling (PLS-SEM) approach.

4.2 Literature review and hypotheses

The theoretical basis for an understanding of human behavior through intentions was first established by Fishbein and Ajzen (1975) as the theory of reasoned action (TRA), which conceptualized that a person's intention to engage in a particular behavior was determined by the person's attitude (an individual's evaluation of the behavior in question) and by the subjective norm (perceived social pressure to perform or not to perform the behavior) (Ajzen, 1991). The central part of this theory regards intentions (i.e. level of willingness or effort to perform a behavior) as the most proximal determinant of behavior. Ajzen (1991) extended this theory suggesting that behavior depends on a large extent by an individual's perceived ability to perform the behavior, referred to as perceived behavioral control (PBC). The theory incorporating antecedents of intentions as attitude, subjective norm, and perceived behavioral control was then called the theory of planned behavior (TPB). A plethora of studies in social science,

psychology, behavioral science as well as tourism applied TPB in exploring the determinants of human behavior in different settings. However, TPB has been criticized by researchers regarding sufficiency and utility, especially linked with an inability to account for the affective emotions (anticipated joy or satisfaction or stress while performing a behavior) (Perugini & Bagozzi, 2001; Esposito et al., 2016) and whether people want to perform a behavior (or it is merely an obligation) (Esposito et al., 2016). To overcome this limitation, a model of goal directed behavior (MGD) was proposed by Perugini and Bagozzi (2001), which included desires (how much people want to perform a behavior) as the most critical determinant of intentions, and further added anticipated emotions (positive and negative) as a predictor of desires. In short, desire was assumed to mediate the relationship between TPB variables, anticipated emotions, and intentions. The existing empirical findings across diverse domains offers much support for the use of MGD over TPB due to the greater amount of variance explained in intentions and behavior (Perugini & Bagozzi, 2001). Both MGD and TPB have been applied in tourism literature in understanding future intentions of tourists amidst disasters, risks, and pathogen threats. In this study, we develop an extension of MGD by integrating four critical decision-making variables—constraints, negotiations, motivations, and information search behavior—to better explain tourists' intentions to participate in outdoor recreation trips in the future, during the early or first wave of the COVID-19 pandemic.

4.2.1 Relationships between MGD variables

The extant tourism literature provides evidence of the relationships between attitudes, subjective norms, positive anticipated emotions (PAE), negative anticipated

emotions (NAE), and desires, as well as links between desires and intentions (Han & Ryu, 2012; Kim et al., 2016; Song et al., 2014; Lee et al., 2012, Chiu & Cho, 2021). Even in the context of COVID-19, MGD has been increasingly used to explain tourists' intentions, further validating the relationship between the MGD variables (e.g., Xu et al., 2021; Das & Tiwari, 2020; Qiao et al., 2021; Dai & Jie, 2020). In the current study, intention is referred to as an individual's willingness to perform outdoor recreation trips, considering the dynamic impacts of COVID-19. Building upon the findings, the following hypotheses are proposed:

- H1a: The more positive the attitude to participate in an outdoor recreation trip during the COVID-19 pandemic, the stronger the desire to perform outdoor recreation trips.
- H1b: The greater the positive influence of subjective norms on the decision to participate in an outdoor recreation trip during the COVID-19 pandemic, the stronger the individual's desires.
- H1c: The greater the individual's perceived behavioral control to participate in an outdoor recreation trip, the stronger his/her desires.
- H1d: The greater the individual's perceived positive anticipated emotions from an outdoor recreation trip during COVID-19, the stronger his/her desires.
- H1e: The more the individual's negative anticipated emotions from an outdoor recreation trip during COVID-19, the weaker his/her desires.
- H1f: The stronger the desire for outdoor recreation trips during COVID-19, the greater his/her intentions.

- H1g: The more frequent the participation in outdoor recreation trips in the past, the greater the desire for participating in outdoor recreation trips in the future.
- H1h: The more frequent the participation in outdoor recreation trips in the past, the greater the intentions for participating in outdoor recreation trips in the future.

4.2.2 Constraint-negotiation

Constraints are the amalgamation of a variety of factors that either lead to non-participation (especially during the COVID-19 pandemic, due to associated risks and fear) or lower the preferences for leisure participation or in some cases reduce the frequency of participation (Crawford & Godbey, 1987; Crawford et al., 1991). In the context of the constraint–intentions relationship, a considerable amount of past literature has suggested that the presence of constraints is negatively associated with intentions (Huang & Hsu, 2009; Lai et al., 2013). Current research during the pandemic has also shown that individuals’ perceptions of COVID-19 and perceived risks due to COVID-19 had negative influences on future intentions (Luo & Lam, 2020; Sanchez-Canizares et al., 2021; Peric et al., 2021). An individual’s psychological state, in response to the COVID-19 threat, can be regarded as one sub-dimension of constraints. Hence, we propose that:

- H2: Perceived constraints negatively influence the intention to participate in outdoor recreation trips in the future.

On the other hand, negotiations reflect an individual’s effort to cope with the constraints to leisure participation. As such, the ability to negotiate, irrespective of whether constraints are experienced or not, positively impacts intentions to pursue leisure activities (Hubbard & Mannell, 2001). During the COVID-19 pandemic, people apply

non-pharmaceutical interventions (such as the use of sanitizers and masks) and practice prophylactic behaviors (Prokosh et al., 2019) (such as social distancing) in order to avoid COVID-19 transmission. We propose that:

- H3: The higher the frequency of negotiation strategies, the greater the intention to participate in outdoor recreation trips in the future.

Constraints, negotiations, and MGD variables are analogous in light of their influences on the intentions and behaviors surrounding leisure participation (Alexandris & Stodolska, 2004). Constraints entail individuals' preferences, perceived social pressure, and impacts of situational/external factors on leisure participation, which are conceptually similar to the determinants of intentions (attitudes, subjective norms, and perceived behavioral control). The MGD variables have been found to mediate the influence of constraints and negotiations in intentions to participate in leisure activities (Shrestha et al., 2016; Alexandris & Stodolska, 2004; Moghimehfar et al., 2018). First, the literature indicates that people's subjective evaluation of behavior (attitude) is negatively associated with the difficulty to perform that behavior (i.e. the presence of constraints) (Ajzen, 2005; Kaiser & Schultz, 2009). Several tourism studies have informed that constraints had significant negative influences on attitudes towards participating in different leisure activities, such as deer hunting (Shrestha et al., 2016), sports participation (Alexandris & Stodolska, 2004), and engagement in pro-environmental behaviors (Moghimehfar et al., 2018). Second, the existence of perceived constraints diminishes an individual's perceived ability to engage in the behavior (Ajzen, 1985; Alexandrix & Stodolska, 2004; Shrestha et al., 2016; Moghimehfar et al., 2018). With respect to the COVID-19 threat, the perceived capacity to engage in outdoor

recreation trips could be further decreased due to presence of several constraints such as crowding, closure of facilities, and ethical responsibilities. Hence, we propose the following hypotheses:

- H4: Perceived constraints during COVID-19 negatively influence attitudes to participate in outdoor recreation trips.
- H5: Perceived constraints during COVID-19 significantly affect an individual's PBC to participate in outdoor recreation trips.

Contrary to constraints, negotiation strategies have been found to be positively related with attitudes and perceived behavioral control (Moghimefar et al., 2018). More specifically, having resources to combat the constraints (e.g., saving money or arranging a vacation, or finding people to participate in leisure activities with) increases the likelihood of positively evaluating the targeted behavior. Furthermore, negotiation efforts enhance the individual's perception of control over the behavior. Within the situation of pathogen threats, the ability to apply negotiation strategies such as deploying non-pharmaceutical interventions could lead to positive attitudes and increased perceived behavioral control for participation in outdoor recreation trips. Hence, the following hypotheses are presented:

- H6: The frequency of negotiation efforts positively influences attitudes to participate in outdoor recreation trips during COVID-19.
- H7: The frequency of negotiation efforts positively influences an individual's PBC for participating in outdoor recreation trips during COVID-19.

4.2.3 Motivation

Sources of tourist motivations can be dichotomized into two components: (1) intrinsic desires that comprise desires for escape, novelty seeking, adventure seeking, relaxation, health and fitness, and socialization (Manfredo et al., 1996; Lam & Hsu, 2006; Pearce, 2011); and (2) external factors that include the marketing image of the destination, natural attraction, and recreation facilities around the specific destination, etc. (Uysal & Hagan, 1993; Manfredo et al., 2006). Pearce (2011) revealed that achieving novelty (fun, difference), escape/relaxation (away from routine resting), and bonding with family/friends (relationships) were the three core motives for participation in recreational activities. The focus on intrinsic desires in decrypting travel motivations suggests that motivations differ based on a tourist's personality (Madrigal, 1995), psychographic features (Pearce, 1993), and social/cultural forces (Huang & Hsu, 2005). Although differences at the personal level account for types of motives that people look to fulfill by performing a behavior, aggregation of motivational factors could influence the level of willingness or efforts it takes to execute the behavior, i.e. intentions (Hsu & Huang, 2012). Indeed, research in the tourism literature provides ample empirical evidence of a significant and positive relationship between motivations and intentions (Hsu & Huang, 2012; Su et al. 2020; Baloglu, 1999; Murshid, 2017). Due to COVID-19, tourists could be motivated to travel outdoors for relieving normalcy, achieving novelty (to be away from home in the natural environment), getting away from crowds (in a secluded outdoor environment), etc. Hence, we propose that:

- H8: Motivations for outdoor recreation trips positively influences tourists' intentions to participate in outdoor recreation trips.

In the current study, attitudes reflect feelings or predispositions towards outdoor recreation trips during the COVID-19-influenced tourism environment. Katz (1960) suggests that motivations play a vital role in the formation and change of attitudes. The belief that a targeted behavior will enable the individual to achieve certain outcomes (referred to as behavioral belief) results in a positive evaluation of the behavior (Hsu & Huang, 2012). As travel motivation comprises such needs, it is reasonable to argue that travel motivations have a direct relationship with the formation of attitudes. Among few studies that relate motivations and attitude in tourism literature, travel motivations have been found to be a significant and positive determinant of attitudes: for destination choice (Hsu & Huang, 2012; Lam & Hsu, 2006), for food travel (Su et al., 2020), and for revisiting the destination (Soliman, 2019). Based on existing findings, the next hypothesis in this study is:

- H9: Motivations for outdoor recreation trips are positively associated with attitudes.

Psychological factors that propel people to carry out a particular recreation activity (motivation) may influence the intentions to recreation participation by enhancing the greater use of negotiation efforts or resources (negotiation) (Hubbard & Mannell, 2001). Theoretical models such as the negotiation-buffer model, constraints-effects-mitigation model, and perceived constraint-reduction model all reveal that motivation has a significant and positive influence on the use of negotiation strategies (Hubbard & Mannell, 2001; Son et al., 2008; White, 2008). Fulfilling travel motives of escape, novelty, and experiencing normalcy might encourage people to apply frequently

the strategies related to disease-avoidance (such as wearing masks, going to familiar places or destinations) in the time of COVID-19. This leads to our next hypothesis:

- H10: Motivations for outdoor recreation trips are positively associated with negotiation efforts for successful participation in outdoor recreation trips during COVID-19.

4.2.4 Information search

Information search is usually the first step in the decision-making process for outdoor recreation participation (Dey & Sarma, 2010; Hyde, 2008). The process of collecting various amounts and types of information about the destination or travel, either from memory (internal search) or from the market and the environment (external search), can be called tourist information search behavior (Hyde, 2008; Kim et al., 2007). As travelers are conscious beings, they require information to choose the destination among the alternatives (Fakeye & Crompton, 1991) or make the travel plans. As such, the acquisition of destination-relevant information is critical in determining tourists' travel behavior. The need to acquire adequate amounts and types of information is even more relevant during pathogen threat events or natural disasters (Lo et al., 2011). Lo et al. (2011) suggests that information search is one of the risk reduction strategies applied by tourists to increase the confidence (or reduce uncertainty) when planning destination visits. In this regard, searching for information regarding COVID-19 spread around the destination, facilities and services at the destination, and relevant COVID-19 county/state policies could help tourists to prepare adequately for safe travel and destination visits. In other words, collecting relevant information about COVID-19 at the destination would

help to decrease the uncertainty and avoid disease threats. This leads to our following hypothesis:

- H11: Information search behavior regarding COVID-19 significantly and positively impacts negotiation.

Research further indicates that information search behavior influences the consumer's willingness to purchase a product or a service. Chen and Scharz (2006) reported that access to specific information increased the likelihood of booking rooms. Similarly, Kaplanidou and Vogt (2006) revealed the information from websites as a critical determinant of travelers' intentions to visit the destination. Additionally, Oh (2000) indicated that brand awareness through various information sources enhances tourists' purchase intentions. During COVID-19, studies show that the information dissemination through mass media sources including the TV, radio, internet, and social media platforms duly affected tourists' decision-making and willingness to make a trip to the outdoors (Bhati et al., 2021; Yang et al., 2021). Based on these findings, we hypothesize that:

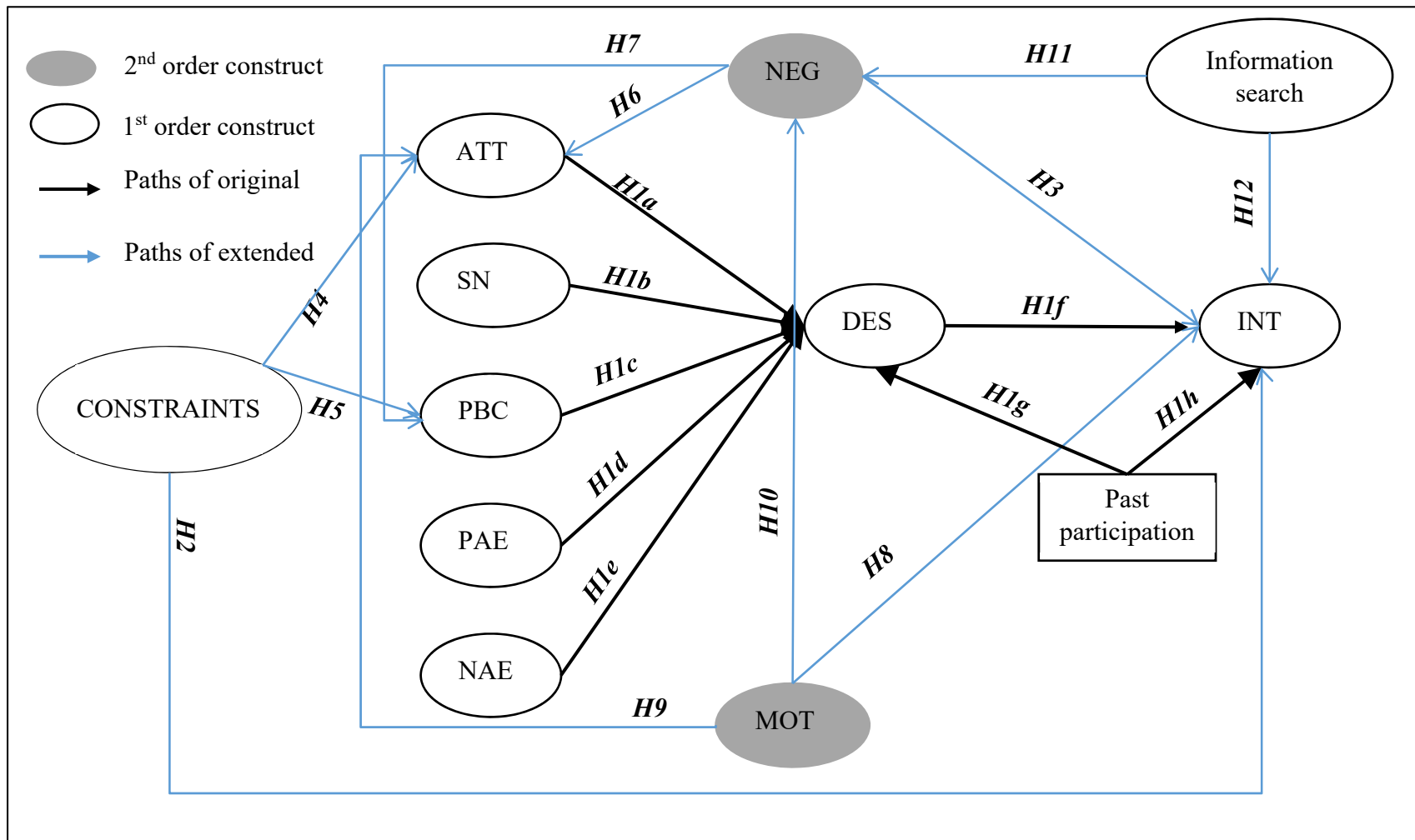
- H12: Information search regarding COVID-19 significantly and positively impacts intentions to participate in outdoor recreational trips.

4.2.5 Conceptual framework

The conceptual model incorporating all the hypotheses presented is displayed in Fig 4.1.

Figure 4.1

Extended model of goal directed behavior with constraints, negotiations, motivations, and information search behavior.



(Note: ATT = Attitude, SN = Subjective norms, PBC = Perceived Behavioral Control, PAE = Positive Anticipated Emotions, NAE = Negative Anticipated Emotions, DES = Desires, INT = Intentions, NEG = Negotiation, MOT = Motivation, MGD = Model of goal directed behavior, 2nd order construct = higher order reflective-formative structure, 1st order construct = lower order structure)

4.3 Data and methods

4.3.1 Data collection procedure

The analysis in this study is based on data collected from a 15-min online questionnaire survey administered in September-October, 2020 to US adults (18 years and older) through a Qualtrics online panel. The Qualtrics online panel consists of a pre-arranged pool of respondents who are paid a certain amount (as per their agreement with Qualtrics) to respond to a survey (Qualtrics, 2021). We used a quota sampling strategy to select respondents from the Qualtrics online panel in order to approximately match the US population in terms of age, race, gender, education, household income, and US regions. Although online panels have been increasingly used in tourism research (Dolnicar et al., 2013), it is advised to screen the survey responses to remove careless, random, and straight-lined responses (Shamon & Berning, 2020). For this purpose, we designed the following three criteria for acceptance of survey responses:

- Time: Responses completed in less than five minutes were removed (careless responders).
- Validity: Two questions were designed to check validity. Those who reported that they participated in more recreation trips after March 2020 than they did for the entire year (after January 2020) were removed.
- Straight-lining: Those who selected the same responses for more than 80% of the total survey questions were removed.

Using these criteria, around 200 responses were removed from the initial set of survey responses provided by the Qualtrics, leaving a final sample of 1,003 responses.

Descriptive statistics of the sample are shown in Table 4.1.

Table 4.1

Sample demographics (N=1,003)

Variables	#	%
Age		
18-25	103	10.27
25-34	223	22.23
35-44	235	23.43
45-54	91	9.07
55-64	161	16.05
65+	190	18.94
Gender		
Female	491	48.95
Male	506	50.45
Transgender/ Don't identify as male/female/transgender	6	0.60
Education		
No degree	277	27.62
Below undergrad	297	29.61
Undergrad	196	19.54
Graduate	233	23.23
Household income		
\$0-\$25,000	159	15.85
\$25,000-50,000	201	20.04
\$50,000-75,000	203	20.24
\$75,000-100,000	148	14.76
\$100,000-150,000	152	15.15
\$150,000+	127	12.66
Don't know	13	1.30
Household size		
1	132	13.16
2	312	31.11
3	193	19.24
4	236	23.53
5+	130	12.96
Employment		
Unemployed	162	16.15
Employed, full-time	494	49.25

Employed, part-time	148	14.75
Retired	199	19.81
Disability (any kind of disability that hinders ability to move, pregnancy or recent birth, infant younger than 5 years, adult older than 65 years, any kind of respiratory or heart diseases)		
Yes	531	52.94
No	437	43.57
Region		
Midwest	199	19.84
Northeast	203	20.24
South	409	40.78
West	191	19.04

4.3.2 Survey instruments

Exact questions as shown on the survey are available in the Appendix II. A summary of measures for each concept is provided below. The following definition of an outdoor recreation trip—An “outdoor recreation trip” is a journey involving at least one overnight stay away from home, and where the purpose is to engage in recreational activities in an outdoor or natural environment, within the US—was placed at the beginning of the survey to ensure participants awareness.

MGD variables: Attitudes regarding outdoor recreation participation were measured by five items using a 5-point semantic differential scale, represented by the adjective pairs: “unpleasant–pleasant”, “boring–interesting”, “unenjoyable–enjoyable”, “punishing–rewarding”, and “joyless–joyful.” Questions about subjective norms, perceived behavioral control, and desires were adapted from the pre-defined scales employed by various studies (e.g., Perugini & Bagozzi, 2001) and designed to reflect the COVID-19 context. All items were measured using a five-point Likert scale, i.e. “strongly disagree” to “strongly agree.” Anticipated emotions were calculated using four items (each for positive and negative anticipated emotions), with response alternatives

from “not at all” to “very much” and prefaced with “If I can go on a recreational trip in the next twelve months I will feel...” (following the scale developed by Perugini & Bagozzi, 2001). Respondents indicated their frequency of participation in outdoor recreation trips in the previous year by responding to the question: “How many outdoor recreation trips did you take last year (2019)? (Please enter a number).” Finally, intentions were computed based on three items representing the willingness to undergo outdoor recreation trips in the next twelve months, on a five-point Likert scale ranging from “strongly disagree” to “strongly agree.” However, one item was removed due to inconsistent wording and incoherent response (INT_2; see Appendix for details).

Constraints, negotiations, and motivations: Items measuring constraints, negotiations, and motivations were partially derived from the past studies (those related to interpersonal, intrapersonal, time and cost, and motivations such as normalcy, escape) (e.g., Hubbard & Mannell, 2001; Son et al., 2008; White, 2008; Nyaupane & Andereck, 2008; Manfreda et al., 1996- Recreation Experience Preference scale). To incorporate these diverse factors in the COVID-19 context, we first conducted an online focus group survey (details available in Humagain & Singleton, 2021) to guide the questionnaire formation. The final list of constraints, negotiations, and motivations items also included the items resulting from the focus group study. Items derived from the focus group were then distributed to experts in the field for content and face validity, and a small pre-test was carried out to validate the questionnaires. Respondents reported their agreement/disagreement (on a 5-point Likert scale, “strongly disagree” to “strongly agree”) with statements about constraints to their outdoor recreation participation, after reading the following question: “The statements below include conditions that may limit

your outdoor recreation trip participation, some of which may be initiated by current COVID-19 pandemic. Please specify to what extent you agree or disagree with these statements regarding constraints to your recreation travel.” Negotiations was measured using the frequency of application of strategies (e.g., Hubbard & Mannell, 2001) on a 5-point scale (“never” to “always”), prefaced with the following statement: “Here are some strategies, that you could try to do when planning or participating on an outdoor recreation trip. To what extent do you try to do the following?”. Finally, respondents indicated the importance of motivational factors influencing their outdoor recreation participation (using a 5-point scale ranging from “not at all important” to “extremely important”) for the following question: “Thinking about outdoor recreational travel in general, here are some different things that may or may not be important to you when going on such trips. For each item, please specify to what extent it is an important reason or motivation for your outdoor recreational participation.”

Information search behavior: Information search related to COVID-19 was measured by three items on a 5-point Likert scale (“extremely unlikely” to “extremely likely”). Respondents reported how likely would they collect information regarding various COVID-19 aspects (such as the COVID-19 spread at the destination). The exact wording of the question read: “The statements below asks about your information search behavior when you plan on making an outdoor recreation trip. Please specify how likely are you to do the following before going on an outdoor recreation trip.”

4.3.3 Analysis method

The research employed Partial Least Squares Structural Equation Modeling (PLS-SEM) to test the proposed conceptual model. PLS-SEM was used instead of conventional covariance-based SEM for the following reasons:

1. The structural model is complex, involving 26 latent constructs and more than 50+ indicators. PLS-SEM is more suitable for models of a complex nature (Hair et al., 2017; Hair et al., 2019).
2. The model includes second-order formative constructs (reflective-formative higher order constructs) for motivations and negotiations. PLS-SEM is preferred for higher order formative structures (Hair et al., 2017; Hair et al., 2019).
3. The indicators and consequent latent variables formed have moderate skewness and kurtosis. Distribution assumptions are not a concern when using PLS-SEM (Hair et al., 2017; Hair et al., 2019).

To evaluate the overall fitness of the model, tests of reliability and validity of the measurement model (i.e. outer model) are carried out first, followed by an assessment of the structural model (i.e. inner model). In the following results section, a step-by-step evaluation of each of the model components is presented. The PLS-SEM analysis was conducted in SmartPLS version 3.3.3 (Ringle et al., 2015).

4.4 Results

4.4.1 Validity and reliability of the lower-order constructs

The measurement model involving lower-order constructs of constraints, negotiations, motivations, and MGD variables (attitude, subjective norm, perceived

behavioral control, positive anticipated emotion, negative anticipated emotion, desire, and intention) was validated by assessing the convergent and discriminant validity. For convergent validity, all the outer loadings (except the two items reflecting time and cost constraints) confirmed to greater than the threshold value of 0.708 as suggested by Hair et al. (2017). The results of loadings for lower order constructs are displayed in the appendix.

4.4.2 Validity and reliability for second-order constructs

Four general types of hierarchical models are discussed in the extant PLS-SEM literature (Jarvis et al., 2003; Ringle et al., 2012). The hierarchical model consists of two structures: First, lower-order components (LOC) reflect the dimensions of the indicators. Second, higher-order components (HOC) capture the relationships between the LOCs (Hair et al., 2017). In this study, all constraints, negotiations, and motivations were specified as reflective in the lower order and formative for the higher order, referred to as reflective–formative higher-order constructs. The rationale behind using HOCs was to make the structural model more parsimonious and reduce bias in the estimation of path coefficients due to collinearity (Hair et al., 2017). The conceptualization of these second-order constructs as formative is based on the idea that all the LOCs combine together to define a formative HOC, instead of a reflective HOC that just accounts for the covariance between the LOCs and is usually uninterpretable.

For evaluating the higher-order components, a two-stage analysis recommended by Hair et al. (2017) and Henseler and Chin (2010) was followed. The primary step involves a repeated indicator approach to compute the latent variable scores for lower-

order constructs. The second step then includes the latent score variables as manifest variables in the higher-order construct measurement model. For the validity of formative constructs, the outer weights of component indicators should be significantly different from zero after bootstrapping (sampling with replacement). Here, four lower-order constructs—time, impacts, and travel for negotiation, and escape for motivation—were insignificant. However, the outer loadings were greater than 0.7 for all the cases. On the basis of the significant outer loadings, we decided to include the lower-order constructs for creating higher-order constructs of negotiations and motivations, as suggested by Hair et al. (2017). However, the outer weights of the lower-order construct of constraints were insignificant and even negative. This suggests that the higher-order structure of constraints is not meaningful due to factor correlations. The use of a second-order reflective structure is not suitable as due to conceptual incompatibility (COVID-19-related constraints vs. time and cost constraints), as is also suggested by the existing literatures (e.g., Nyaupaune & Andereck, 2008). Hence, the final model consists of lower-order constructs pertaining to constraints, and the second-order reflective–formative model for negotiations and motivations.

Table 4.2

Outer weights and outer loadings for second order construct of negotiations and motivations

Relationship	Outer weights			Outer loadings		
	Sample mean	t-stat	p-value	Sample mean	t-stat	p-value
INTER → NEG	0.327	5.10	0.000	0.755	23.002	0.000
TIME → NEG	0.011	0.17	0.862	0.685	18.259	0.000
COST → NEG	0.182	2.84	0.004	0.767	24.270	0.000

CROWD/SOC → NEG	0.603	9.61	0.000	0.913	48.021	0.000
IMPACTS → NEG	0.014	0.23	0.817	0.723	21.644	0.000
TRAVEL → NEG	0.051	0.78	0.430	0.699	17.438	0.000
ESC → MOV	0.012	0.16	0.872	0.732	18.317	0.000
FAM → MOV	0.242	3.81	0.000	0.754	19.342	0.000
NATURE/FIT → MOV	0.286	4.05	0.000	0.816	26.093	0.000
PEACE → MOV	0.603	7.86	0.000	0.941	51.781	0.000

1

Bold ~ $p < 0.05$, Normal ~ $p > 0.1$. INTER = inter-personal, IMPACTS ~ minimize impacts, CROWD/SOC = crowding and social distancing, ESC = Escape, FAM = Family/friends bond

The composite reliability exceeded the cut-off value of 0.7 as recommended by Nunnally and Bernstein (1994), indicating high internal consistency. The average variance explained by each of the constructs surpassed the threshold of 0.5, i.e. at least 50% of the variance of the indicators was explained by each construct. Finally, the discriminant validity requirement was established, as the average variance explained by the construct was greater than the correlations between the constructs, i.e. the Fornell-Larcker criterion (Fornell & Larcker, 1981). Heterotrait-monotrait ratio—the ratio between the mean of all correlations between indicators to the mean of correlations of indicators measuring a particular construct, which is another measure for discriminant validity—was below recommended value of 0.85 for all constructs (Henseler et al., 2015). All the values are displayed in Appendix.

4.4.3 Structural model assessment

The Table 4.3 displays the results of the estimated structural model. The path coefficients were estimated by a bootstrap procedure with 5,000 samples. Significant and non-significant parameter estimates are shown in Table 4.3. The standardized root mean square residual (SRMR) of the fitted model registered a value of 0.027, indicating overall

goodness of fit (Henseler et al., 2009). Similarly, the R^2 value of all the endogenous variables were above the minimum value of 0.1 (Falk & Miller, 1992). The overall R^2 value for future intentions was about 0.45, which is considered to be moderate. The model also displayed high predictive relevance ($Q^2 > 0.35$; Hair et al., 2017) for the endogenous constructs of desires (0.566) and intentions (0.397).

# outdoor recreation trips (last year)	0.060	0.292	0.021	0.060	0.313
----------------------------------------	-------	-------	-------	-------	-------

Note: ATT= Attitude, SN = Subjective norm, PBC = Perceived behavioral control, PAE = Positive anticipated emotions, NAE = Negative anticipated emotions, DES = Desires, INT = Intentions, NEG = Negotiations. R^2 for intentions = 0.467, attitudes = 0.313, desires = 0.663, negotiation = 0.407, perceived behavioral control = 0.161. Q^2 for intentions = 0.397, attitude = 0.196, desires = 0.566, negotiation = 0.244, perceived behavioral control = 0.114. Bold = $p < 0.05$, Italics = $p < 0.1$, Normal = $p > 0.1$.

The PLS-SEM results indicate that all exogenous predictors included in MGD positively affected desires for outdoor recreation trips: attitude ($\beta = 0.101$, $t = 3.75$, $p < 0.05$), subjective norm ($\beta = 0.286$, $t = 8.42$, $p < 0.05$), perceived behavioral control ($\beta = 0.200$, $t = 5.67$, $p < 0.05$), positive anticipated emotions ($\beta = 0.320$, $t = 9.69$, $p < 0.05$), and negative anticipated emotion ($\beta = 0.101$, $t = 4.70$, $p < 0.05$). Desire was significantly and strongly associated with intentions ($\beta = 0.342$, $t = 10.35$, $p < 0.05$) for outdoor recreation trips in the future. Finally, the frequency of participation in outdoor recreation trips in past was also found to positively influence intentions ($\beta = 0.292$, $t = 10.53$, $p < 0.05$), but had a weak (albeit significant) association with desires ($\beta = 0.060$, $t = 10.53$, $p < 0.05$). To summarize, all the hypothesized relationships between MGD variables (H1a through H1h) were supported by the data.

The findings displayed a positive effect of negotiation on attitudes ($\beta = 0.222$, $t = 5.77$, $p < 0.05$), perceived behavioral control ($\beta = 0.342$, $t = 8.97$, $p < 0.05$), and intentions (marginally significant) ($\beta = 0.069$, $t = 1.94$, $p < 0.1$). Although, the influence of motivational factors was found to be positive and significant in explaining attitudes ($\beta = 0.330$, $t = 9.64$, $p < 0.05$), and negotiations ($\beta = 0.297$, $t = 10.53$, $p < 0.05$), it had no significant influence directly on intentions ($\beta = 0.016$, $t = 0.53$, $p > 0.1$). The relationships between constraints and other endogenous variables of interest were not found to be consistent. Among seven constraints included in the model, personal constraints had a stronger direct and negative impact on attitudes ($\beta = -0.224$, $t = 5.77$, $p < 0.05$), perceived behavioral control ($\beta = -0.101$, $t = 2.30$, $p < 0.05$) and intentions ($\beta = -0.159$, $t = 4.36$, $p < 0.05$). The other critical constraining factor was ethical constraints, which was negatively associated with perceived behavioral control ($\beta = -0.166$, $t = 3.24$, $p < 0.05$), and

intentions ($\beta = -0.074$, $t = 1.94$, $p < 0.1$). Similarly, time and cost to reach the destination had marginally significant influences on perceived behavioral control ($\beta = -0.087$, $t = 1.66$, $p < 0.1$). Association between other remaining constraints and other variables, were either non-significant or positive in a small amount (low coefficients, such as between COVID-19 perceptions and attitudes).

Finally, the results of the structural model illustrated that increased likelihood of searching COVID-19 information was positively and significantly linked with negotiation efforts ($\beta = 0.476$, $t = 13.93$, $p < 0.05$) and intentions to participate in outdoor recreation trips in the next 12 months ($\beta = 0.155$, $t = 4.32$, $p < 0.05$).

4.4.4 Indirect and total effects

Considering total (direct + indirect) effects, as seen in Table 4.3, future intentions for outdoor recreation participation was most affected by desire ($\beta = 0.342$), followed by part participation frequency ($\beta = 0.313$), information search behavior ($\beta = 0.203$), positive anticipated emotions ($\beta = 0.109$), and negotiations ($\beta = 0.100$). The only two influential constraints to outdoor recreation participation were personal constraints ($\beta = -0.173$) and ethical constraints ($\beta = -0.087$). When predicting desire for outdoor recreation participation, positive anticipated emotions ($\beta = 0.320$) was most important construct, followed by subjective norms ($\beta = 0.286$), perceived behavioral control ($\beta = 0.200$), attitudes ($\beta = 0.101$), and negative anticipated emotions ($\beta = 0.101$). Similar to intentions, personal ($\beta = -0.043$) and ethical constraints (-0.039) had strong negative impacts on desires, compared to other constraints. Similarly, perceived behavioral control was affected by predictive factors in the order of negotiations ($\beta = 0.342$), ethical constraints

($\beta = -0.169$), information search behavior ($\beta = 0.163$), motivations ($\beta = 0.102$), and personal constraints ($\beta = -0.102$). Finally, motivation ($\beta = 0.395$) had the greatest influence in predicting attitudes followed by personal constraints ($\beta = -0.224$), negotiations ($\beta = 0.222$), and information search behavior ($\beta = 0.106$). The significant indirect and direct effects displayed in Table 4.3 suggests that the effects of constraints, negotiations, and motivations are partially mediated by the MGD variables, notably by attitudes and perceived behavioral control.

4.5 Discussion and conclusion

The novelty of this study lies in understanding tourist intentions in a holistic way, i.e. considering a broad array of constraining factors, the application of negotiation strategies, and various motivating factors that impact future intentions directly or indirectly through attitudes, norms, behavioral control, and perceived emotions (positive and negative). In the following subsections, we detail the theoretical and managerial implications of this study, and also note study limitations and directions for future research.

4.5.1 Theoretical implications

In this study, we utilize and validate the reflective–formative higher-order structure for negotiations and motivations, with the idea that the set of reflective lower-order constructs (such as escape, fitness, minimizing impacts, travel) combine together to define the formative higher-level construct (Hair et al., 2017). The two criteria applied for differentiating reflective vs. formative structures as posited in Hair et al (2017) for reflective structure are: (i) The change in one item's score reflects the change in all other

item's score; and (ii) Items are interchangeable with each other. The measurement model using a reflective design was validated for each of the lower-order constructs, i.e. the group of items reflects an underlying latent variable. This structure has been commonly applied in most of the empirical models in the past (see Hubbard & Mannell, 2001; Son et al., 2008; White, 2008; Lyu & Oh, 2014). However, there are two critical issues related to using the reflective design for the second-order measurement: (i) The first order constructs are not conceptually homogenous and may have lower correlations, e.g., lack of time vs. ethical constraints (during COVID-19) (Nyaupane et al., 2004; Godbye et al., 2010); (ii) Second-order reflective constructs represent only the covariance between the first-order variables. Kono et al. (2020) were the first to identify and validate the lower- and higher-order formative structures for constraints, negotiations, and motivations. The use of the reflective–formative approach is not common in the existing tourism literature—however, it makes the models parsimonious and reduces the model complexity. The study findings highlights the disjoint nature of constraints, as the formative measurement of lower-order constraints was disproved in our analysis (due to negative outer weights). Hence, we recommend the use of lower dimensions of constraints, specifically when attempting to measure tourists' perceived constraints in novel contextual settings like COVID-19. Finally, we argue against using a reflective higher-order structure of constraints, as it is conceptually incoherent because an increase in one lower-order constraint does not necessarily reflect the same change in all the other lower-order scores (for e.g., time and cost vs. health and information constraints) (Hair et al., 2019, Hair et al., 2017; Kono et al., 2020). However, it is to be noted that lower order constructs of motivations and negotiations fitted well with the reflective-formative

structure, illustrating that the lower order measurements are coherent and can be combined to give a single higher order construct.

Similar to other research conducted in the aftermath of COVID-19 (Xu et al., 2021; Qiao et al., 2021; Kement et al., 2020; Dai & Jie, 2020), our study provides additional empirical evidence of relationships between MGD variables, and it illuminates the ability of MGD to explain the future intentions of tourists during COVID-19. The inclusion of negotiations, motivations, and constraints to the original MGD model was justified by their significant influences on attitudes, perceived behavioral control, desires, and intentions to participate in outdoor recreation trips in the future (next 12 months), and by improvements in the variance explained in those constructs above the TPB or MGD alone. Consistent with the previous literature, desire was found to be a sufficient impetus for intentions to participate in multiday outdoor recreation trips in the future (Kim et al., 2012; Lee et al., 2012; Song et al., 2012, Chiu & Cho, 2021). Desires had stronger relationships with positive anticipated emotions than with negative anticipated emotions (whose coefficient was found to be positive), implying that anticipation of positive emotions for successfully participating in outdoor recreation trips strengthens tourists' desires. The other critical predictor was the past participation frequency, which also has been highlighted in a number of past studies (Chiu & Cho, 2012). Tourists who frequently participated in multiday outdoor recreation trips in the past are likely to form positive desires and intentions of performing these trips during COVID-19.

The PLS-SEM analysis revealed the two critical constraints perceived by tourists: personal and ethical. Personal constraints, comprising a lack of interest and fear to go

outdoors (due to COVID-19) and a lack of people to go with, had the most negative influences on outdoor recreation attitudes, perceived behavioral control, desires, and intentions. This is in line with the existing findings, where personal constraints are the primary deterrent (Crawford et al., 1991; Godbye et al., 2010; Jackson et al., 1993) and need to be negotiated first in order to participate in a leisure activity (i.e. implying a hierarchy of constraints) (Jackson et al., 1993). The other constraint often overlooked in the recent literature, is related to tourists' ethical values. When the survey was conducted (in early fall of 2020), vaccines were not available, and traveling involved increased risks of not only contracting COVID-19 oneself but also transmitting COVID-19 to others and spreading it within the local community. Events like the COVID-19 pandemic trigger considerations of social responsibility, wherein tourists' moral values are questioned by others in society if they participate in outdoor recreation trips. The other conventional constraints such as time and cost, COVID-19 perceptions, and destination-related factors did not have significant effects (or positive effects on intentions), illustrating that tourists could find ways or can negotiate through these constraints. Alternatively, it could also signify that during the early pandemic, tourists' psychology and ethical values are central to their decision-making, rather than time and cost and other constraints.

Tourists' negotiation strategies were mostly centered around practicing prophylactic behaviors (Prokosh et al., 2018) in order to avoid the disease threat, as evidenced by higher outer weights of the lower-order constructs of crowding/social distancing. This is in line with findings from a few studies, which displayed that crowding or perceptions of crowding are amplified in cases of pathogen threats due to increased psychological stress resulting from fear of disease transmission in a crowded

environment (Wang & Ackerman, 2019). Two other significant lower-order constructs involved managing finances and finding people with similar COVID-19 perceptions. In line with existing findings, significant path coefficients between negotiations and attitudes, perceived behavioral control, and future intentions support the notion that although people perceive multi-dimensional constraints (during events of pathogen threat), it is their capacity of negotiation that leads to a positive evaluation: a higher degree of control and willingness to undergo outdoor recreation trips (Jackson et al., 1993; Hubbard & Mannell, 2001) during the pandemic. The strength of association between negotiations and motivations illuminates that fulfillment of psychological motives persuades tourists to apply greater negotiation efforts, as found in the studies of Hubbard and Mannell (2001), Son et al. (2008), and White (2008).

Finally, tourists' increased likelihood to search for COVID-19 information around the destination was found to be pivotal in determining tourists' negotiations and future intentions. COVID-19-induced uncertainty and risk calls for the collection of adequate information to ensure tourists that trips to outdoor recreation at certain destination will allow for safe and satisfactory destination experiences. These findings have been reciprocated in the previous literature, denoting information acquisition as a risk-reduction strategy during natural and health disasters (Baloglu, 2000; Lo et al., 2011).

4.5.2 Managerial implications

By investigating factors that affect intentions to participate in multiday recreation trips in a pandemic context, this study aids tourism sectors in developing strategies emphasizing the variables that exert greater influence on outdoor recreation participation.

The constructs with greater impacts on tourists' intentions according to this study are desires, past participation frequency, and information search behavior. Perugini and Bagozzi (2004) define desires as "a state of mind whereby an agent has a personal motivation to perform an action or to achieve a goal." In this sense, the goal is to perform multi-day outdoor recreation trips, during the situational context of COVID-19.

Destination managers should be able to formulate strategies that enhance tourists' intrinsic desires to travel, develop positive intentions, and finally turn them into actual visits (Vassiladis et al., 2018). For this purpose, advertising efforts focused on promoting a destination as a "safe" outlet for experiencing novelty, escaping COVID-19-affected lifestyles, and ensuring satisfying experiences might help to entice tourists to visit the destination. Destinations during the early stage of pathogen threats should apply measures to reduce the risks involved with transmission of pathogen threat, such as social distancing. This would also help reduce tourists' ethical dilemmas (constraints) and induce positive emotions when deciding to make a trip to a particular destination.

Pathogen threat events result in tourists avoiding crowded situations. Hence, tourism destinations should advertise activities with limited amounts of human contacts, such as backpacking trips and hiking trails. As tourists' companionship preferences are with people in their immediate circle during events of disasters, tourism managers could develop packages suitable for families and friends. Since the premise of social responsibility is pronounced during such events, people are generally aware of the risks associated with transmission to the local community and to other risk-prone family members in the long term. This calls for the collective action of local communities and

destinations to provide a welcoming environment for incoming tourists (Zenker & Kock, 2020).

During the early phase of COVID-19, a lack of information surrounding state/county policies (such as lockdowns, quarantines after arrival), available facilities and services around the destination (campgrounds, food), and COVID-19 status were major sources of tourists' uncertainties while making decisions to travel outdoors (Humagain & Singleton, 2021). Also, learning about the recent visit experiences of other tourists could enhance confidence for making the trips to the destination (Lo et al., 2011). Hence, websites along with social media profiles of destinations should update their information on a regular basis, and provide centralized information (about COVID-19, facilities, policies), so that tourists do not need to hassle when searching for related information. Similarly, recent reviews of tourists visiting those places should be spread across the local and mass media, to attract potential visitors.

Frequent travelers' desires for outdoor recreation trips are subconsciously rooted in their lifestyles, and desires turn into habitual behaviors in the long run. As such, tourism destination managers should direct their advertising and marketing strategies towards this group of tourists. This can be done through tracking the loyal customers of the destination or via targeted ads in social media such as Facebook, Twitter, or Google. Maintaining a good database of incoming tourists is hence always useful for destination managers.

4.6 Limitations and directions for future research

The primary limitation of the research is the use of a generalized definition of outdoor recreation trips. Although the study provides implications for any kind of tourist behavior in an outdoor setting, the constraints, negotiations, and evaluations of other MGD variables might vary for participation in different activities (such as skiing or swimming). Also, the study results cannot necessarily be applied to tourists from other geographies outside of the US. Since the perception of pathogen threats varies according to different cultures and places (for e.g., Asian tourists perceive higher risks of infectious diseases than westerners) (Kozak et al., 2007; Park & Yeisinger, 2010), future research could look to compare the effects of different constraints, motivating factors, and negotiation strategies across different geographies. Since this study was conducted during early fall of 2020, when vaccines were unavailable/not widespread, the implications highlighted in this study are more relevant for the early phase of a pandemic (i.e., the first six months). To overcome this limitation, future research could employ a longitudinal design to track changes in constructs measured in the study regarding outdoor recreation such as constraints, negotiations, intentions, and MGD variables over a longer timeline. Understanding such a dynamic nature of tourists' perceptions would assist tourist destinations to tailor different action plans in different time periods according to tourists' behaviors. Additionally, the nature of the measurement models proposed in the study—i.e. lower-order constructs for constraints, and higher-order constructs for negotiations and motivations—did not allow us to include the effects of constraints on negotiation and motivation, and the subsequent indirect effects due to such influences in the structural model.

Appendix

Table 4.4

List of items measuring MGD (Model of Goal-Directed Behavior) variables

Variable Names		1 (1)	2 (2)	3 (3)	4 (4)	(5)	
ATT_1	Unpleasant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Pleasant
ATT_2	Boring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Interesting
ATT_3	Unenjoyable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Enjoyable
ATT_4	Punishing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Rewarding
ATT_5	Joyless	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Joyful

Please specify to what extent you agree or disagree with these statements about going on outdoor recreation trip. (1= Strongly Disagree, 5= Strongly Agree)

Variable names	
SN_1	People important to me think I should go to outdoor recreation trip
SN_2	People important to me support my outdoor recreation activities
SN_3	People who I value think I should go on an outdoor recreation trip
PBC_1	I am confident that if I want to, I can go on an outdoor recreation trip
PBC_2	If I want to go on an outdoor recreation trip, I can go easily
PBC_3	Factors that influence my decision to go on outdoor recreation trip are in my total control
DES_1	I desire to go on an outdoor recreational trip in the 12 months
DES_2	I hope to go on an outdoor recreation trip in next 12 months
DES_3	I passionately want to go on an outdoor recreation trip in next 12 months

Positive Anticipated Emotions (PAE): If I can go on a recreational trip in the next twelve months, I will feel.. (1= Not at all, 5= Very much)

Variable Names	
PAE_1	Excited (1)
PAE_2	Happy (2)
PAE_3	Satisfied (3)
PAE_4	Glad (4)

Negative Anticipated Emotions (NAE): If I cannot go on a recreational trip in the next twelve months, I will feel..(1= Not at all, 5= Very much)

Variable Names	
NAE_1	Sad (1)
NAE_2	Angry (2)
NAE_3	Disappointed (3)
NAE_4	Frustrated (4)

Intentions: Now considering the next twelve months, please specify to what you agree with following statements regarding making a recreation trip in the future.

Variable names	
INT_1	I am planning to go on an outdoor recreational trip in the next 12 months (1)
INT_2	I am not sure if I will go on an outdoor recreational trip in the next 12 months (2)
INT_3	I already have a plan to go on an outdoor recreational trip in the next 12 months (3)

Information search behavior: Scale (1= Extremely Unlikely, 5= Extremely likely)

Variable names	
INF_1	Before I start planning my outdoor recreation trip, I am likely to search for information about activities and facilities at the destination
INF_2	Before I start planning my outdoor recreation trip, I am likely to search for COVID-19 related information at the destination
INF_3	I spend time seeking information about COVID related county/state policies at the destination

Table 4.5

List of items measuring constraints, negotiations, and motivations

Variable Names	Items
	Constraints (1= Strongly Disagree, 5 = Strongly Agree)
	Personal
CONST_1	I have no interest in going on an outdoor recreation trip
CONST_2	I don't have the physical ability and skills for outdoor recreation
CONST_3	I am afraid to go on an outdoor recreation trip
CONST_4	I don't have people to go with
	COVID-19 perceptions
CONST_5	Friends have varied perceptions of COVID
CONST_6	People I know are hesitant to go on an outdoor recreation trip
	Time and cost
CONST_7	I have no time to take a trip
CONST_8	I have family and work commitments
CONST_9	Going on an outdoor recreation trip impacts my finances
CONST_10	I cannot afford to go on a recreational trip
CONST_11	The destination is too far away
	Destination related
CONST_12	Closure of facilities at the destination
CONST_13	Fewer options for food
CONST_14	All activities are not offered at the destination
	Health and information
CONST_15	Inadequate sanitization measures at the destination and nearby services
CONST_16	Lack of public restrooms and ventilation
CONST_17	Lack of health facility/hospitals at or near the destination
CONST_18	Lack of information about state and county-specific COVID-19 laws

CONST_19	Lack of information about preventive measures at the destination or during travel
	Socialization
CONST_20	Unable to socialize with other people
CONST_21	Unfriendly environment: everyone thinks others are a threat to them
CONST_22	Local people being less receptive to tourists
	Ethical
CONST_23	It's unethical to take a trip during the pandemic
CONST_24	Traveling will help spread the virus
CONST_25	Traveling during the pandemic makes me socially irresponsible
<hr/>	
Negotiations (Cronbach's alpha = 0.94)	
Inter-personal (INTER)	
NEG_1	Go with people you know
NEG_2	Find people with similar perceptions about COVID
NEG_3	Find people with similar health standards
Time	
NEG_4	Plan ahead of time
NEG_5	Plan around when my family and friends are free
NEG_6	Notify companions and family members in advance
Cost	
NEG_8	Budget money
NEG_9	Set aside money to use for outdoor recreation trip
NEG_10	Look for cheaper ways or discounts/deals
Crowding and social distancing (CROWD/SOC)	
NEG_10	Go on weekdays, with less crowd
NEG_11	Use face coverings and sanitizers more often
NEG_12	Go on destination with limited occupancy and adequate health and hygiene measures
NEG_13	Maintain social distancing, and travel with smaller groups
NEG_14	Refrain talking and socializing with other people
Minimize impacts (IMPACTS)	
NEG_15	Go to wilderness areas
NEG_16	Bring your own food
NEG_17	Minimize visits to services(for groceries and others) at the destination
Travel	
NEG_18	Go to places that are accessible by car
NEG_19	Travel within state
NEG_20	Go to familiar destination
<hr/>	
Motivations (1= Not at all important, 5 = Extremely important)	
Escape (ESC)	
MOV_1	To get away from the demands of life
MOV_2	To get away from cars, people and crowds
MOV_3	To get away from technology and toxic news in the environment
MOV_4	To experience normalcy
Family/friends bond (FAM)	

MOV_5	To be with people who enjoy the same things
MOV_6	To bond with family and do things together
MOV_7	To be with friends and enjoy
	Fitness and interests
MOV_8	To get exercise and fresh air
MOV_9	To keep physically fit
MOV_10	To take advantages of reduced crowds
MOV_11	To experience cultural diversity around the area
	Nature and peace
MOV_12	To clear your mind and enjoy outdoors
MOV_13	To re-energize myself
MOV_14	To experience the peace and calm
MOV_15	To view scenic places
MOV_16	To be close to nature
MOV_17	To view or take advantage of natural beauty

Table 4.6*Outer loadings for items describing MGD variables*

	ATT	SN	PBC	PAE	NAE	DES	INT	INF
ATT_1	0.805							
ATT_2	0.814							
ATT_3	0.810							
ATT_4	0.831							
ATT_5	0.810							
SN_1		0.898						
SN_2		0.875						
SN_3		0.898						
PBC_1			0.876					
PBC_2			0.878					
PBC_3			0.853					
PAE_1				0.913				
PAE_2				0.932				
PAE_3				0.930				
PAE_5				0.915				
NAE_1					0.906			
NAE_2					0.860			
NAE_3					0.922			
NAE_4					0.900			
DES_1						0.928		
DES_2						0.936		

DES_3	0.920	
INTN_1		0.943
INTN_2		0.945
INFSRC_1		0.822
INFSRC_2		0.903
INFSRC_3		0.885

Table 4.7*Outer loadings for items representing constraints*

	Interpersonal	Intrapersonal	Time and cost	Destination related	Health and information	Social	Ethical
CONST_1	0.858						
CONST_2	0.853						
CONST_3	0.789						
CONST_4	0.737						
CONST_5		0.828					
CONST_6		0.869					
CONST_7			0.666				
CONST_8			0.749				
CONST_9			0.845				
CONST_10			0.815				
CONST_11			0.813				
CONST_12				0.834			
CONST_13				0.827			
CONST_14				0.906			
CONST_15					0.913		
CONST_16					0.831		
CONST_17					0.828		
CONST_18					0.846		
CONST_19					0.757		
CONST_20						0.775	

CONST_21	0.834
CONST_22	0.923
CONST_23	0.880
CONST_24	0.927
CONST_25	0.863

Table 4.8*Outer Loadings for items representing negotiations*

	Interpersonal	Time	Cost	Crowding/ Social-distancing	Impacts	Travel
NEG_1	0.840					
NEG_2	0.811					
NEG_3	0.768					
NEG_4		0.893				
NEG_5		0.833				
NEG_6		0.893				
NEG_7			0.888			
NEG_8			0.878			
NEG_9			0.878			
NEG_10				0.804		
NEG_11				0.817		
NEG_12				0.860		
NEG_13				0.794		
NEG_14				0.767		
NEG_15					0.857	
NEG_16					0.888	
NEG_17					0.784	
NEG_18						0.798
NEG_19						0.813
NEG_20						0.860

Table 4.9*Outer loadings for items representing motivations*

	Escape	Family/friends bond	Nature/fitness	Peace/calmness
MOV_1	0.734			
MOV_2	0.783			
MOV_3	0.759			
MOV_4	0.756			
MOV_5		0.785		
MOV_6		0.811		
MOV_7		0.839		
MOV_8			0.810	
MOV_9			0.784	
MOV_10			0.720	
MOV_11			0.723	
MOV_12				0.765
MOV_13				0.730
MOV_14				0.773
MOV_15				0.775
MOV_16				0.786
MOV_17				0.793

Table 4.10*Fornell-Lacker Criterion*

	LC_1	LC_2	LC_3	LC_4	LC_5	LC_6	LC_7	NEG	MOV	INF	ATT	SN	PBC	PAE	NAE	DES	Last	INT
LC_1	0.81																	
LC_2	0.48	0.85																
LC_3	0.49	0.55	0.86															
LC_4	0.51	0.52	0.60	0.85														
LC_5	0.46	0.49	0.52	0.63	0.89													
LC_6	0.63	0.48	0.57	0.52	0.46	0.78												
LC_7	0.50	0.53	0.57	0.69	0.66	0.48	0.84											
NEG	0.05	0.27	0.28	0.27	0.32	0.13	0.34	NA										
MOV	-0.16	0.05	0.06	0.07	0.06	-0.05	0.13	0.45	NA									
INF	0.05	0.25	0.28	0.25	0.33	0.14	0.30	0.57	0.33	0.87								
ATT	-0.23	0.53	0.03	0.00	0.00	-0.09	0.06	0.38	0.48	0.31	0.81							
SN	-0.04	0.12	0.12	0.09	0.06	0.09	0.16	0.41	0.35	0.35	0.52	0.89						
PBC	-0.09	0.09	0.10	0.07	0.01	-0.05	0.11	0.35	0.31	0.30	0.44	0.65	0.87					
PAE	-0.25	0.05	0.01	-0.02	-0.02	-0.07	0.01	0.38	0.44	0.35	0.59	0.59	0.46	0.92				
NAE	0.08	0.19	0.17	0.19	0.11	0.19	0.10	0.14	0.13	0.15	0.14	0.31	0.20	0.38	0.90			
DES	-0.19	0.09	0.11	0.06	0.00	0.01	0.05	0.36	0.34	0.35	0.55	0.71	0.61	0.70	0.39	0.93		

Last	0.04	0.10	0.06	0.06	0.05	0.15	0.06	0.11	0.10	0.19	0.21	0.33	0.24	0.30	0.35	0.35	1.00	
INT	-0.12	0.14	0.13	0.10	0.05	0.10	0.11	0.34	0.27	0.38	0.40	0.48	0.41	0.51	0.31	0.57	0.46	0.94

Table 4.11*HTMT criteria*

	LC_1	LC_2	LC_3	LC_4	LC_5	LC_6	LC_7	INF	ATT	SN	PBC	PAE	NAE	DES	Last	INT
LC_1	0															
LC_2	0.693	0														
LC_3	0.616	0.771	0													
LC_4	0.638	0.743	0.733	0												
LC_5	0.562	0.671	0.618	0.757	0											
LC_6	0.761	0.666	0.682	0.63	0.544	0										
LC_7	0.6	0.716	0.673	0.827	0.759	0.559	0									
INF	0.114	0.343	0.336	0.301	0.382	0.177	0.328	0								
ATT	0.262	0.716	0.052	0.05	0.052	0.12	0.066	0.355	0							
SN	0.07	0.159	0.14	0.094	0.061	0.12	0.153	0.411	0.595	0						
PBC	0.108	0.129	0.12	0.077	0.032	0.071	0.101	0.349	0.513	0.755	0					
PAE	0.261	0.069	0.044	0.036	0.043	0.106	0.061	0.395	0.648	0.648	0.519	0				
NAE	0.139	0.246	0.196	0.226	0.131	0.223	0.105	0.167	0.148	0.346	0.224	0.393	0			
DES	0.19	0.125	0.121	0.07	0.025	0.073	0.053	0.391	0.614	0.79	0.696	0.747	0.409	0		
Last	0.099	0.132	0.068	0.062	0.063	0.17	0.053	0.203	0.22	0.354	0.267	0.305	0.371	0.369	0	
INT	0.119	0.184	0.149	0.109	0.051	0.124	0.096	0.446	0.452	0.554	0.472	0.563	0.341	0.637	0.495	0

References

- Abbasi, G. A., Kumaravelu, J., Goh, Y.-N., & Dara Singh, K. S. (2021). Understanding the intention to revisit a destination by expanding the theory of planned behaviour (TPB). *Spanish Journal of Marketing - ESIC*, ahead-of-print(ahead-of-print).
<https://doi.org/10.1108/SJME-12-2019-0109>
- Alexandris, K., & Stodolska, M. (2004). The Influence of Perceived Constraints on the Attitudes Toward Recreational Sport Participation. *Loisir et Société / Society and Leisure*, 27(1), 197–217. <https://doi.org/10.1080/07053436.2004.10707647>
- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In *Action control* (pp. 11-39). Springer, Berlin, Heidelberg.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2), 179-211.
- Ajzen, I. (2005). *Attitudes, personality and behaviour*. McGraw-Hill Education (UK).
- Bae, S. Y., & Chang, P.-J. (2021). The effect of coronavirus disease-19 (COVID-19) risk perception on behavioural intention towards ‘untact’ tourism in South Korea during the first wave of the pandemic (March 2020). *Current Issues in Tourism*, 24(7), 1017–1035. <https://doi.org/10.1080/13683500.2020.1798895>
- Baloglu, Seyhmus, and Ken W. McCleary. "A model of destination image formation." *Annals of tourism research* 26.4 (1999): 868-897.
- Bhati, A. S., Mohammadi, Z., Agarwal, M., Kamble, Z., & Donough-Tan, G. (2021). Motivating or manipulating: The influence of health-protective behaviour and media engagement on post-COVID-19 travel. *Current Issues in Tourism*, 24(15), 2088–2092. <https://doi.org/10.1080/13683500.2020.1819970>

- Chen, C. C., & Schwartz, Z. (2006). The importance of information asymmetry in customers' booking decisions: A cautionary tale from the internet. *Cornell Hotel and Restaurant Administration Quarterly*, 47(3), 272-285.
- Chien, G. C. L., Yen, I.-Y., & Hoang, P.-Q. (2012). Combination of Theory of Planned Behavior and Motivation: An Exploratory Study of Potential Beach-based Resorts in Vietnam. *Asia Pacific Journal of Tourism Research*, 17(5), 489–508.
<https://doi.org/10.1080/10941665.2011.627352>
- Chiu, W., & Cho, H. (2021). The Model of Goal-Directed Behavior in Tourism and Hospitality: A Meta-analytic Structural Equation Modeling Approach. *Journal of Travel Research*, 004728752199124. <https://doi.org/10.1177/0047287521991242>
- Crawford, D. W., & Godbey, G. (1987). Reconceptualizing barriers to family leisure. *Leisure Sciences*, 9, 119-127. Crawford, D. W., Jackson, E. L., & Godbey, G. (1991). A hierarchical model of leisure constraints. *Leisure Sciences*, 13, 309-320
- Crawford, D. W., Jackson, E. L., & Godbey, G. (1991). A hierarchical model of leisure constraints. *Leisure Sciences*, 13(4), 309–320.
<https://doi.org/10.1080/01490409109513147>
- Dai, Y., & Jia, L. (2021). A Study on Tourists' Travel Intention Under the Situation of Novel Coronavirus Pneumonia Epidemic: An Application of the Structural Equation Model. *Proceedings of the 6th Annual International Conference on Social Science and Contemporary Humanity Development (SSCHD 2020)*. 6th Annual International Conference on Social Science and Contemporary Humanity Development (SSCHD 2020), Xi'an, Shaanxi, China. <https://doi.org/10.2991/assehr.k.210121.183>

- Das, S. S., & Tiwari, A. K. (2021). Understanding international and domestic travel intention of Indian travellers during COVID-19 using a Bayesian approach. *Tourism Recreation Research*, 46(2), 228–244.
<https://doi.org/10.1080/02508281.2020.1830341>
- Dey, B., & Sarma, M. K. (2010). Information source usage among motive-based segments of travelers to newly emerging tourist destinations. *Tourism management*, 31(3), 341-344.
- Dolnicar, S., Grün, B., & Yanamandram, V. (2013). Dynamic, interactive survey questions can increase survey data quality. *Journal of Travel & Tourism Marketing*, 30(7), 690-699.
- Esposito, G., van Bavel, R., Baranowski, T., & Duch-Brown, N. (2016). Applying the Model of Goal-Directed Behavior, Including Descriptive Norms, to Physical Activity Intentions: A Contribution to Improving the Theory of Planned Behavior. *Psychological Reports*, 119(1), 5–26. <https://doi.org/10.1177/0033294116649576>
- Falk, R. F., & Miller, N. B. (1992). *A primer for soft modeling*. University of Akron Press.
- Fakeye, P. C., & Crompton, J. L. (1991). Image Differences between Prospective, First-Time, and Repeat Visitors to the Lower Rio Grande Valley. *Journal of Travel Research*, 30(2), 10–16. <https://doi.org/10.1177/004728759103000202>
- Fishbein, M., & Ajzen, I. (1977). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley
- Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics.

- Godbey, G., Crawford, D. W., & Shen, X. S. (2010). Assessing Hierarchical Leisure Constraints Theory after Two Decades. *Journal of Leisure Research*, 42(1), 111–134. <https://doi.org/10.1080/00222216.2010.11950197>
- Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage publications.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24. <https://doi.org/10.1108/EBR-11-2018-0203>
- Han, H., & Ryu, K. (2012). The theory of repurchase decision-making (TRD): Identifying the critical factors in the post-purchase decision-making process. *International Journal of Hospitality Management*, 31(3), 786-797.
- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. In *New challenges to international marketing*. Emerald Group Publishing Limited.
- Henseler, J., & Chin, W. W. (2010). A comparison of approaches for the analysis of interaction effects between latent variables using partial least squares path modeling. *Structural equation modeling*, 17(1), 82-109.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the academy of marketing science*, 43(1), 115-135.
- Hsu, C. H. C., & Huang, S. (Sam). (2012). An Extension of the Theory of Planned Behavior Model for Tourists. *Journal of Hospitality & Tourism Research*, 36(3), 390–417. <https://doi.org/10.1177/1096348010390817>

- Hubbard, J., & Mannell, R. C. (2001). Testing Competing Models of the Leisure Constraint Negotiation Process in a Corporate Employee Recreation Setting. *Leisure Sciences*, 23(3), 145–163. <https://doi.org/10.1080/014904001316896846>
- Hyde, K. F. (2008). Information processing and touring planning theory. *Annals of Tourism Research*, 35(3), 712-731.
- Kaiser, F. G., & Schultz, P. W. (2009). The Attitude–Behavior Relationship: A Test of Three Models of the Moderating Role of Behavioral Difficulty 1. *Journal of Applied Social Psychology*, 39(1), 186-207.
- Kaplanidou, K., & Vogt, C. (2006, April). Do sport tourism events have a brand image. In *Proceedings of the 2006 Northeastern Recreation Research Symposium* (pp. 2-7).
- Katz, D. (1960). The functional approach to the study of attitudes. *Public opinion quarterly*, 24(2), 163-204.
- Kim, J. S., Hart, R. J., Lee, J.-E., & Kim, N.-J. (2016). The impact of climate change on the decision-making process of potential tourists using the model of goal-directed behavior. *International Journal of Tourism and Hospitality Research*, 30(4), 33. <https://doi.org/10.21298/IJTHR.2016.04.30.4.33>
- Kono, S., Ito, E., Walker, G. J., & Gui, J. (2020). Predictive power of leisure constraint-negotiation models within the leisure-time physical activity context: A partial least squares structural equation modeling approach. *Journal of Leisure Research*, 51(3), 325–347. <https://doi.org/10.1080/00222216.2019.1687266>
- Kozak, M., Crotts, J. C., & Law, R. (2007). The impact of the perception of risk on international travellers. *International Journal of Tourism Research*, 9(4), 233-242. <https://doi.org/10.1002/jtr.607>

- Lam, T., & Hsu, C. H. C. (2004). Theory of Planned Behavior: Potential Travelers from China. *Journal of Hospitality & Tourism Research*, 28(4), 463–482.
<https://doi.org/10.1177/1096348004267515>
- Lam, T., & Hsu, C. H. C. (2006). Predicting behavioral intention of choosing a travel destination. *Tourism Management*, 27(4), 589–599.
<https://doi.org/10.1016/j.tourman.2005.02.003>
- Lee, S., Bruwer, J., & Song, H. (2017). Experiential and involvement effects on the Korean wine tourist's decision-making process. *Current Issues in Tourism*, 20(12), 1215–1231. <https://doi.org/10.1080/13683500.2015.1050362>
- Lee, C.-K., Song, H.-J., Bendle, L. J., Kim, M.-J., & Han, H. (2012). The impact of non-pharmaceutical interventions for 2009 H1N1 influenza on travel intentions: A model of goal-directed behavior. *Tourism Management*, 33(1), 89–99.
<https://doi.org/10.1016/j.tourman.2011.02.006>
- Liu, Y., Shi, H., Li, Y., & Amin, A. (2021). Factors influencing Chinese residents' post-pandemic outbound travel intentions: An extended theory of planned behavior model based on the perception of COVID-19. *Tourism Review*, 76(4), 871–891.
<https://doi.org/10.1108/TR-09-2020-0458>
- Luo, J. M., & Lam, C. F. (2020). Travel Anxiety, Risk Attitude and Travel Intentions towards “Travel Bubble” Destinations in Hong Kong: Effect of the Fear of COVID-19. *International Journal of Environmental Research and Public Health*, 17(21), 7859. <https://doi.org/10.3390/ijerph17217859>

- Manfredo, M. J., Driver, B. L., & Tarrant, M. A. (1996). Measuring Leisure Motivation: A Meta-Analysis of the Recreation Experience Preference Scales. *Journal of Leisure Research*, 28(3), 188–213.
- Moghimehfar, F., Halpenny, E. A., & Walker, G. J. (2018). Front-Country Campers' Constraints, Negotiation, and Pro-Environment Behavioral Intention: An Extension to the Theory of Planned Behavior. *Leisure Sciences*, 40(3), 174–193.
<https://doi.org/10.1080/01490400.2017.1344163>
- Murshid, M. A., & Mohaidin, Z. (2017). Models and theories of prescribing decisions: A review and suggested a new model. *Pharmacy Practice (Granada)*, 15(2).
- Nunnally, B., & Bernstein, I. R. (1994). *Psychometric Theory*. New York: Oxford Univer.
- Nyaupane, G. P., & Andereck, K. L. (2008). Understanding Travel Constraints: Application and Extension of a Leisure Constraints Model. *Journal of Travel Research*, 46(4), 433–439. <https://doi.org/10.1177/0047287507308325>
- Oh, H. (2000). The effect of brand class, brand awareness, and price on customer value and behavioral intentions. *Journal of Hospitality & Tourism Research*, 24(2), 136-162.
- Park, K., & Reisinger, Y. (2010). Differences in the perceived influence of natural disasters and travel risk on international travel. *Tourism Geographies*, 12(1), 1-24.
<https://doi.org/10.1080/14616680903493621>
- Pearce, P. L. (1993). Fundamentals of tourist motivation. *Tourism research: Critiques and challenges*, 113-134.

- Pearce, P. L. (2011). Travel motivation, benefits and constraints to destinations. *Destination marketing and management: Theories and applications*, 39-52.
- Peluso, A. M., & Pichierri, M. (2020). Effects of socio-demographics, sense of control, and uncertainty avoidability on post-COVID-19 vacation intention. *Current Issues in Tourism*, 1–13. <https://doi.org/10.1080/13683500.2020.1849050>
- Perić, G., Dramićanin, S., & Conić, M. (2021). The impact of Serbian tourists' risk perception on their travel intentions during the COVID-19 pandemic. 22.
- Prokosch, M. L., Gassen, J., Ackerman, J. M., & Hill, S. E. (2019). Caution in the time of cholera: Pathogen threats decrease risk tolerance. *Evolutionary Behavioral Sciences*, 13(4), 311.
- Qiao, G., Zhao, X., Xin, L., & Kim, S. (2021). Concerns or Desires Post-Pandemic: An Extended MGB Model for Understanding South Korean Residents' Perceptions and Intentions to Travel to China. *International Journal of Environmental Research and Public Health*, 18(5), 2542. <https://doi.org/10.3390/ijerph18052542>
- Reiss, S. (2004). Multifaceted Nature of Intrinsic Motivation: The Theory of 16 Basic Desires. *Review of General Psychology*, 8(3), 179–193. <https://doi.org/10.1037/1089-2680.8.3.179>
- Ringle, C. M., Wende, S., & Becker, J.-M. (2015). "SmartPLS 3." Boenningstedt: SmartPLS GmbH, <http://www.smartpls.com>.
- Ringle, C. M., Sarstedt, M., & Straub, D. W. (2012). Editor's comments: a critical look at the use of PLS-SEM in "MIS Quarterly". *MIS quarterly*, iii-xiv.
- Sánchez-Cañizares, S. M., Cabeza-Ramírez, L. J., Muñoz-Fernández, G., & Fuentes-García, F. J. (2021). Impact of the perceived risk from Covid-19 on intention to

- travel. *Current Issues in Tourism*, 24(7), 970–984.
<https://doi.org/10.1080/13683500.2020.1829571>
- Shamon, H., & Berning, C. C. (2020). Attention Check Items and Instructions in Online Surveys: Boon or Bane for Data Quality? *Survey Research Methods*, 55-77 Pages.
<https://doi.org/10.18148/SRM/2020.V14I1.7374>
- Shrestha, S. K., & Burns, R. C. (2016). Integrating Constraints to the Theory of Planned Behavior in Predicting Deer Hunting Participation. *Human Dimensions of Wildlife*, 21(5), 445–459. <https://doi.org/10.1080/10871209.2016.1187779>
- Soliman, M. (2019). Extending the Theory of Planned Behavior to Predict Tourism Destination Revisit Intention. *International Journal of Hospitality & Tourism Administration*, 1–26. <https://doi.org/10.1080/15256480.2019.1692755>
- Son, J. S., Mowen, A. J., & Kerstetter, D. L. (2008). Testing Alternative Leisure Constraint Negotiation Models: An Extension of Hubbard and Mannell’s Study. *Leisure Sciences*, 30(3), 198–216. <https://doi.org/10.1080/01490400802017308>
- Song, H. J., Lee, C. K., Kang, S. K., & Boo, S. J. (2012). The effect of environmentally friendly perceptions on festival visitors’ decision-making process using an extended model of goal-directed behavior. *Tourism Management*, 33(6), 1417-1428.
- Su, D. N., Johnson, L. W., & O’Mahony, B. (2020). Will foodies travel for food? Incorporating food travel motivation and destination foodscape into the theory of planned behavior. *Asia Pacific Journal of Tourism Research*, 25(9), 1012–1028.
<https://doi.org/10.1080/10941665.2020.1805475>
- Torres, E. N., Ridderstaat, J., & Wei, W. (2021). Negative affectivity and people’s return intentions to hospitality and tourism activities: The early stages of COVID-19.

Journal of Hospitality and Tourism Management, 49, 89–100.

<https://doi.org/10.1016/j.jhtm.2021.08.021>

Tran, Q-T., Nguyen T-N Mai., Nguyen, A_T, Nguyen, H-C. & Vu, M-C. A Tourists' Travel Intention in the Context of Covid-19 in Viet Nam. (2021). European Journal of Business and Management. <https://doi.org/10.7176/EJBM/13-14-07>

Vassiliadis, C. A., Bellou, V., Priporas, C.-V., & Andronikidis, A. (2018). Exploring the Negotiation Thesis Application Among Ski Resort Tourists: A Segmentation Approach. Journal of Hospitality & Tourism Research, 42(5), 716–739.

<https://doi.org/10.1177/1096348015597030>

Wang, M., Jin, Z., Fan, S., Ju, X., & Xiao, X. (2021). Chinese residents' preferences and consuming intentions for hotels after COVID-19 pandemic: A theory of planned behaviour approach. Anatolia, 32(1), 132–135.

<https://doi.org/10.1080/13032917.2020.1795894>

White, D. D. (2008). A Structural Model of Leisure Constraints Negotiation in Outdoor Recreation. Leisure Sciences, 30(4), 342–359.

<https://doi.org/10.1080/01490400802165131>

Yang, S., Isa, S. M., & Ramayah, T. (2021). How are destination image and travel intention influenced by misleading media coverage? Consequences of COVID-19 outbreak in China. Vision, 0972262921993245.

Zenker, S. & Kock, F. (2020). The coronavirus pandemic – A critical discussion of a tourism research agenda. Tourism Management, 4.

Chapter 5

Examining relationships between COVID-19 destination practices, value, satisfaction, and behavioral intentions for tourists' recent outdoor recreation trips.

Published in Journal of Destination Marketing and Management

Humagain, P., & Singleton, P. A. (2021). Examining relationships between COVID-19 destination practices, value, satisfaction and behavioral intentions for tourists' outdoor recreation trips. *Journal of Destination Marketing & Management*, 22, 100665. <https://doi.org/10.1016/j.jdmm.2021.100665>

Abstract

Using a structural equation model, this study examined the influence of tourists' satisfaction with COVID-19 practices at destinations on tourists' value, satisfaction, and behavioral intentions (revisit and recommendation intentions). From a sample of 405 tourists who participated in outdoor recreation trips after March 2020, this study found that satisfaction with COVID-19 practices at destinations had significant impacts on tourists' perceived value, overall satisfaction, and revisit/recommendation intentions, controlling for the impacts of socio-demographic, trip, and destination-related factors. This study also examined how first-time and repeat visitors developed behavioral intentions differently, using multi-group analysis. Specifically, revisit/recommendation intentions for repeat visitors were not associated with satisfaction with COVID-19 measures, whereas the relationships were significant for first-time visitors. Finally, theoretical and managerial implications based on study findings were outlined and recommendations for future research were made.

Keywords: behavioral intentions, COVID-19, destination practices, tourist satisfaction, multiple group analysis, outdoor recreation trip

5.1 Introduction

COVID-19 has a major influence on tourists' behaviors, increasing feelings of fear, anxiety, and risk, thus inhibiting the desire to participate in outdoor recreation trips. However, amidst the pandemic, tourists are still traveling. Tourists' desire to travel during a crisis might be motivated by several factors: (1) experiencing novelty (Farmaki et al., 2019), (2) reliving normalcy and rest/relaxation (being able to escape in natural/remote environments without wearing masks, stress reduction), (3) safety factors (avoiding crowds, going to open spaces), or (4) social responsibility (enhancing the local economy) (Rittichainuwat, 2008). Some literature also refers to this segment of traveling tourists as "crisis resistant tourists," as they are willing to take risks and enjoy the destination despite the threats (Hajibaba et al., 2015; Zenker & Kock, 2020). As a destination's economic survival during the unique event of COVID-19 may depend on this segment of tourists, it is imperative for destination managers as well as researchers to understand the behavior of such populations.

One critical factor that influences tourists' travel motivations, satisfaction, and future intentions in such crisis periods is the perception of safety during the visit. To ensure safe and stress-free visits, destinations around the US applied various precautionary measures (such as the provision of sanitizers and maintaining social distancing). Although risk and safety perceptions have been examined with constructs such as satisfaction, value, and intentions, there have been few studies that examine tourists' evaluations of destination safety measures during such crisis events. Driven by this motivation and the existing literature gap, we attempt to illuminate the relationship

between tourists' evaluations of COVID-19 practices at destinations and two key dimensions of tourists' behaviors which have been well documented in the past literature as "revisit intentions and recommendation intentions." These tourist intentions are often analyzed with consideration of related constructs such as satisfaction, destination image, familiarity, and perceived value (Chen & Chen, 2010; He & Song, 2009; C.-K. Lee et al., 2007; Pena et al., 2012; Phillips et al., 2013; Um et al., 2006). By defining a new construct representing COVID-19 practices at destinations (such as the provision of sanitizers, efforts to maintain social distancing, etc.) as well as using constructs of overall satisfaction and overall value, we build a conceptual model, which we validate with supporting data.

It is well documented in past studies that tourists' perceptions of risk and their ability to apply risk reduction strategies (to lower the risk) are heterogeneous in nature (e.g., Ritchie et al., 2017). Specifically, COVID-19 risk perceptions could vary according to demographics (such as age, gender, etc.), travel-related attributes (such as travel time), or destination-related attributes (such as COVID-19 spread at destination, crowding). The amount of risk perceived by individuals might then influence how tourists evaluate COVID-19 measures at the destination. Previous studies also suggest that previous visitation to the destination can reduce risks because of increased familiarity with the destination (Gitelson & Crompton, 1984; Reid & Reid, 1994). Hence, it is imperative to understand such differences while exploring the relationships between COVID-19 measures and other variables.

To summarize, the present study aims to explore tourists' future behavioral intentions (revisit/recommendation intentions) and relationships with satisfaction, value, and satisfaction with destination practices, during COVID-19 affected destination environments. The specific objectives of this study are to:

- Determine the influences of socio-demographic, travel-related, and destination-related attributes on tourists' evaluations of COVID-19 measures at destinations, value, satisfaction, and behavioral intentions.
- Illuminate the relationships between COVID-19 measures at the destination and value, satisfaction, and behavioral intentions.
- Explore the differences in first-time and repeat visitors on relationships between these constructs.

Note that an outdoor recreation trip is defined in this study as “a journey involving at least one overnight stay away from home, and where the purpose is to engage in recreational activities in an outdoor or natural environment.” We focus on domestic trips based on findings offered by previous studies on similar disease threats (Ebola, SARS), which indicate that tourists have a general preference for domestic trips (over international trips) during such events, to reduce the uncertainty and risks associated with longer travel and relatively unknown destination responsiveness, as well as to uplift the local destination community (tourist ethnocentrism) (Zenker & Kock, 2020; Cahyanto et al., 2018; Page et al., 2006). Similarly, we focus on overnight trips because of the added complexity in decision making for such trips, and tourists' involvement with multiple facets of the destination, such as accommodation, food,

information availability, etc. The data used for the study comes from participants answering survey questions about their recent outdoor trip experience during COVID-19 (between March and November, 2020).

5.2 Literature review and hypothesis development

In this section, we first define our study variables. Next, we develop hypotheses to relate COVID-19 practices at destinations with other variables. Finally, we develop a conceptual model incorporating the proposed relationships.

5.2.1 Satisfaction with COVID-19 related operational practices at the destination

The current COVID-19 outbreak has duly influenced tourists' decision making to participate in outdoor recreation activities and behavioral intentions. With tourists' health as a major concern for destination managers, destinations around the US have implemented different measures to allow tourists a safe, productive, and pleasurable experience. Such measures (for more details see Table 5.3) are defined in this study as COVID-19 practices at the destination. The answers to specific questions—How does satisfaction with COVID-19 related operational practices at destinations influence future behavioral intentions? What kind of relationship exists between the construct and satisfaction (overall and with destination attributes)? —could be closely linked with tourists' perceptions of risk during the destination visit in the current context.

Although perceived risk entails several definitions in travel, psychology, and the social sciences, we conceptualize perceived risk in our study as "...the individuals' perceptions of the uncertainty and negative consequences of buying a product (or a

service) (Downling & Staelin, 1994), performing a certain activity, or choosing a certain lifestyle” (Reisinger & Mavondo, 2005).” Relevant to our study, perception of risk can be defined as the degree of inconvenience, fear, and anxiety caused by outdoor recreation participation in face of a global pandemic situation due to COVID-19. Prior tourism literature has suggested that risk perception comprises several different dimensions (e.g., Roeh and Fesenmaier, 1992; Sönmez and Graefe, 1998; Fuchs & Reichl, 2006), which is equally applicable in the COVID-19 affected environment (Xu et al., 2021; Sánchez-Cañizares, 2020): (i) physical risks: being infected with COVID-19; (ii) facility risk: poor destination management in response to COVID-19; (iii) satisfaction risk: not being able to enjoy a satisfied experience; (iv) psychological risk: fear, anxiety, and other negative emotions due to the COVID-19 threat; and (v) social risk: transmission of COVID-19 to others. In response to perceived risks, tourists often apply strategies that reduce the severity of consequences of a particular risk (Cases, 2002; Lo et al., 2011). In this paper, we do not delve into individual level-strategies (such as information acquisition or purchase of insurance) (e.g., Lo et al., 2011), but rather we focus on destination implemented strategies. In this sense, COVID-19 measures at the destination should be regarded as one of the risk reduction strategies implemented at destinations to mitigate tourists’ concerns about the risks to health and potential transmission of COVID-19 during their visit.

5.2.2 Perceived Value

The perceived value of a trip to a destination reflects a tradeoff between the costs incurred during the visit to the destination and acquired experience or benefits during the

visit (Murphy et al., 2000; Lee et al., 2007). Tourists' perceived value involves evaluation of both functional aspects (service quality, monetary value, and convenience) and affective aspects (sociability, esteem or affective states such as fun, pleasure) (Pena et al., 2012; Oliver, 1997; Lee et al., 2007) during the destination visit. The tourists' evaluation of costs (such as accommodation, purchase of ticket) will only be optimal if tourists can fulfill objectives of their visit (such as autonomy, novelty or escapism), where the positive emotions (such as fun, pleasure, happiness) subdues the negative ones (such as fear, anxiety due to COVID-19) (del Bosque & Martin, 2008). In case of a pandemic threat, it can be argued that an individual's evaluation of value of a destination visit would depend significantly on safety or hygiene measures employed at the destination (Sánchez-Cañizares et al., 2021). The rationale for this argument is that tourists would be more likely to positively evaluate the incurred costs of the destination visit if the services in and around the destination have proper COVID-19 measures implemented. In other words, the cost of purchasing a service during the destination visit would generate higher benefits, if tourists feel safer or perceive lower risk, amidst the pandemic threat. From an economic perspective, Sánchez-Cañizares et al. (2021) suggests that tourists might be interested to pay extra for their safety in all aspects of the destination visit (referred as willingness to pay more). Hence, the following hypothesis is proposed:

Hypothesis 1: Satisfaction with COVID-19 practices at the destination has a significant and positive effect on overall perceived value.

5.2.3 Satisfaction

Satisfaction can be described as the holistic evaluation of an experience that is derived from positive feelings of enjoyment/exhilaration in response to a destination experience (Chi & Qu, 2008; Chi et al., 2020; Hall et al., 2017; Oliver, 1980; Phillips et al., 2013; Um et al., 2006). Tourists' overall satisfaction with a trip to a destination comprises subjective evaluations of different components of a destination, including tangible attributes such as transportation, accommodation, outdoor activities, safety, etc., as well as intangible attributes such as tourist information, the behavior of local people, and service providers (Chi et al., 2020; Ozturk & Gogtas, 2016; Phillips et al., 2013). Similar to perceived value, tourists' satisfaction depends on the types of emotions (positive) experienced during the trip (Pestana et al., 2020). Adequate COVID-19 measures at the destination such as proper signage, provision of sanitizers, cleanliness around restrooms, or proper safety standards of food service providers would enhance the confidence, mobility and preparedness of tourists during a destination visit. Thus, this study posits:

Hypothesis 2: Satisfaction with COVID-19 practices at the destination has a significant and positive effect on satisfaction with overall satisfaction with the trip.

5.2.4 Behavioral intentions

A large number of studies have explored the relationships between risk perceptions and behavioral intentions (e.g., An et al., 2010; Sönmez & Graefe, 1998). More recently, the influence of COVID-19 risk on behavioral intentions has been gaining attention in tourism research (e.g., Xu et al., 2021; Sánchez-Cañizares et al., 2021;

Hassan & Soliman et al., 2021). A general consensus in the existing studies is that tourists' behavioral intentions are negatively associated with the perceived level of risk. For example, Sánchez-Cañizares et al. (2021) found that perceived COVID-19 risk exerts a negative effect on attitude to traveling during the pandemic, which then has a significant impact on the intention to visit the destination. Borrowing from the findings, we can expect that any kind of risk-reduction strategy that attempts to lower the risk of COVID-19 will have an opposite effect on future intentions: i.e., a positive relationship between risk reduction strategy and future behavioral intentions. Hence, we propose that:

Hypothesis 3: Satisfaction with COVID-19 practices at the destination has a significant and positive effect on recommendation intention.

Hypothesis 4: Satisfaction with COVID-19 practices at the destination has a significant and positive effect on revisit intention.

A plethora of studies in tourism literature have empirically validated the relationships between value, satisfaction, and behavioral intentions (see Table 5.1). Although the primary focus of this study is to explore associations between COVID-19 measures at the destination and these constructs, incorporating those relationships in our conceptual model will help us identify the direct and indirect effects of these variables of interest with future behavioral intentions. Hence, we decided to include the relationships in our conceptual model shown in Figure 5.1.

Table 5.1

Empirical evidence of relationships between value, satisfaction, and behavioral intentions

Relationships	Empirical evidence
Overall satisfaction → Recommendation intention	Chen & Chen, 2010; Ozturk & Gogtas, 2016; Pandža Bajs, 2015; Phillips et al., 2013; Um et al., 2006
Overall satisfaction → Revisit intention	
Overall value → Overall satisfaction	Hasan et al., 2020; Pandža Bajs, 2015; Phillips et al., 2013
Overall value → Recommendation intention	Chen & Chen, 2010; He & Song, 2009; C.-K. Lee et al., 2007; Pena et al., 2012; Phillips et al., 2013; Um et al., 2006
Overall value → Revisit intention	

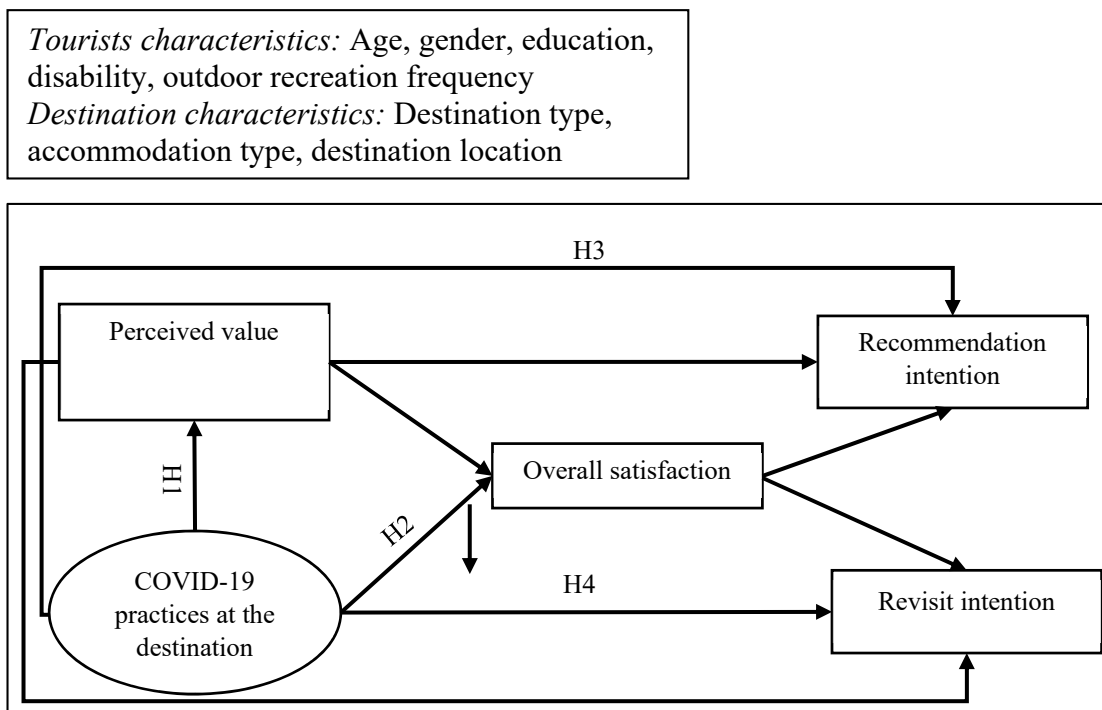
5.2.5 Socio-demographics, trip and destination attributes

Other variables which are deemed to affect the intention to revisit/recommend and their antecedents are socio-demographic factors (Gabe et al., 2006; Ozturk & Gogtas, 2016; Um et al., 2006, Shrestha et al., 2012). Age and income were two noticeable socio-demographic factors associated with intention to revisit (Gabe et al., 2006; Ozturk & Gogtas, 2016; Um et al., 2006). Similarly, travel-related attributes such as distance and time to reach the destination were likely to inhibit revisit intention (Um et al., 2006; Gabe et al., 2006). Past participation frequency (a measure of the number of trips a tourist makes within a defined time period) has also been related to behavioral intentions (e.g., Shrestha et al., 2012). The decision to participate in an outdoor recreation trip during a pandemic threat is a high-risk decision, especially for those populations at a higher risk of COVID-19 (i.e., older age people, pregnant women, presence of diseases). Other factors influencing behaviors during the destination visit would be the COVID-19 spread around the destination, the type of destination (open places are more preferred due to lower risk

of contact with others), and the type of accommodation (hotels are often perceived as having higher risks than outdoor places such as campgrounds). All the socio-demographic factors (age, education, gender) and destination related attributes (type of destination, accommodation, COVID-19 spread) could influence tourists' evaluations of variables of the study. Hence, we propose that:

Hypothesis 5: Socio-demographics, work-related attributes, and trip/travel characteristics influence overall satisfaction and revisit/recommendation intentions.

Although all our hypotheses indicate a positive direction of influence from COVID-19 measures at the destination to other constructs, we acknowledge that the relationship could be non-significant or even negative. The negative outcomes of COVID-19 regulations at the destinations include closure of activities, inadequate services for food and lodging, longer queue lengths at entrance, etc. These kinds of restrictions could result in dissatisfaction with the visit and lower intentions to revisit or recommend the destination. Hence, this warrants further empirical inquiry of the hypotheses proposed in our study.

Figure 5.1*Conceptual structural model*

5.2.6 First-time visitors (FTVs) vs repeat visitors (RVs)

The tourism literature describes two distinct segments of visitors as first-time and repeat visitors. While first-time visitors represent new consumers who seek the destination among available destination alternatives based on recommendations and information searches, return visitors are influenced by their previous visitation experiences and destination attachment and represent stable and loyal consumers (Schofield et al., 2020). There are a plethora of studies that attempt to differentiate FTVs and RVs based on variables such as demographics, travel behavior, motivations, perceptions, destination image, and destination loyalty (e.g., Li et al, 2008; Lee et al., 2009; Fakeye and Crompton, 1991). First, several studies have suggested that RVs have

more positive views of the destination overall and are more likely to be willing to recommend the destination to others than FTVs (Chi & Qu, 2008; Chi, 2012; Schofield et al., 2020). Second, the studies have illustrated the differences in magnitude and significance of relationships between value, satisfaction, and behavioral intentions for FTVs/RVs (Kozak and Rimmington, 2000; Chi & Qu, 2008).

Since RVs are familiar with the destination and know the whereabouts of services provided in and around the destination, this experience would likely contribute to risk reduction (Gitelson & Crompton, 1984; Reid & Reid, 1994). For example, repeat visitors know about the campgrounds, hotels, or nearby facilities which can assist them in choosing an accommodation or a recreation activity that involves limited contact with people to reduce the COVID-19 related risks. Although repeat visitors are expected to have higher satisfaction than the first timers (due to a satisfied experience in the past), it is important to note that repeat customers could be subjected to a completely different experience than the previous one due to COVID-19. RVs' goals of re-creating the previous destination experience could be impacted by COVID-19 measures at the destination (such closure of facilities or unavailability of services), which in turn can influence their trip satisfaction and future behavioral intentions, known as expectation disconfirmation (Oliver, 1980). Hence, the FTVs and RVs represent comparable populations when they visit destination during pandemic threat, only differentiated by increased familiarity with the destination for RVs. Additionally, there are differences in visitation patterns between FTVs/RVs (Lau & McKercher, 2004; Baloglu, 2001), with first-time visitors mostly inclined to carry out spatially diverse activities around the

destination (which entails a higher COVID-19 risk). Hence, it can be argued that perception of COVID-19 measures at the destination and its association with behavioral intentions, value, and satisfaction could differ in magnitude and direction for FTVs/RVs.

Hypothesis 6: The structural paths in the model of behavioral intentions differ for first-time vs repeat visitors.

5.3 Analysis and results

5.3.1 Data

The data required for the study was collected from a 15-min online questionnaire survey conducted during October and November of 2020, administered to US adults (18 years and above) through a Qualtrics online panel. The Qualtrics online panel is a group of people recruited to respond to a survey, who are typically chosen from a pre-arranged pool of respondents who have agreed to be contacted by Qualtrics to respond to a survey. The use of online panels for collecting survey data has been on the rise in the field of tourism research, due to the increased speed of data collection as well as greater reliability and low response bias (e.g., Dolnicar et al., 2012, Brandon et al., 2013). On the questionnaire, respondents were asked for detailed information about their socio-demographics, employment attributes, and other questions specifically about their recent outdoor recreation trip experience. The original sample included 1,005 respondents who represented the US population in terms of gender, age, household income, region, race, and educational level. However, only responses from 437 participants who went on an outdoor recreation trip since the start of the pandemic (i.e., after March 2020) were

allowed to answer the questions relevant to this analysis (measuring satisfaction with COVID-19 measures at the destination and other constructs). Note that this study is only focused on domestic trips (trips within the US). Out of the 437 responses, thirty-two respondents who selected the same choice on 83% of survey questions (i.e., 15 out of 18 questions) were removed, resulting in a final sample size of 405 responses. Descriptive statistics of the sample are presented in Table 5.2.

Table 5.2

Descriptive statistics (N = 405)

Variables	#	%
Socio-demographics		
Age		
18-25	43	10.617
25-34	103	25.432
35-44	134	33.086
45-64	86	21.235
65+	39	9.630
Gender		
Male	229	56.543
Female	171	42.222
Transgender	4	0.988
Do not identify as female, male or transgender	1	0.247
Education level		
Below Undergrad	172	42.460
Undergrad	93	22.963
Graduate	140	34.568
Household income		
\$0-25k	52	12.840
\$25-50k	68	16.790
\$50-75k	71	17.531
\$75-100k	65	16.049
\$100-150k	72	17.778
\$150k+	75	18.519
Don't know	2	0.494
Disability or risk factor		
No	253	62.47

Yes (Pregnancy, respiratory or heart disease, age >65 years, any kind of disability that hinders the ability to move)	152	37.53
Trip characteristics		
Companionship		
Alone	47	11.605
Family/friends/business/work colleagues	203	50.123
Number of nights at the destination		
1	40	9.877
2	97	23.951
3	126	31.111
4	68	16.790
5+	74	18.272
Travel time to destination		
1-3 hrs	142	35.062
3-6 hrs	155	38.272
6-9 hrs	70	17.284
9+ hrs	38	9.383
Previous visit to the destination		
Yes	266	65.679
No	139	34.321
Past participation frequency (# of outdoor recreation trips in the past year)		
0	17	4.198
1	45	11.111
2	86	21.235
3	82	20.247
4	73	18.024
5+	102	25.185
Destination attributes		
Destination type		
Cities or small towns	133	32.83
Beaches	139	34.34
Others (national, state or regional parks, RV or motorhome trips, campground, mountain destination)	133	32.83
Accommodation		
Airbnb, guesthouse, hotel	257	63.46
Others (campsite, outdoor activity center, family/friends' home)	148	36.54
Destination location		
Northeast	41	10.12
Midwest	49	12.10
South	159	39.26
West	156	38.52

5.3.2 Construct Measurement

The constructs used in the research include COVID-19 practices at the destination, satisfaction with destination attributes, the perceived value of money, overall satisfaction with the trip, and revisit and recommendation intentions. As multiple operational practices could be applied at the destination, the construct COVID-19 practices at the destination was measured by multiple items (7) on a 5-point Likert type scale (1 = strongly dissatisfied, 5 = strongly satisfied) through the question “Based on your experience at the destination, how satisfied were you with the following practices at the destination?” These seven items were derived from the University of Florida, Tourism Impact Survey (COVID-19 Perceptions of Risk Travel. Survey, 2020) (see Table 5.3 for more details).

Other variables—perceived value, overall satisfaction with the trip, and revisit and recommendation intentions—were measured by a single item on a 1 to 5 Likert scale, adapted from the review of previous studies. The use of a single item was chosen primarily due to the adequacy of the item to measure the construct, sufficient validity across various studies, and to reduce respondent burden. Perceived value, which denotes a tourist’s overall evaluation of the products and services obtained at the destination, was measured by asking “Do you think the goods and other services you purchased at the destination were a good value for money?” on a 5-point scale (1 = strongly disagree, 5 = strongly agree) (Pandža Bajs, 2015; Phillips et al., 2013; Um et al., 2006). Although perceived value has been analyzed in recent studies using a multidimensional scale including evaluation of quality, monetary price, non-monetary price, and emotional

response (such as the SERV-PERVAL scale by Petrick and Backman, 2002), the focus of our measurement lies on assessing tourists' overall evaluation of value, where the use of unidimensional scale is justified (e.g., Gale, 1994; Phillips, 2013). Similarly, overall satisfaction with the trip was also measured using a single question: "Based on the experiences you had during your recent outdoor recreation trip, how satisfied were you overall with your visit to this destination?" (1 = strongly dissatisfied, 5 = strongly satisfied) (adapted from studies of C. G.-Q. Chi & Qu, 2008; Phillips et al., 2013; Um et al., 2006). Finally, recommendation and revisit intentions were assessed by asking: "Based on the experiences you had during your recent outdoor recreation trip, how likely it is that you would recommend the destination to others? How likely would you return to the same destination for an outdoor recreation trip in the near future?" on a 5-point scale (1 = extremely unlikely, 5 = extremely likely) (Phillips et al., 2013; Um et al., 2006).

5.3.3 Dimensions of COVID-19 practices at the destination

An exploratory factor analysis (EFA) was performed to understand and validate the underlying dimensions of COVID-19 practices at the destination by analyzing patterns of correlation among the seven items included to measure this construct. For EFA, the factors were extracted using principle axis factoring with oblique rotation, as the goal of our analysis was to identify latent constructs underlying measured variables (Kline, 2005; Hair et al., 1998). Since all the measured items were ordinal in nature, the polychoric correlation between items was used as the input for EFA. The results of the EFA indicated that all seven items describe a single latent factor: COVID-19 practices at

the destination. As seen in Table 5.3, factor loadings of the items ranged from 0.81-0.86, which is above the suggested threshold value of 0.3 (Hair et al., 1998; Kline, 2005).

Similarly, the Cronbach's alpha of the seven items was above 0.90, suggesting high internal consistency. Furthermore, the explained variance was found to be 69%, which is also greater than the cutoff threshold of 60% (Hair et al., 1998). To summarize, the seven items constructed were significant in measuring the latent construct COVID-19 practices at the destination considering factor loadings, internal consistency, and total variance explained.

Table 5.3

Exploratory factor analysis

Items	Variance explained	Cronbach's alpha	Factor loading	Eigen value
COVID-19 practices at the destination	69%	0.94		
1. Signage placed to encourage people staying six feet apart from one another in crowded areas			0.81	5.16
2. Efforts to enforce social distancing and use masks/face coverings			0.84	0.39
3. Staff efforts to regularly wipe down surfaces			0.84	0.36
4. Advising visitors with flu-like symptoms to stay home			0.86	0.32
5. Provision of station touchless hand sanitizers			0.84	0.29
6. Providing employees with personal protective equipment (e.g. gloves, masks)			0.83	0.26
7. Well ventilated and clean restrooms			0.82	0.21

5.3.4 Structural model specification and results

All the variables included in the structural model (see Fig 5.1) are ordinal variables, for example from 1 (strongly dissatisfied) to 5 (strongly satisfied). With ordinal scales being used, a score of 4 does not necessarily suggest being twice as satisfied as 2, and alternately the difference between two levels (say 1 and 2) does not necessarily equal the difference between the next two levels (say 2 and 3 or 4 and 5) (Allen et al., 2020). Hence, treating ordinal variables as continuous might introduce bias into the results. Thus, in our case, we specify all the measured variables as ordinal, instead of continuous.

The common method used for the estimation of parameter coefficients in structural equation modeling (SEM) is Maximum Likelihood (ML), which is useful for interval, ratio, or continuous data that follow the normal distribution. However, in case of ordinal variables, past research has suggested the use of Diagonally Weighted Least Squares (DWLS) or Unweighted Least Squares (ULS) estimation (Li, 2014). Using Monte-Carlo simulation for various scenarios for ordinal variables (based on differing sample size, response categories, and distribution), ULS and DWLS have been found to yield more accurate factor loading estimates, structural coefficient estimates, and other goodness-of-fit statistics than ML (Li, 2014; Li, 2016). Hence, in the following analysis, a ULS estimator with ordinal variables was used.

As mentioned earlier, risk perceptions (including diseases or crowding) differ according to the demographic profile of respondents, as well as trip or destination attributes. The heterogeneity is even more pronounced during the pandemic context, as people respond differently to COVID-19 risks during their outdoor recreation visits. The

COVID-19 spread at the destination, the type of accommodation (whether in hotels or open spaces such as campsite), and the type of destination (open spaces vs cities) are other prominent factors influencing tourists' evaluations of COVID-19 measures and other variables in our study. In order to account for such heterogeneous behavior, socio-demographic attributes (such as age, education, disability), travel attributes (time to reach the destination, nights spent at destination) and destination related attributes (such as destination type, COVID-19 spread) were included in the model as the exogenous predictors of each of the variables. In other words, these attributes were used as control variables in the structural equation model. Using control variables in structural models yields more accurate estimates of relationships among constructs (Becker et al., 2016). The structural equation model is specified as in Figure 5.1.

Five different fit indices—chi-square per degree of freedom, CFI, TLI, RMSEA, and SRMR—were used to determine the model goodness-of-fit. CFI and TLI are the incremental fit indices, where a value of 1 represents the best model and a value of 0 is the worst model. SRMR is an absolute fit index, which describes the error between observed and model-predicted correlation; hence, a lower value (closer to 0) indicates a good model fit. Similarly, lower values of RMSEA are indicative of a suitable model fit. The analysis was performed using the lavaan package in R (Rosseel, 2012). As seen in Table 5.4, CFI (0.981) and TLI (0.991) values were greater than the threshold of 0.95; absolute fit indices SRMR (0.057) and RMSEA (0.049) values were both less than the threshold of 0.08. Note that both ULS and DWLS have similar fit indices and produce identical structural coefficients; hence any of those methods are feasible. All of the fit

indices produced by ULS are within the threshold requirements, which indicates a satisfactory fit between the proposed study model and the collected data.

Table 5.4

Goodness-of-fit statistics of proposed conceptual model (ULS estimator)

Indices	ULS (ordinal)	Threshold
χ^2/df	228.53/116	
CFI	0.981	≥ 0.95
TLI	0.991	≥ 0.95
RMSEA	0.049[0.040,0.059]	< 0.08
SRMR	0.057	< 0.08

5.3.5 Socio-demographic, trip and destination effects

Effects of socio-demographic, trip, and destination related attributes on the model variables are shown in Table 5.5. Only significant and marginally significant variables are reported.

Table 5.5

Effect of socio-demographics, trip and destination attributes on model variables

Variables	COVID-19 practices at the destination	Overall value	Overall satisfaction	Recommendation intention	Revisit intention
Socio-demographics					
Age	0.158	-----	0.163	0.068	-----
Education	0.105	-----	-----	-----	-----
Disability (ref=No)					-----
Yes	0.156	-----	-----	0.098	-----
Companion: (ref=Alone)					
Family/Friends/Business colleagues	-----	-----	-----	0.097	-----
# recreation trips previous year	0.173	0.102	-----	0.102	0.087

Destination type (ref=Others)					
Cities or small towns	0.107	----	----	----	----
Beach	0.116	----	----	----	----
Destination location (ref = West)					
Northeast	0.122	----	----	0.078	----
Midwest	-0.100	0.110	----	----	----
South	----	----	----	----	0.107
<hr/>					
R-squared					
COVID-19 practices at the destination	0.151				
Overall value	0.325				
Overall satisfaction	0.409				
Recommendation intention	0.479				
Revisit intention	0.398				

Note: Bold ~ $p < 0.05$, Italics ~ $p < 0.1$, --- ~ Not significant

The results of the SEM model indicated that older people, people with a higher level of education, those at higher COVID-19 risk (people with disability or disease concerns), and those who participated in more outdoor recreation trips in the past all had higher satisfaction ratings with COVID-19 practices at the destination. Tourists who went to cities or small towns and beaches for their outdoor recreation trips also reported higher satisfaction with COVID-19 measures at the destination compared to those traveling to public lands (parks, campsites) or those taking trips in recreational vehicles. Additionally, tourists who went to destinations in the Northeast and Midwest regions displayed higher and lower satisfactions respectively with COVID-19 measures than those who traveled to destinations in the West region. A higher frequency of outdoor recreation trips in the past year also had positive linkages with the COVID-19 practices at the destination, overall value, recommendation, and revisit intentions. Similarly, older people, tourists traveling

with family, friends, and colleagues (compared to those traveling alone), and to destinations in the Northeast region (compared to the West) were more inclined to recommend the destination to others. Finally, outdoor recreation trips conducted in the South were positively associated with revisiting the destination in the near future. Household income, gender, time to reach the destination, number of nights spent, and type of accommodation had no significant effects on any of the constructs.

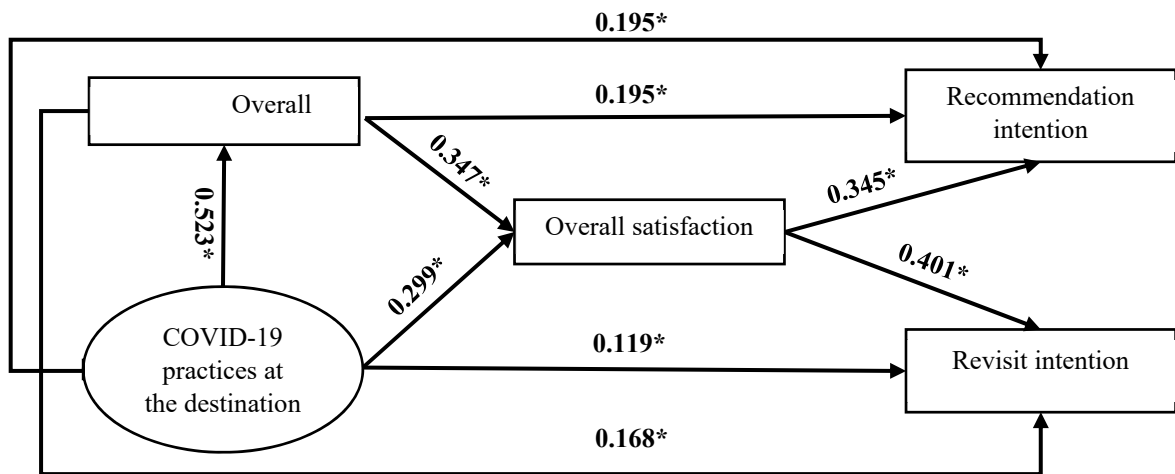
5.3.6 Variable relationships

Table 5.6 displays the results of the analysis of our proposed model using the ULS estimator. Significance tests for the estimated structural coefficients provide the basis for accepting or rejecting the proposed hypotheses of relationships between the constructs, depicted visually in Figure 5.2. The results showed that controlling for the effects of socio-demographics, trip, and destination related attributes, COVID-19 practices at the destination positively and significantly influenced overall perceived value ($\beta = 0.523$, $p < 0.05$), overall satisfaction ($\beta = 0.302$, $p < 0.05$), recommendation intention ($\beta = 0.197$, $p < 0.05$), and revisit intention ($\beta = 0.120$, $p < 0.05$). Furthermore, perceived value for money was found to influence all the endogenous variables statistically and in a positive direction: overall satisfaction ($\beta = 0.347$, $p < 0.05$), recommendation intention ($\beta = 0.191$, $p < 0.05$), and revisit intention ($\beta = 0.168$, $p < 0.05$), after controlling for the influences of aforementioned attributes. Finally, the results displayed that overall satisfaction with the trip had a significant and positive influence on recommendation intention ($\beta = 0.345$, $p < 0.05$) and revisit intention ($\beta = 0.401$, $p < 0.05$), controlling for the effects of socio-demographic, trip, and destination related attributes. To summarize,

all four hypotheses as well as relationships between value, satisfaction, and behavioral intentions in our conceptual model were supported by the data.

Figure 5.2

Results of the proposed conceptual model



Note: → Significant paths, * ~ $p < 0.05$

Table 5.6

Structural equation modeling results using ULS and ordered variables

Hypotheses	β	SE	p	Result
H1: COVID-19 practices at the destination → Overall value	0.523	0.054	0.000	Supported
H2: COVID-19 practices at the destination → Overall satisfaction	0.302	0.068	0.000	Supported
H3: COVID-19 practices at the destination → Recommendation intention	0.197	0.060	0.000	Supported
H4: COVID-19 practices at the destination → Revisit intention	0.120	0.063	0.009	Supported
Overall value → Overall satisfaction	0.347	0.048	0.000	
Overall value → Recommendation intention	0.191	0.040	0.000	
Overall value → Revisit intention	0.168	0.041	0.000	
Overall satisfaction → Recommendation intention	0.345	0.039	0.000	

Overall satisfaction → Revisit intention 0.401 0.039 0.000

Despite significant direct effects between the variables are presented in the results above, the relationship between variables (COVID-19 practices at the destination and overall value) and behavioral intentions could be mediated by overall satisfaction, as found in past studies (Chen & Chen, 2010; Hasan et al., 2020; Phillips et al., 2013). The true nature of the existing associations is represented by direct effects and indirect effects (through the mediator), culminating in the net or total effects. Hence, the direct, indirect, and total effects are provided in Table 5.7. The results show that: (i) overall value partially mediates the association between COVID-19 practices at the destination and overall satisfaction; (ii) overall satisfaction partially mediates the influence of COVID-19 practices at the destination and overall value on both recommendation and revisit intentions; and (iii) both overall satisfaction and overall value exert partial mediation effects on relationship between COVID-19 practices at the destination and behavioral intentions.

Table 5.7

Direct, indirect, and total effects

Hypotheses	Direct	Indirect effect through			Total
		Overall satisfaction	Overall value	Both satisfaction/ value	
H1: COVID-19 practices at the destination → Overall value	0.518	-----	-----	-----	0.518
H2: COVID-19 practices at the destination → Overall satisfaction	0.299	0.180	-----	-----	0.380

H3: COVID-19 practices at the destination → Recommendation intention	0.195	0.103	0.099	0.062	0.459
H4: COVID-19 practices at the destination → Revisit intention	0.119	0.120	0.087	0.072	0.398
Overall value → Overall satisfaction	0.347	-----	-----	-----	0.312
Overall value → Recommendation intention	0.191	0.120	-----	-----	0.311
Overall value → Revisit intention	0.168	0.139	-----	-----	0.518
Overall satisfaction → Recommendation intention	0.345	-----	-----	-----	0.345
Overall satisfaction → Revisit intention	0.401	-----	-----	-----	0.401

Note: All direct, indirect, and total effects were significant ($p < 0.05$)

5.3.7 First-time vs. repeat visitors

In order to examine differences in relationships between measured variables for first-time vs. repeat visitors, a multiple-group structural equation analysis was performed based on whether or not tourists had visited the destination previously (“yes” = first-time visitor, “no” = repeat visitor). Performing multiple-group analysis assists in understanding whether first-time and repeat visitors ascribe similar relationships with future behavioral intentions. The lavaan package in R (Rosell, 2012) was used to conduct the multi-group analysis. To compare the casual relationships between first-time and repeat visitors, it is first necessary to check for measurement invariance (Schout et al., 2012.): i.e., whether the estimated factors of COVID-19 practices at the destination are measuring the same latent construct within each group. First, the CFA for the latent variable COVID-19 practices at the destination was conducted separately for the two groups, where there were marked differences in the loadings of item 5: Provision of station touchless hand sanitizers (0.808/0.711 for FTVs/RVs) and item 7: Well ventilated

and clean restrooms (0.837/0.793 for FTVs/RVs); for the rest of the items, the loadings were nearly identical. Hence, these two items were removed from the CFA model.

To check for measurement invariance, three different models were created: (1) a configural model with unconstrained loadings and intercepts on both groups; (2) a metric model with unconstrained intercepts but same loadings on both groups; and (3) a scalar model with same loadings and intercepts for both groups. If the Chi-squared differences between the models are not significant, it indicates the presence of measurement invariance (Schout et al., 2012). For COVID-19 practices at the destination, three models had no significant differences in Chi-squared values, which suggests that the latent construct was measured identically for both first-time and repeat visitors.

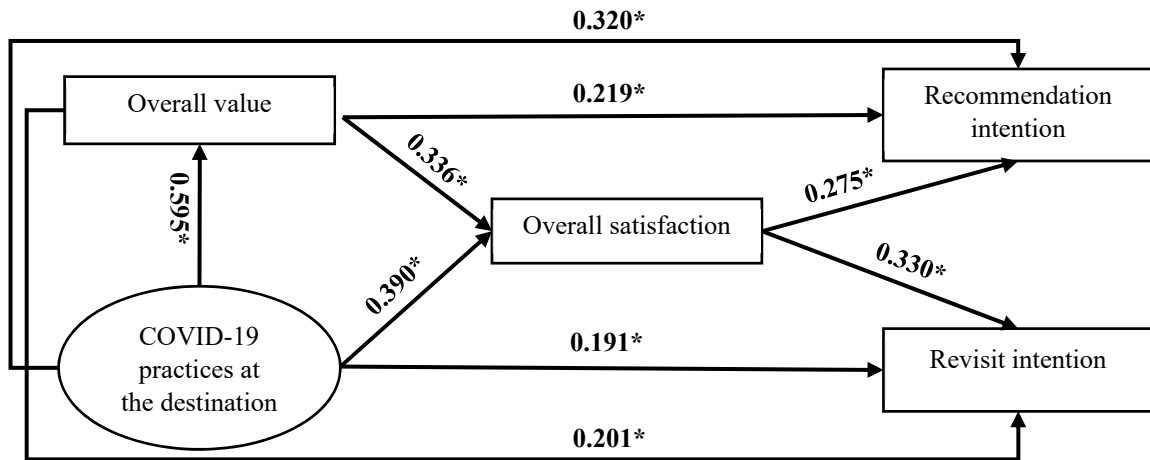
With the evidence of measurement invariance of the latent variable COVID-19 practices at the destination, the next step was to analyze the structural relationships between variables for first-time vs. repeat visitors. To examine whether there are differences in structural relationships, models with unconstrained loadings and intercepts were compared to those where the loadings and intercepts are fixed (as above, see Table 5.8). The Chi-square test between the models indicated that there was a significant difference between the three models ($p < 0.05$), i.e. the path coefficients in groups were different and the configural model displayed the best fit (lowest Chi-square). The results of the configural model for first-time and repeat visitors are illustrated in Figure 5.3 and Figure 5.4. Note that these models do not include socio-demographics, trip, and destination attributes, as we want to measure model differences in case of repeat visitation.

Table 5.8*Fit statistics for convergence, scalar and metric model (for whole model)*

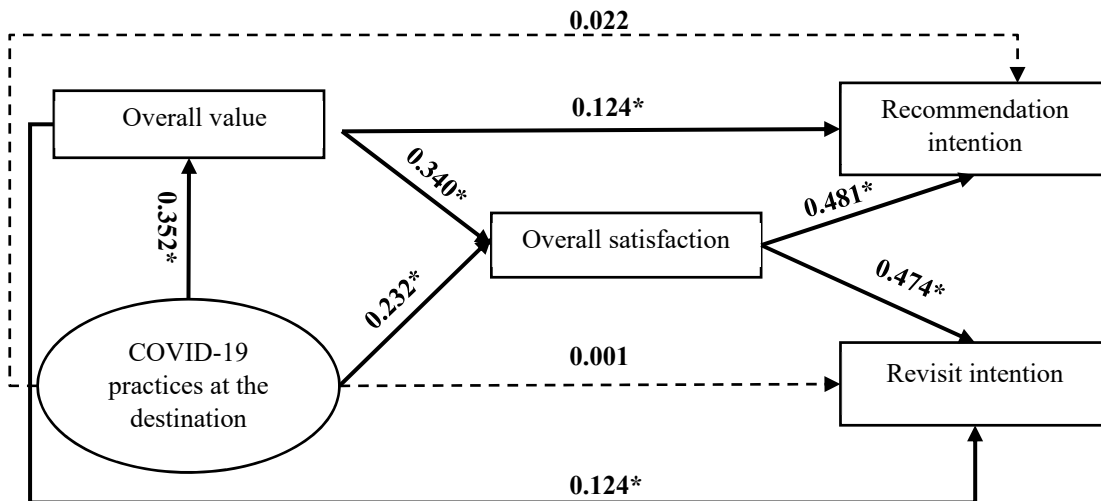
Models	χ^2	df	CFI	TLI	SRMR
Configural: Model 1 (with unconstrained loadings and intercepts)	18.412	42	0.998	0.996	0.070
Metric: Model 2 (with unconstrained intercept, but same loading on both group)	24.785	46	0.997	0.995	0.072
Scalar: Model 3 (with same loadings and intercepts for both groups)	73.235	72	0.993	0.993	0.100

Figure 5.3

Results of theoretical model for first time visitors (N = 266)

**Figure 5.4**

Results of theoretical model for repeat visitors (N = 139)



Note: → Significant paths, --> Insignificant paths, * ~ p < 0.05

The multigroup SEM displayed a good model fit ($\chi^2 = 80.836$, $df = 42$, $CFI = 0.995$, $TLI = 0.991$, $RMSEA = 0.068[0.014, 0.114]$, $SRMR = 0.070$), indicating the validity of the results. Significant differences were found in some of the relationships

between variables for first-time and repeat visitors. Specifically, behavioral intentions of repeat visitors were found not to be influenced by COVID-19 practices at the destination, but strongly influenced by overall satisfaction with the visit. Furthermore, behavioral intentions of first-time visitors had strong associations with both COVID-19 practices at the destination and overall satisfaction with the visit. Similarly, the path between overall satisfaction with overall value and COVID-19 practices was upheld in the case of both types of visitors. Finally, positive and significant associations were found between perceived value and COVID-19 practices at the destination, for both FTVs and RVs. Hence, hypothesis 6 was partly supported, as the multi-group SEM model illustrated differences in the nature (such as COVID-19 practices at the destination → revisit/recommendation intention between FTVs and RVs) and the magnitude (such as higher path coefficients for overall satisfaction → revisit/recommendation intention for RVs than for FTVs) of the relationship between constructs.

5.4 Discussion and conclusions

The first novelty of this study lies in developing a conceptual model incorporating the effects of a destination-related response (i.e. COVID-19 measures at the destination), along with value and satisfaction, on future behavioral intentions. The conceptual model was able to explain the future behavior intention sufficiently (50% of variance explained for recommendation and about 40% of variance explained for re-visitation intentions). Contrary to other research, our findings are based on a tourist's recent experience of a destination, rather than the pre-trip perceptions, which renders our findings more relevant

than the existing studies. A more detailed assessment of the theoretical and managerial implications of the study is explained in the following subsections.

5.4.1 Theoretical Implications

First and foremost, this study identified and then validated seven items through EFA (see Table 5.3) that describe tourists' satisfaction with COVID-19 related practices at destinations. The EFA results provide tourism researchers with a predefined pool of items to measure this construct. Our study is also one of the first studies to include control variables in this particular model of behavioral intentions. All the casual relationships between the model variables were significant after controlling for the influences of socio-demographic, trip, and destination related attributes, which signifies the strength of associations between the constructs. Significant and positive structural path coefficients between COVID-19 practices at the destination and overall value, overall satisfaction, and recommendation/revisit intentions reported in this study revealed that tourists' evaluations of operational practices at destinations regarding a disease threat are a critical determinant of behavioral intentions and its antecedents. Despite some of the negative consequences of COVID-19 measures (such as the closure of activities, or inadequate amount of services), the positive linkages with value, satisfaction, and behavioral intentions illustrate that tourists' perceptions of destination safety overrule the influences of other negative consequences. Consistent with pertinent literature, we were also able to reconfirm the nature of relationships between revisit/recommendation intentions and its antecedents—perceived value and overall satisfaction—within the COVID-19 context (Chen & Chen, 2010, 2010; C. G.-Q. Chi & Qu, 2008; Chi et al.,

2020; Hall et al., 2017; Oliver, 1980; Ozturk & Gogtas, 2016; Pandža Bajš, 2015; Phillips et al., 2013; Um et al., 2006). Finally, our findings offer empirical validation to the proposed model which implies that the model could be deployed in the context of a pathogen threat to examine tourists' behavioral intentions and associations with antecedents.

To the best of our knowledge, this study is also one of the first efforts to demonstrate the effects of socio-demographic, trip, and travel related attributes on tourists' evaluations of COVID-19 measures at destination. Notably, the high-risk group (such as older age, or people with disability and those with diseases, or pregnancy or those with infants and senior citizens in their houses) were more satisfied with COVID-19 measures, as their perceived risk decreases when they observe proper hygiene and anti-COVID measures at the destination. Tourists traveling to destinations that had a higher possibility of contact transmissions such as cities or beaches were also more satisfied with COVID-19 measures than those traveling to public lands or in their recreational vehicles. Provision of signage and other COVID-19 related measures help in maintaining social distancing, limit the crowding, and results in the positive evaluation of these measures. Alternatively, it can also be argued that from March to September 2020, public lands could have been more crowded than normally expected/experienced, which could lead to increased risk of COVID-19 infection and overall negative perceptions of COVID-19 measures. Evaluation of COVID-19 measures also varied spatially. Tourists traveling to the Northeast region reported higher satisfaction with COVID-19 measures

(than those traveling to the West region), which could be attributed to a relatively higher level of COVID-19 cases (spread) at the destinations located in the east.

Although past research has dwelled on examining differences between FTVs and RVs, the literature review suggests just one study by Chi (2012) that used multiple group analysis in SEM. As the multiple group analysis performed here allowed for comparison between FTVs and RVs for the same model, we were able to illuminate the differences in relationships (structural paths) among the constructs in the model between FTVs and RVs. For RVs, tourists' satisfaction with COVID-19 practices at destinations was not related to recommendation/revisit intentions, while the same variable was found to be significant in case of the FTVs. Furthermore, the SEM results revealed that satisfaction plays a more crucial role in determining behavioral intentions for RVs than for FTVs (larger path coefficients), which challenges the general findings in the relevant studies that satisfaction is more crucial for FTVs than RVs (Chi, 2012; McAlexander et al., 2003). These differences found in variable relationships between FTVs/RVs is another contribution to the existing literature.

5.4.2 Managerial Implications

If tourists have an overall positive view of COVID-19 related practices at destinations (i.e., they are more satisfied), it reduces their psychological risks about disease transmission and allows for unconstrained destination experiences (with less fear and anxiety), which then results in an increase in trip satisfaction, and higher intentions to revisit/recommend the destination. Relations between COVID-19 measures and value indicate that tourists consider COVID-related practices at destinations when evaluating

the overall value of goods and services at the destination (such as cleanliness, and safety at the destination and its attributes). Hence, advertising efforts directed at promoting a destination as a “safe” outlet for experiencing novelty and escaping COVID-affected lifestyles might help to entice tourists to visit the destination. Furthermore, it is also imperative for hospitality sectors around the destination—such as places of accommodation (hotels/Airbnbs), food sectors (such as restaurants and bars), stores, and other areas—to adequately follow and implement COVID-related public health guidelines to ensure the safety of tourists. Finally, the pandemic situation calls for intense collective efforts of local communities and hospitality sectors to ensure safety and a satisfying experience for tourists.

Since the relationship of overall satisfaction on the recommendation/revisit intention was found to be positive and significant, destination managers should focus on ensuring a high satisfaction level to create positive post-visitation tourist behavior (Phillips et al., 2013). Although COVID-19 practices at the destination could be crucial for tourists’ satisfaction, destinations should also emphasize satisfying other psychosocial needs which drive tourists towards specific destinations (such as novelty, relaxation, and physical and mental wellbeing). Hence, destinations should find a way to offer an adequate amount of activities and services at the destination, while being able to apply COVID-19 regulations.

While making travel decisions, tourists gather information from experienced travelers about the safety and risk exposures at the destination (Lo et al., 2011). Hence, positive words about the destination from tourists who visited the destination in the

pandemic context is crucial for attracting new tourists. Traveling with family (or friends) had positive effects on recommendation intention, which call for destination managers to promote and develop packages suited to groups (family and friends). Older adults, who had positive evaluations of COVID-19 measures, were more satisfied and willing to recommend the destination. Also, past frequency of outdoor recreation trip was a strong determinant of constructs. This requires advertising strategies or programs directed to attract the older population as well as frequent travelers.

The insignificant relationship between COVID-19 measures and recommendation/revisitation intention for RVs illustrates that COVID-related enforcements such as the closure of facilities, a lack of cultural experience, social-distancing, etc. could inhibit RVs from experiencing novelty or reliving past experiences, which can then show up as insignificant relationships in the conceptual model. To continue to attract these population segments in the COVID-19 context, destination managers could continuously inform them via advertisements or websites about the type of activities available, conditions of facilities around the destination, and provision of other kinds of experiences, which would increase their confidence in making those trips to the destination and the likelihood of having a satisfying trip experience. As RVs are loyal customers, managers could look to trigger the emotional aspect by flowing information that the viability and survival of the destination in the current context are highly dependent on their destination visit. To do so, destination websites could incorporate online chat rooms, or an online newsletter, which could enhance their connection with the RVs, and that might bring tourists together for the cause. Such

practices could also inform about problems faced by tourists during travel or destination visits, and also may aid in developing solutions based on tourists' discussions (Chi, 2012). For FTVs, implementation of COVID-related practices (as mentioned above) is found to be crucial; hence, destinations should keep updating their information sources regularly and introduce a review system, where recent travelers to the destination can share their recent trip experience and tell others about safety precautions followed in the destination.

5.5 Limitations and future research

The findings reported in the study should be viewed in light of several limitations. First, the definition of outdoor recreation trips in this study only entails domestic overnight trips (within the US), not international trips. Second, overall satisfaction, overall value, and revisit/recommendation intentions were all measured by a single question; the use of multi-item measurement scales could enhance the prediction and validity of these constructs. Similarly, seven items were used to measure satisfaction with COVID-19 related practices at the destination; additional items such as COVID-related spread at the destination could be other potential measures. Three variables—overall value, overall satisfaction, and COVID-19 practices at the destination—were hypothesized to be antecedents of behavioral intentions. Future research could investigate other influencing variables such as destination image, satisfaction with destination attributes, trustworthiness, perceived quality, perceived risk of COVID-19, etc., to explore other associations. Additionally, the study could not implement fine grained measures to capture COVID-19 spread at the destination, as the destinations were

compared according to regions. Future research could collect data at the local level (such as county) to adequately measure the variable influence. Since the study entails recreation trips with at least one night of stay, we could not capture the type of recreational activity because of the varieties of activities that tourists could perform during the length of their stays. Future research could look into specific activity type (such as ski-resorts, or beaches) to further validate the findings of this research.

Finally, the data collected here represent perceptions of tourists at one point in time. As people learn more about pathogen threat (such as COVID-19), perceptions of risk could change, and tourists could prepare adequately for their trips, which would affect the variables in the study. As such, the casual relationships shown in the model should be interpreted with caution. Future research could benefit from collecting longitudinal data to measure changes in tourists' evaluations of variables across time, and also to evaluate tourists' considerations of COVID-19 during destination visits. It would also benefit the tourism field to understand tourists' perceptions through different time periods such as the first three months of a novel pathogen threat, the stability period (when there is adequate information), the period after the introduction of vaccines, and the period after the adequate distribution of vaccines. This would be helpful for destination managers to tailor different action plans to different phases to attract tourists if there is another pathogen threat issue in the future.

References

- Abbasi, G. A., Kumaravelu, J., Goh, Y.-N., & Dara Singh, K. S. (2021). Understanding the intention to revisit a destination by expanding the theory of planned behaviour (TPB). *Spanish Journal of Marketing - ESIC*, ahead-of-print(ahead-of-print).
<https://doi.org/10.1108/SJME-12-2019-0109>
- Alexandris, K., & Stodolska, M. (2004). The Influence of Perceived Constraints on the Attitudes Toward Recreational Sport Participation. *Loisir et Société / Society and Leisure*, 27(1), 197–217. <https://doi.org/10.1080/07053436.2004.10707647>
- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In *Action control* (pp. 11-39). Springer, Berlin, Heidelberg.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2), 179-211.
- Ajzen, I. (2005). *Attitudes, personality and behaviour*. McGraw-Hill Education (UK).
- Bae, S. Y., & Chang, P.-J. (2021). The effect of coronavirus disease-19 (COVID-19) risk perception on behavioural intention towards ‘untact’ tourism in South Korea during the first wave of the pandemic (March 2020). *Current Issues in Tourism*, 24(7), 1017–1035. <https://doi.org/10.1080/13683500.2020.1798895>
- Baloglu, Seyhmus, and Ken W. McCleary. "A model of destination image formation." *Annals of tourism research* 26.4 (1999): 868-897.
- Bhati, A. S., Mohammadi, Z., Agarwal, M., Kamble, Z., & Donough-Tan, G. (2021). Motivating or manipulating: The influence of health-protective behaviour and media engagement on post-COVID-19 travel. *Current Issues in Tourism*, 24(15), 2088–2092. <https://doi.org/10.1080/13683500.2020.1819970>

- Cahyanto, I., Wiblishauser, M., Pennington-Gray, L., & Schroeder, A. (2016). The dynamics of travel avoidance: The case of Ebola in the U.S. *Tourism Management Perspectives*, 20, 195–203. <https://doi.org/10.1016/j.tmp.2016.09.004>
- Chen, C. C., & Schwartz, Z. (2006). The importance of information asymmetry in customers' booking decisions: A cautionary tale from the internet. *Cornell Hotel and Restaurant Administration Quarterly*, 47(3), 272-285.
- Chien, G. C. L., Yen, I.-Y., & Hoang, P.-Q. (2012). Combination of Theory of Planned Behavior and Motivation: An Exploratory Study of Potential Beach-based Resorts in Vietnam. *Asia Pacific Journal of Tourism Research*, 17(5), 489–508. <https://doi.org/10.1080/10941665.2011.627352>
- Cho, M. H., & Sung, H. H. (2012). Travel destination websites: Cross-cultural effects on perceived information value and performance evaluation. *Journal of travel & tourism marketing*, 29(3), 221-241. <https://doi.org/10.1080/10548408.2012.666169>
- Chiu, W., & Cho, H. (2021). The Model of Goal-Directed Behavior in Tourism and Hospitality: A Meta-analytic Structural Equation Modeling Approach. *Journal of Travel Research*, 004728752199124. <https://doi.org/10.1177/0047287521991242>
- Crawford, D. W., & Godbey, G. (1987). Reconceptualizing barriers to family leisure. *Leisure Sciences*, 9, 119-127. Crawford, D. W., Jackson, E. L., & Godbey, G. (1991). A hierarchical model of leisure constraints. *Leisure Sciences*, 13, 309-320
- Crawford, D. W., Jackson, E. L., & Godbey, G. (1991). A hierarchical model of leisure constraints. *Leisure Sciences*, 13(4), 309–320. <https://doi.org/10.1080/01490409109513147>

- Dai, Y., & Jia, L. (2021). A Study on Tourists' Travel Intention Under the Situation of Novel Coronavirus Pneumonia Epidemic: An Application of the Structural Equation Model. Proceedings of the 6th Annual International Conference on Social Science and Contemporary Humanity Development (SSCHD 2020). 6th Annual International Conference on Social Science and Contemporary Humanity Development (SSCHD 2020), Xi'an, Shaanxi, China. <https://doi.org/10.2991/assehr.k.210121.183>
- Das, S. S., & Tiwari, A. K. (2021). Understanding international and domestic travel intention of Indian travellers during COVID-19 using a Bayesian approach. *Tourism Recreation Research*, 46(2), 228–244.
<https://doi.org/10.1080/02508281.2020.1830341>
- Dey, B., & Sarma, M. K. (2010). Information source usage among motive-based segments of travelers to newly emerging tourist destinations. *Tourism management*, 31(3), 341-344.
- Dolnicar, S., Grün, B., & Yanamandram, V. (2013). Dynamic, interactive survey questions can increase survey data quality. *Journal of Travel & Tourism Marketing*, 30(7), 690-699.
- Esposito, G., van Bavel, R., Baranowski, T., & Duch-Brown, N. (2016). Applying the Model of Goal-Directed Behavior, Including Descriptive Norms, to Physical Activity Intentions: A Contribution to Improving the Theory of Planned Behavior. *Psychological Reports*, 119(1), 5–26. <https://doi.org/10.1177/0033294116649576>
- Falk, R. F., & Miller, N. B. (1992). A primer for soft modeling. University of Akron Press.

- Fakeye, P. C., & Crompton, J. L. (1991). Image Differences between Prospective, First-Time, and Repeat Visitors to the Lower Rio Grande Valley. *Journal of Travel Research*, 30(2), 10–16. <https://doi.org/10.1177/004728759103000202>
- Fishbein, M., & Ajzen, I. (1977). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley
- Floyd, M. F., Gibson, H., Pennington-Gray, L., & Thapa, B. (2004). The Effect of Risk Perceptions on Intentions to Travel in the Aftermath of September 11, 2001. *Journal of Travel & Tourism Marketing*, 15(2–3), 19–38. https://doi.org/10.1300/J073v15n02_02
- Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics.
- Godbey, G., Crawford, D. W., & Shen, X. S. (2010). Assessing Hierarchical Leisure Constraints Theory after Two Decades. *Journal of Leisure Research*, 42(1), 111–134. <https://doi.org/10.1080/00222216.2010.11950197>
- Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage publications.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24. <https://doi.org/10.1108/EBR-11-2018-0203>
- Han, H., & Ryu, K. (2012). The theory of repurchase decision-making (TRD): Identifying the critical factors in the post-purchase decision-making process. *International Journal of Hospitality Management*, 31(3), 786-797.

- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. In *New challenges to international marketing*. Emerald Group Publishing Limited.
- Henseler, J., & Chin, W. W. (2010). A comparison of approaches for the analysis of interaction effects between latent variables using partial least squares path modeling. *Structural equation modeling*, 17(1), 82-109.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the academy of marketing science*, 43(1), 115-135.
- Hsu, C. H. C., & Huang, S. (Sam). (2012). An Extension of the Theory of Planned Behavior Model for Tourists. *Journal of Hospitality & Tourism Research*, 36(3), 390–417. <https://doi.org/10.1177/1096348010390817>
- Hubbard, J., & Mannell, R. C. (2001). Testing Competing Models of the Leisure Constraint Negotiation Process in a Corporate Employee Recreation Setting. *Leisure Sciences*, 23(3), 145–163. <https://doi.org/10.1080/014904001316896846>
- Hyde, K. F. (2008). Information processing and touring planning theory. *Annals of Tourism Research*, 35(3), 712-731.
- Kaiser, F. G., & Schultz, P. W. (2009). The Attitude–Behavior Relationship: A Test of Three Models of the Moderating Role of Behavioral Difficulty 1. *Journal of Applied Social Psychology*, 39(1), 186-207.
- Kaplanidou, K., & Vogt, C. (2006, April). Do sport tourism events have a brand image. In *Proceedings of the 2006 Northeastern Recreation Research Symposium* (pp. 2-7).

- Katz, D. (1960). The functional approach to the study of attitudes. *Public opinion quarterly*, 24(2), 163-204.
- Kement, U., Çavuşoğlu, S., Demirağ, B., Durmaz, Y., & Bükey, A. (2020). Effect of perception of COVID-19 and nonpharmaceutical intervention on desire and behavioral intention in touristic travels in Turkey. *Journal of Hospitality and Tourism Insights*. <https://www.emerald.com/insight/2514-9792.htm>
- Kim, D. Y., Lehto, X. Y., & Morrison, A. M. (2007). Gender differences in online travel information search: Implications for marketing communications on the internet. *Tourism management*, 28(2), 423-433.
<https://doi.org/10.1016/j.tourman.2006.04.001>
- Kim, J. S., Hart, R. J., Lee, J.-E., & Kim, N.-J. (2016). The impact of climate change on the decision-making process of potential tourists using the model of goal-directed behavior. *International Journal of Tourism and Hospitality Research*, 30(4), 33.
<https://doi.org/10.21298/IJTHR.2016.04.30.4.33>
- Kono, S., Ito, E., Walker, G. J., & Gui, J. (2020). Predictive power of leisure constraint-negotiation models within the leisure-time physical activity context: A partial least squares structural equation modeling approach. *Journal of Leisure Research*, 51(3), 325–347. <https://doi.org/10.1080/00222216.2019.1687266>
- Kozak, M., Crotts, J. C., & Law, R. (2007). The impact of the perception of risk on international travellers. *International Journal of Tourism Research*, 9(4), 233-242.
<https://doi.org/10.1002/jtr.607>

- Lam, T., & Hsu, C. H. C. (2004). Theory of Planned Behavior: Potential Travelers from China. *Journal of Hospitality & Tourism Research*, 28(4), 463–482.
<https://doi.org/10.1177/1096348004267515>
- Lam, T., & Hsu, C. H. C. (2006). Predicting behavioral intention of choosing a travel destination. *Tourism Management*, 27(4), 589–599.
<https://doi.org/10.1016/j.tourman.2005.02.003>
- Lee, S., Bruwer, J., & Song, H. (2017). Experiential and involvement effects on the Korean wine tourist's decision-making process. *Current Issues in Tourism*, 20(12), 1215–1231. <https://doi.org/10.1080/13683500.2015.1050362>
- Lee, C.-K., Song, H.-J., Bendle, L. J., Kim, M.-J., & Han, H. (2012). The impact of non-pharmaceutical interventions for 2009 H1N1 influenza on travel intentions: A model of goal-directed behavior. *Tourism Management*, 33(1), 89–99.
<https://doi.org/10.1016/j.tourman.2011.02.006>
- Liu, Y., Shi, H., Li, Y., & Amin, A. (2021). Factors influencing Chinese residents' post-pandemic outbound travel intentions: An extended theory of planned behavior model based on the perception of COVID-19. *Tourism Review*, 76(4), 871–891.
<https://doi.org/10.1108/TR-09-2020-0458>
- Luo, J. M., & Lam, C. F. (2020). Travel Anxiety, Risk Attitude and Travel Intentions towards “Travel Bubble” Destinations in Hong Kong: Effect of the Fear of COVID-19. *International Journal of Environmental Research and Public Health*, 17(21), 7859. <https://doi.org/10.3390/ijerph17217859>

- Lyu, S. O., & Oh, C.-O. (2014). Recreationists' Constraints Negotiation Process for Continual Leisure Engagement. *Leisure Sciences*, 36(5), 479–497.
<https://doi.org/10.1080/01490400.2014.920702>
- Madrigal, R. (1995). Personal values, traveler personality type, and leisure travel style. *Journal of Leisure research*, 27(2), 125-142.
<https://doi.org/10.1080/00222216.1995.11949738>
- Manfredo, M. J., Driver, B. L., & Tarrant, M. A. (1996). Measuring Leisure Motivation: A Meta-Analysis of the Recreation Experience Preference Scales. *Journal of Leisure Research*, 28(3), 188–213.
- Moghimehfar, F., Halpenny, E. A., & Walker, G. J. (2018). Front-Country Campers' Constraints, Negotiation, and Pro-Environment Behavioral Intention: An Extension to the Theory of Planned Behavior. *Leisure Sciences*, 40(3), 174–193.
<https://doi.org/10.1080/01490400.2017.1344163>
- Murshid, M. A., & Mohaidin, Z. (2017). Models and theories of prescribing decisions: A review and suggested a new model. *Pharmacy Practice (Granada)*, 15(2).
- Nunnally, B., & Bernstein, I. R. (1994). *Psychometric Theory*. New York: Oxford Univer.
- Nyaupane, G. P., Morais, D. B., & Graefe, A. R. (2004). Nature Tourism Constraints. *Annals of Tourism Research*, 31(3), 540–555.
<https://doi.org/10.1016/j.annals.2004.01.006>
- Nyaupane, G. P., & Andereck, K. L. (2008). Understanding Travel Constraints: Application and Extension of a Leisure Constraints Model. *Journal of Travel Research*, 46(4), 433–439. <https://doi.org/10.1177/0047287507308325>

- Oh, H. (2000). The effect of brand class, brand awareness, and price on customer value and behavioral intentions. *Journal of Hospitality & Tourism Research*, 24(2), 136-162.
- Park, K., & Reisinger, Y. (2010). Differences in the perceived influence of natural disasters and travel risk on international travel. *Tourism Geographies*, 12(1), 1-24.
<https://doi.org/10.1080/14616680903493621>
- Pearce, P. L. (1993). Fundamentals of tourist motivation. *Tourism research: Critiques and challenges*, 113-134.
- Pearce, P. L. (2011). Travel motivation, benefits and constraints to destinations. *Destination marketing and management: Theories and applications*, 39-52.
- Peluso, A. M., & Pichierri, M. (2020). Effects of socio-demographics, sense of control, and uncertainty avoidability on post-COVID-19 vacation intention. *Current Issues in Tourism*, 1–13. <https://doi.org/10.1080/13683500.2020.1849050>
- Perić, G., Dramićanin, S., & Conić, M. (2021). The impact of Serbian tourists' risk perception on their travel intentions during the COVID-19 pandemic. 22.
- Perugini, M., & Bagozzi, R. P. (2001). The role of desires and anticipated emotions in goal-directed behaviours: Broadening and deepening the theory of planned behaviour. *British Journal of Social Psychology*, 40(1), 79–98.
<https://doi.org/10.1348/014466601164704>
- Prokosch, M. L., Gassen, J., Ackerman, J. M., & Hill, S. E. (2019). Caution in the time of cholera: Pathogen threats decrease risk tolerance. *Evolutionary Behavioral Sciences*, 13(4), 311.

- Qiao, G., Zhao, X., Xin, L., & Kim, S. (2021). Concerns or Desires Post-Pandemic: An Extended MGB Model for Understanding South Korean Residents' Perceptions and Intentions to Travel to China. *International Journal of Environmental Research and Public Health*, 18(5), 2542. <https://doi.org/10.3390/ijerph18052542>
- Reiss, S. (2004). Multifaceted Nature of Intrinsic Motivation: The Theory of 16 Basic Desires. *Review of General Psychology*, 8(3), 179–193. <https://doi.org/10.1037/1089-2680.8.3.179>
- Ringle, C. M., Wende, S., & Becker, J.-M. (2015). "SmartPLS 3." Boenningstedt: SmartPLS GmbH, <http://www.smartpls.com>.
- Ringle, C. M., Sarstedt, M., & Straub, D. W. (2012). Editor's comments: a critical look at the use of PLS-SEM in "MIS Quarterly". *MIS quarterly*, iii-xiv.
- Sánchez-Cañizares, S. M., Cabeza-Ramírez, L. J., Muñoz-Fernández, G., & Fuentes-García, F. J. (2021). Impact of the perceived risk from Covid-19 on intention to travel. *Current Issues in Tourism*, 24(7), 970–984. <https://doi.org/10.1080/13683500.2020.1829571>
- Shamon, H., & Berning, C. C. (2020). Attention Check Items and Instructions in Online Surveys: Boon or Bane for Data Quality? *Survey Research Methods*, 55-77 Pages. <https://doi.org/10.18148/SRM/2020.V14I1.7374>
- Shrestha, S. K., & Burns, R. C. (2016). Integrating Constraints to the Theory of Planned Behavior in Predicting Deer Hunting Participation. *Human Dimensions of Wildlife*, 21(5), 445–459. <https://doi.org/10.1080/10871209.2016.1187779>

- Soliman, M. (2019). Extending the Theory of Planned Behavior to Predict Tourism Destination Revisit Intention. *International Journal of Hospitality & Tourism Administration*, 1–26. <https://doi.org/10.1080/15256480.2019.1692755>
- Son, J. S., Mowen, A. J., & Kerstetter, D. L. (2008). Testing Alternative Leisure Constraint Negotiation Models: An Extension of Hubbard and Mannell's Study. *Leisure Sciences*, 30(3), 198–216. <https://doi.org/10.1080/01490400802017308>
- Song, H. J., Lee, C. K., Kang, S. K., & Boo, S. J. (2012). The effect of environmentally friendly perceptions on festival visitors' decision-making process using an extended model of goal-directed behavior. *Tourism Management*, 33(6), 1417-1428.
- Su, D. N., Johnson, L. W., & O'Mahony, B. (2020). Will foodies travel for food? Incorporating food travel motivation and destination foodscape into the theory of planned behavior. *Asia Pacific Journal of Tourism Research*, 25(9), 1012–1028. <https://doi.org/10.1080/10941665.2020.1805475>
- Torres, E. N., Ridderstaat, J., & Wei, W. (2021). Negative affectivity and people's return intentions to hospitality and tourism activities: The early stages of COVID-19. *Journal of Hospitality and Tourism Management*, 49, 89–100. <https://doi.org/10.1016/j.jhtm.2021.08.021>
- Tran, Q-T., Nguyen T-N Mai., Nguyen, A_T, Nguyen, H-C. & Vu, M-C. A Tourists' Travel Intention in the Context of Covid-19 in Viet Nam. (2021). *European Journal of Business and Management*. <https://doi.org/10.7176/EJBM/13-14-07>
- Uysal, M., & Hagan, L. A. R. (1993). Motivation of pleasure travel and tourism. *Encyclopedia of hospitality and tourism*, 21(1), 798-810.

- Vassiliadis, C. A., Bellou, V., Priporas, C.-V., & Andronikidis, A. (2018). Exploring the Negotiation Thesis Application Among Ski Resort Tourists: A Segmentation Approach. *Journal of Hospitality & Tourism Research*, 42(5), 716–739. <https://doi.org/10.1177/1096348015597030>
- Wang, M., Jin, Z., Fan, S., Ju, X., & Xiao, X. (2021). Chinese residents' preferences and consuming intentions for hotels after COVID-19 pandemic: A theory of planned behaviour approach. *Anatolia*, 32(1), 132–135. <https://doi.org/10.1080/13032917.2020.1795894>
- White, D. D. (2008). A Structural Model of Leisure Constraints Negotiation in Outdoor Recreation. *Leisure Sciences*, 30(4), 342–359. <https://doi.org/10.1080/01490400802165131>
- Wilder-Smith, A., & Freedman, D. O. (2020). Isolation, quarantine, social distancing and community containment: Pivotal role for old-style public health measures in the novel coronavirus (2019-nCoV) outbreak. *Journal of Travel Medicine*, 27(2), taaa020. <https://doi.org/10.1093/jtm/taaa020>
- Xu, W., Youn, H.-J., & Lee, C.-K. (2021). Role of Non-Pharmaceutical Interventions for COVID-19 in Cruise Tourists' Decision-Making Process: An Extended Model of Goal-Directed Behavior. *Sustainability*, 13(10), 5552. <https://doi.org/10.3390/s13105552>
- Yang, S., Isa, S. M., & Ramayah, T. (2021). How are destination image and travel intention influenced by misleading media coverage? Consequences of COVID-19 outbreak in China. *Vision*, 0972262921993245.

Zenker, S. & Kock, F. (2020). The coronavirus pandemic – A critical discussion of a tourism research agenda. *Tourism Management*, 4.

Chapter 6

Summary and conclusion

The goal of this dissertation was to provide a better understanding of tourists' decision-making processes for participating in multiday domestic outdoor recreation trips during the early COVID-19 (first wave) period. This study makes use of leisure constraints negotiation framework to explore tourists' perceived constraints, how tourists (both participants and non-participants) make use of negotiation strategies to mitigate the influence of those constraints, and tourists' motivations for outdoor recreation in the novel COVID-19 tourism environment. The following section highlights the key findings of the study, through a detailed description of the theoretical and management implications of the four chapters (Chapter 2 through Chapter 5). Then, the section concludes by presenting the limitations of the study and opportunities for future research.

6.1 Theoretical Implications

The novelty of the data collection method, including the use of a qualitative method and a broad online survey questionnaire adapted to measure the COVID-19 perceptions, along with the application of different analytical techniques in this dissertation produced several theoretical contributions to the existing tourism research. In the following section, the findings are summarized by revisiting the research questions and simultaneously describing the theoretical implications of the study.

1. What are tourists' perceived constraints, relevant negotiation strategies, and motivations to participate in outdoor recreation trips during the COVID-19 pandemic?

This research question was addressed in Phase I of the study (Chapter 1), which was structured around investigating tourists' motivations, perceived constraints, and negotiation strategies through semi-structured online focus group sessions conducted during March-September, 2020. Although there is a substantial amount of empirical research in tourism literature, the use of qualitative methods, specifically towards the exploration of tourists' feelings, opinions, perceptions, and decision-making processes, are relatively scant. Focus groups are especially advantageous in studies involving new research designs and for the development of measurement items suitable for empirical research. The sample size of 16 tourists is relatively small compared to other focus group studies in the tourism literature, however, the saturation of key ideas was achieved at this stage (Hennink et al., 2019). The analysis of focus group proceedings through the directed content approach revealed several dimensions of constraints, motivations, and negotiations, some of which were conventionally used items in the past literature and others being specific items reflecting the COVID-19 impact. The government regulations, change in lifestyle (working remotely), and COVID-19 associated risk were influential in tourists' realization of experiencing outdoors. The focus group analysis disclosed tourists' motivations for outdoor recreation trips, most of which were previously found in the tourism literature such as nature, autonomy, physical fitness, rest, escape, family/friends' bond, and novelty (Manfredo et al., 1996). However, these motivations

were intensified during the COVID-19 period due to the inability to travel outdoors and laws and policies in place. Some tourists reported that they would be safer in the outdoor environment, because of lower probabilities of COVID-19 exposure in the wilderness and open areas. Being away from toxic news in the environment, and achieving novelty in terms of getting outside of the home, were other key motives for outdoor recreation trips. Tourists were predominantly constrained by the threat of COVID-19 exposure (and transmission), and inability to find people to travel with and with similar COVID-19 perceptions, the provision of safety and hygiene at the destination, uncertainty regarding outdoor recreation activities and facilities available around the destination, presence of crowds and lack of centralized and reliable information about COVID-19 related laws/policies. Similarly, the negotiation strategies applied by tourists resonate well with the disease avoidance psychology. In order to reduce the COVID-19 exposure, tourists would adequately increase their planning and preparation and spend time searching for COVID-19 information. Tourists' willingness to search for variety and a large amount of information before destination visits during the events of disasters/pathogen threat has been commonly identified as a risk-reduction strategy in the previous literature as well (Lo et al., 2011; Baloglu, 2000). Increased efforts to avoid crowding by visiting natural and eco-tourism destinations or traveling to wilderness areas display that tourists' negative perceptions threats are amplified during the events of pathogen threat (Wang & Ackerman, 2019). When faced with the constraints of COVID-19, tourists try to substitute their original leisure preferences with other activities/destinations which allows them a similar experience (if not the same level of satisfaction). The participant's inclination to choose places accessible by car, in-state (instead of out-of-state) travel, and

avoid flying to destinations provides support to the theory of substitutability (Iso Ahola, 1986). Compared to normal conditions, the Phase I study also illustrated that the COVID-19 impact resulted in increased empathy towards local destinations/tourism communities (tourism ethnocentrism) (Kock et al., 2019), and decreased preferences to travel internationally (tourism xenophobia) (Kock et al., 2020).

To summarize, the Phase I study (Chapter 2) provides a comprehensive detail of tourists' opinions and preferences in the COVID-19 environment through the classification of constraints, negotiations, and motivations from focus group discussions. The primary contribution lies in providing evidence to tourists' dynamic phenomenon that occurs during the events of pathogen threat (as mentioned above), along with a list of items that can be used by future tourism researchers to discern the effects of each dimensions of the constructs (constraints and so on) on tourists' behaviors through empirical research.

2. How do socio-demographic characteristics influence tourists' perceptions of constraints, and their negotiation efforts, amidst the COVID-19 pandemic?

After the completion of Phase I, the result of the focus group study along with the review of past literature assisted in the construction of a large-scale questionnaire, which was then distributed to the members of the Qualtrics online panel. Using the quota-sampling strategy, the online survey included respondents that approximately represented the U.S. population in terms of age, health, gender, household income, and geographic regions. Phase II, specifically Chapter 3 dealt with exploring the heterogeneous perceptions of

tourists and their behaviors through segmentation analysis. The rationale for the segmentation analysis conducted in Chapter 3 was based on findings of past studies suggesting tourists' heterogeneous risk perception during events of natural disasters or pathogen threats (Kozak et al., 2007; Park & Reisinger, 2010). Chapter 3 provided three critical advancements in the tourism literature:

- i. Using both constraints and negotiations as classifying criteria, as tourists' intentions and willingness to participate in outdoor recreation depends not only on amount or types of perceived constraints but their efforts to apply negotiation strategies to overcome the effects of those constraints (Jackson et al., 1993; Lyu & Oh, 2014; Hubbard & Mannell, 2011).
- ii. Employing a representative sample of U.S. population so that appropriate profiles of different segments can be developed, thus illuminating the socio-demographic and behavioral differences among the segments.
- iii. Validating the dimensions of constraints, negotiations, and motivations developed to capture the COVID-19 impact.

Overall, the three types of segments identified had different socio-demographic composition and behavioral attributes. The all-but personally constrained segment (34%) was characterized by a lower amount of personal constraints and moderate negotiation efforts. The moderately constrained group reported a high score on all constraints but were lowest in terms of negotiation efforts. The overall constrained segment experienced the highest magnitude of constraints for all dimensions but were equally able to apply

negotiation efforts. The overall constrained and all-but personally constrained segments represented highly effective negotiators (although they perceived constraints differently) along with being highly motivated for outdoor recreation trips, and they had greater intentions to travel in the future. This provides further empirical support to the negotiation proposition developed by Jackson et al. (1993) which states that negotiation efforts can be triggered by encountering higher levels of constraints (for overall constrained), and also that negotiation efforts can inhibit the negative effects of constraints (for all but personally constrained). Furthermore, a higher degree of motivation for overall constrained and weakly constrained, all but personally constrained highlights the importance of motivation in the negotiation process and offers support to previous studies that found direct/indirect links between constraints, motivations, negotiations, and participation (Son et al., 2008; White, 2008; Hubbard & Mannell, 2001). Our findings also indicate that tourists who frequently participate in outdoor recreation are likely to be highly constrained but efficient in negotiation, which is in line with the study of Kay and Jackson (1991) that those who are more likely to experience the benefits of leisure are more sensitive to factors that deny them of leisure opportunities. Alternatively, it can also be argued that those who participated in outdoor recreation during the months of COVID-19 developed strategies and identified resources to combat constraints to outdoor recreation participation (Son et al., 2008). Greater intentions for overall constrained tourists reflect their awareness of the COVID-19 threat as well as their ability to cope with those constraints for a higher frequency of participation. Similarly, the higher latent demand for overall constrained and all-but personally constrained highlights the greater interests for outdoor recreation participation

among these groups. Regarding socio-demographic differences, a higher proportion of older age population, female, well-educated, those with greater household income, household size and full-time employment in overall constrained and all-but personally constrained segments provides support to the findings of the previous studies via the following: (i) higher risk perceptions for the younger population than the older population during events of pathogen threat (Park & Reisinger, 2010; Cui et al., 2016); and (ii) Tourists with greater household income, higher education level, and with permanent job perceive higher constraints but with the availability of a greater amount of resources possess increased cognitive abilities to encounter pathogen risks (Cui et al., 2016).

3. How do tourists' perceptions of constraints, negotiation efforts, motives, and information search behaviors affect tourists' attitudes, emotions, subjective norms, desires, and finally the intentions to participate in outdoor recreation trips during the COVID-19 pandemic?

Another study in Phase II, Chapter 4 applies the constraint-negotiation framework to develop a conceptual model incorporating psycho-social determinants, to better explain tourists' future intentions to participate in outdoor recreation, in an attempt to answer the above mentioned research question. The analysis was carried out using Partial Least Squares (PLS)-Structural Equation Modeling approach, as a more preferable method to analyze relationships in a model of complex nature. An initial test of theoretical models incorporating the constraints, negotiation, and motivations to predict future intentions revealed that the model of goal-directed behavior outperformed the theory of planned behavior with a significantly higher proportion of variance explained

for future intentions (as found in numerous other studies, e.g., Perugini & Bagozzi, 2001). The novelty of this study lies in developing a holistic framework to illuminate the effects of multi-dimensional elements of constraints, negotiations, and motivations during COVID-19 to predict tourists' intentions and related constructs (desires, attitudes, perceived behavioral control, anticipated emotions, and perceived behavioral control) to participate in outdoor recreation trips.

The conceptual framework first addresses the concerns regarding the measurement structure of the second-order constructs of constraints, negotiations, and motivations. To date, the literature lacks the development and validation of reflective-formative second-order constructs when studying the leisure constraints–negotiation process. First, the first-order constructs representing various dimensions of constraints, negotiations, and motivations were created based on a reflective measurement design. The measurement model using a reflective design was validated for each of the lower-order constructs, i.e. the group of items reflects an underlying latent variable. With the advancement of the PLS approach, tourism research has increasingly turned to other measurement methods suitable for higher-order structures. Out of different hierarchical structures, the reflective formative design specifies lower order to be reflective in nature, whereas the higher-order to be formative, i.e. all the lower-order constructs combine to define a second-order construct. The reflective-formative structure for negotiations and motivations was validated with higher than threshold values for outer loadings, and outer weights, plus divergent validity following Hair et al (2017)'s repeated indicator approach. However, the lower-order constructs of constraints did not display a good fit for the same

measurement model, because of negative outer weights. Hence, this study illustrated that due to the diverse nature of perceived constraints a second-order structure is not feasible, hence, researchers should rather use single lower-order constructs when concerned with investigating empirical relationships between constraints and other variables.

Using SMARTPLS the conceptual model (shown in Figure 4.1) was validated using responses from 1003 respondents (described above). In line with the existing literature (before and after COVID-19), this study presents another empirical evidence of the association between MGD variables. Desires for outdoor recreation participation had the strongest association with intentions to participate in outdoor recreation in the future (Chiu & Cho, 2021; Kim et al., 2012; Song et al., 2012, Xu et al., 2021), followed by past participation frequency. Similarly, positive anticipated emotions proved to be the critical predictor of desires. Among the constraints, personal constraints, which comprised lack of interest and fear to go outdoors, had the most negative influences on outdoor recreation attitudes, perceived behavioral control, desires, and intentions. This is in line with existing theories and empirical findings, where personal constraints are the primary deterrent to intention/development of preferences for any leisure activity (Crawford et al., 1991; Jackson et al., 1993; Godbye et al., 2010). Another critical constraint to outdoor recreation participation was found to be tourists' ethical values for traveling. Events like COVID-19 triggers feelings of social responsibility and traveling as a socially unacceptable behavior (due to increased chances of transmission and being a transmission agent to others). The other conventional constraints such as time and cost, or COVID-19 perceptions, and destination-related factors did not have significant effects (or

positive effects on intentions) illustrating that tourists could find ways or can negotiate through these constraints, or they have lower preferences in tourists' decision-making processes. Tourists' frequency of negotiation strategies was positively associated with attitudes, perceived behavioral control, and intentions, supporting the notion that it is the tourist's perceived ability to negotiate through the constraints that induce positive evaluation, a higher degree of control, and willingness to undergo outdoor recreation trips during the pandemic (Hubbard & Mannell, 2001; Jackson et al., 1993). Similarly, the strong association between motivations and negotiations indicates that tourists apply greater negotiation efforts to fulfill the increased need to satisfy their psychological motives for outdoor recreation (Hubbard & Mannell, 2001; Son et al., 2008; White, 2008). Finally, the likelihood to search COVID-19 information was pivotal in determining tourists' negotiations and future intentions, implying that collection of adequate information about the COVID-19 condition at the destination assists in preparing for a safe and satisfactory destination experience, and reduces the COVID-19 related fear and uncertainty at the destination (Lo et al., 2011; Baloglu, 2000).

4. How do COVID-19 measures at the destination affect tourists' perceptions of satisfaction, value, and future behavioral intentions?

Contrary to the three other chapters, Chapter 4 emphasizes tourists' satisfaction with COVID-19 measures at the destination for tourists' recent destination experiences, and addresses the fourth research question. Responses from those tourists who participated in multi-day and domestic outdoor recreation trips after March 2020 were provided with survey questions related to study variables. 405 respondents who answered

the questions related to their recent destination visit including attributes of the destination, perceived overall value, perceived overall satisfaction, satisfaction with multiple COVID-19 measures at the destination, and measures of destination loyalty (recommendation and revisit intentions). Research into tourists' willingness towards using NPIs are in reasonable amount (e.g., Xu et al., 2021; Kement et al., 2020; Liu et al., 2021), but the effects of destination-oriented NPIs (provision of sanitizers, masks, social-distancing measures) on tourists' satisfaction and revisit/recommend intentions are understudied. To fill this literature gap, this study developed a conceptual model including satisfaction with COVID-19 measures at the destination as antecedents to tourists' perceived value, perceived satisfaction, and revisitation/recommendation intentions.

The primary contribution of this study lies in developing and validating items representing satisfaction with COVID-19 measures at the destination. The evaluation of COVID-19 measures could vary based on socio-demographic characteristics, and destination-related attributes such as type of destination (parks vs cities), accommodation (Airbnb vs campsite), location of destination (New York vs Utah). By developing and validating the conceptual model through incorporating socio-demographic and destination attributes as control variables, the findings from this study illustrated the model could satisfactorily explain the variance in behavioral intentions (50% for recommendation, and 40% for revisitation intentions). This study was one of the first to include control variables in this particular model, and the results indicate that despite the effect of these control variables, the relationship of satisfaction with COVID-19 measures

with value, satisfaction, and intentions were significant ($p < 0.01$). Similarly, as a novel study to explain socio-demographic and destination-related differences in evaluation of COVID-19 measures, the results of the model illustrated that high-risk groups (older adults, people with disabilities and those with diseases, or pregnancy or those with infants and senior citizens in the household), tourists traveling to places with high COVID-19 exposure (cities or beaches w.r.t. public lands or RV's), and tourists traveling to Northeast regions (compared to those traveling to West region) were more satisfied with COVID-19 measures at the destination. The use of COVID-19 related measures helps in maintaining social distancing, limiting crowding, and results in the positive evaluation of these measures.

Another theoretical advancement in this study is concerned with discerning modal differences between first time visitor's (FTV's) and repeat visitors (RV's). The study found that the association between COVID-19 measures at destination and revisitation/recommendation intention was significant for FTV's but not for RV's. This suggests that COVID-19 related enforcements such as social-distancing, lack of socialization, etc. could inhibit RVs from reliving past experiences which causes expectation–disconfirmation and lower willingness to visit the destination or recommend the destination to others.

6.2 Management implications

This dissertation suggests multiple management and policy implications based on the study findings. Since the focus group sessions and cross-sectional survey data were collected during the first wave of the COVID-19 pandemic (first 6 months), the implications of this study are most relevant for the initial phase of the pandemic, and when the vaccination is unavailable and widespread. In the following table, implications for management and related government policy are outlined based on relevant findings of this study.

Table 6.1*Management Implications based on study findings*

Theme	Study Findings	Management/Advertising/Government Implications
Destination operational practices	<ul style="list-style-type: none"> • COVID-19 measures at the destination were positively associated with perceived value, satisfaction, re-visitation, and recommendation intention. • Set of items reflecting satisfaction with COVID-19 measures at the destination. • Focus group participants highlighted unventilated restrooms as a major source of COVID-19 exposure. 	<p>^m Provision of adequate COVID-19 related measures and enforcements at the destination.</p> <ul style="list-style-type: none"> • Signage placed to encourage people staying six feet apart from one another in crowded areas • Efforts to enforce social distancing and use masks/face coverings • Staff efforts to regularly wipe down surfaces • Advising visitors with flu-like symptoms to stay home • Provision of station touchless hand sanitizers • Providing employees with personal protective equipment (e.g. gloves, masks) • Well-ventilated and clean restrooms • Providing limited occupancy on crowded areas

^a Promoting destination as a “safe” outlet, advertising safety measures applied at the destination.

Theme	Study Findings	Management/Advertising/Government Implications
Heterogeneous tourist behaviors	<ul style="list-style-type: none"> • Tourists' negative perceptions of crowding, avoiding crowding as negotiation strategy. • Tourists' preferences to travel within their immediate circle (family or friends) • People in the age range 35-44 and above, with greater household incomes, full-time employees, and large households more interested in outdoor recreation trips during COVID-19. • Frequent outdoor recreation tourists' positive intentions towards outdoor recreation trips participation during COVID-19. 	<p>^a Promotional videos of reviews of recent visitors about safety measures at the destination.</p> <p>^m Limited occupancy on high volume areas.</p> <p>^a Promoting backpacking and camping trips, and wilderness areas at the destinations with low COVID-19 exposure.</p> <p>^{m,a} Planning and marketing of family tour packages.</p> <p>^{m,a} Targeting these specific groups of people to attract tourism demand during the initial phase of COVID-19.</p> <ul style="list-style-type: none"> • Using tools of mass media for audience targeting (available in Facebook, Twitter, Instagram, and others). • Informing and welcoming previous visitors through the mail, email or contact information. • Promotional messages directed to frequent outdoor recreation tourists. • Constructing a tourist database for immediate and future use. • Provide awards programs based on the past frequency of visitation.
Tourist ethnocentrism/ Travel related issues	<ul style="list-style-type: none"> • Increased feelings towards supporting local community destinations. 	<p>[§] Education and awareness programs by the government to enhance tourist ethnocentrism.</p>

Theme	Study Findings	Management/Advertising/Government Implications
Information	<ul style="list-style-type: none"> • Substitution of long-distance trips for visiting destinations nearby. • Uncertainty related to long-distance travel. • Lack of centralized information was a critical issue mentioned by focus group participants. • Information search behavior significantly affects negotiations and intentions. 	<p>^a Promotional messages triggering the emotional aspect of local tourists for visiting destinations, through social media or through brochures and pamphlets.</p> <p>^{m,a} Preparation of a destination website according to the sample presented in Chapter 2 containing essential details about: date of publication, COVID-19 information, available facilities and activities at the destination, and recent reviews from tourists.</p> <p>^g Centralized information about COVID-19 laws and policies easily available in the state and/or county websites.</p>
Services/facilities around the destination	<ul style="list-style-type: none"> • Unavailability of services/facilities around the destination, a critical constraint to outdoor recreation. 	<p>^m Fulfilling bare requirements of tourists such as the provision of gas stations around the destination. Provision of water, food, and lodging in the destination.</p> <p>^m No contact food delivery options around the destination.</p> <p>^m Appropriate COVID-19 measures in the service sector.</p>
Staffs/local community	<ul style="list-style-type: none"> • Local communities sometimes not welcoming to tourists. • Tourists wary of impacts on local communities. 	<p>^m Educating staff/members at the destination to create a warm atmosphere to make tourists feel involved and secure.</p>

Theme	Study Findings	Management/Advertising/Government Implications
Tourists' personal constraints/ethical issues	<ul style="list-style-type: none"> • Tourists' fear of COVID-19 transmission when traveling outdoors. • Personal constraints negatively affect intentions. • Tourists' ethical issues related to traveling outdoors. • Ethical constraints were negatively associated with intentions. 	<p>^m Awareness programs to the local communities to be welcoming to the tourists.</p> <p>^{m,g} Educational and awareness efforts to prepare tourists and encourage them to apply adequate non-pharmaceutical measures through use of masks, sanitizers, physical distancing during outdoor recreation trips.</p> <p>^g Educational programs about how COVID-19 can be transmitted, symptoms, and preventive measures.</p>
Tourists emotions, motivations, desires	<ul style="list-style-type: none"> • Attitude, Subjective norm, Perceived behavioral control, Positive anticipated emotion → desires → intentions 	<p>^{m,a} Building tourists' expectations of positive experiences during the destination visit.</p> <p>^{m,a} Efforts to induce positive attitudes to travel, building on tourists' motives, and strengthening desires. such as advertising destination as an outlet to relieve normalcy, gaining novelty, and experiencing positive emotions from COVID-19 affected lifestyle.</p>

Note: a = advertising strategies, g = government strategies, m = management strategies

6.3 Limitations and recommendations for future research

This dissertation is not without limitations. The primary limitation of the study is the lack of cross-national generalizability. The data collected either in the form of a focus group or a large-scale online survey represented perceptions of U.S. tourists during the COVID-19 pandemic. Past studies have illustrated differences in risk perceptions across different cultures and countries during the events of natural disasters, pathogen threats, and terrorist attacks (Hofstede & Hofstede, 2005; Kozak et al., 2007; Reisinger & Mavondo, 2006). Hofstede and Hofstede (2006) highlighted that tourists from Uncertainty Avoidance (UAI) cultures (mostly Asian countries) tend to perceived higher travel risks than Americans or Europeans (Westerners) (Kozak et al., 2007; Park & Yeinsinger, 2010). Similarly, the nature of government regulations varied across countries, with some countries implementing strict lockdowns (like China and the United Kingdom), whereas many states in the U.S. were relatively liberal. Hence, tourists' perceived constraints along with negotiation strategies and motivations for outdoor recreation trips could be different across different geographies, which provides a promising area of research.

Another limitation is the cross-sectional design of the study. This study was conducted during the early fall of 2020, and during the period where vaccination was unavailable. The information about COVID-19, transmission medium, and ways to deal with the virus was not widespread, and the information from mass media sources was often unreliable and contradictory. Hence, information from the focus groups, and the analysis of several models, as well as about segments from this study, should be viewed

as tourists' behaviors during the first six months of pandemic emergence. This limitation in the study could be addressed in the future by conducting a longitudinal study to track tourists' behaviors and perceptions over long and distinct periods: such as the first three months, the stability period (when there is adequate information about COVID-19), the period after the availability of the vaccines, and the period after adequate distribution of the vaccines.

The definition of an outdoor recreation trip in this study encompasses any recreational activity conducted in the outdoor setting. Such a generalized approach may seem to obscure the activity-specific concerns, or implications during the COVID-19. As researchers in the past have elucidated the activity-specific nature of constraints, and negotiation strategies (Hubbard & Mannell, 2001; Jackson et al., 1993), future research could benefit from the studies conducted in the activity-specific framework (such as for skiing, or fishing, or rock climbing).

It is necessary to acknowledge that perceptions of high-risk populations (those who have heart diseases or diabetes) and lower-income families maybe contrasting with the findings of this study because the analysis method followed in this dissertation presents aggregate results (other than the segmentation analysis) for the association between variables than the individual-specific effects. The lower-income families and high-risk populations face diverse constraints due to their lifestyle (lower-income, unable to move, more fearful). Hence, research to understand the behaviors of such populations during the COVID-19 will help policymakers develop equitable solutions for providing an outdoor recreation environment to these populations.

Inclusion of variables representing the direct impact of COVID-19, including COVID-19 risk dimensions (Xu et al., 2021) or COVID-19 infect-ability (Kock et al., 2020) could increase the prediction of variables and the overall fit of models presented in this study. For example, those who perceive higher risks of COVID-19 would experience higher constraints, would be more apt towards negotiation, and consequently have lower intentions to travel (Xu et al., 2021; Sánchez-Cañizares et al., 2021). The study presents several analyses in an attempt to predict tourists' future intentions assuming the intentions to be the proximal determinant of actual behavior. However, positive intentions do not replicate into actual behaviors, and this intention-behavior gap remains to be another critical limitation of this study, thus, recommending the longitudinal study design (or at least a two-wave study) to capture the actual behavior of tourists.

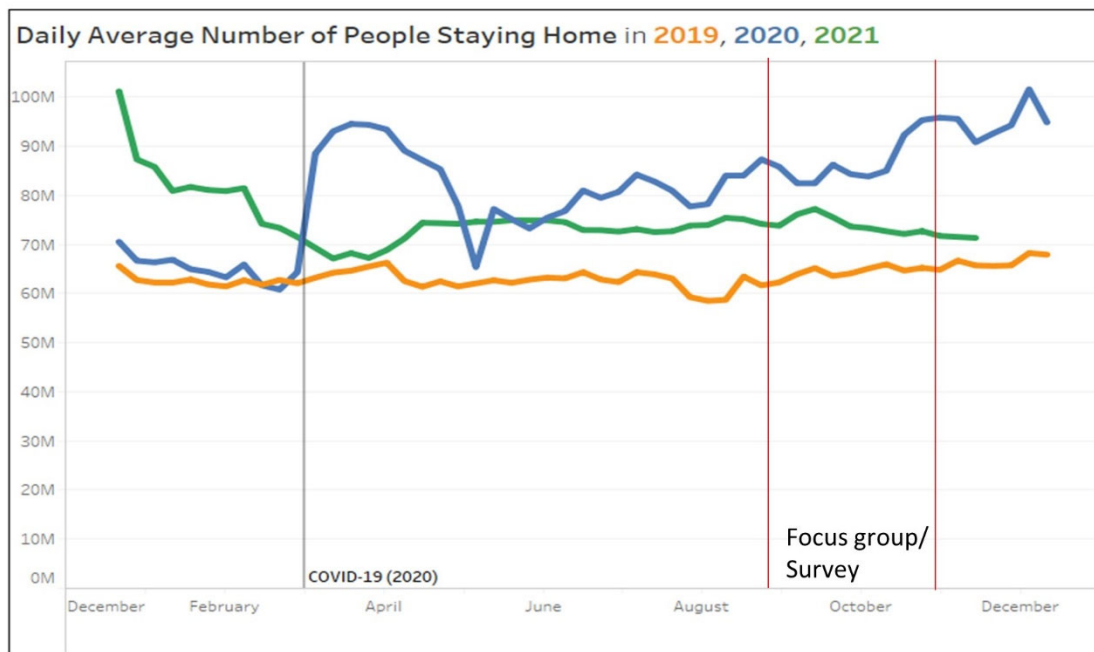
6.4 Looking into the future

The data collection in the study and the resulting analyses reflects tourists' perceptions at merely one point in time, considering that the COVID-19 has and will continue to have diverse (in terms of magnitude and type) impacts on tourists' behaviors. To critically evaluate the findings and implications of this study, there is a need to understand the context during which the data collection was performed. The data (both focus group and online surveys) was acquired during the months of September and November of 2020, around 5-6 months after WHO declared COVID-19 as a pandemic and the U.S. president declared COVID-19 as a national emergency (CDC, 2021).

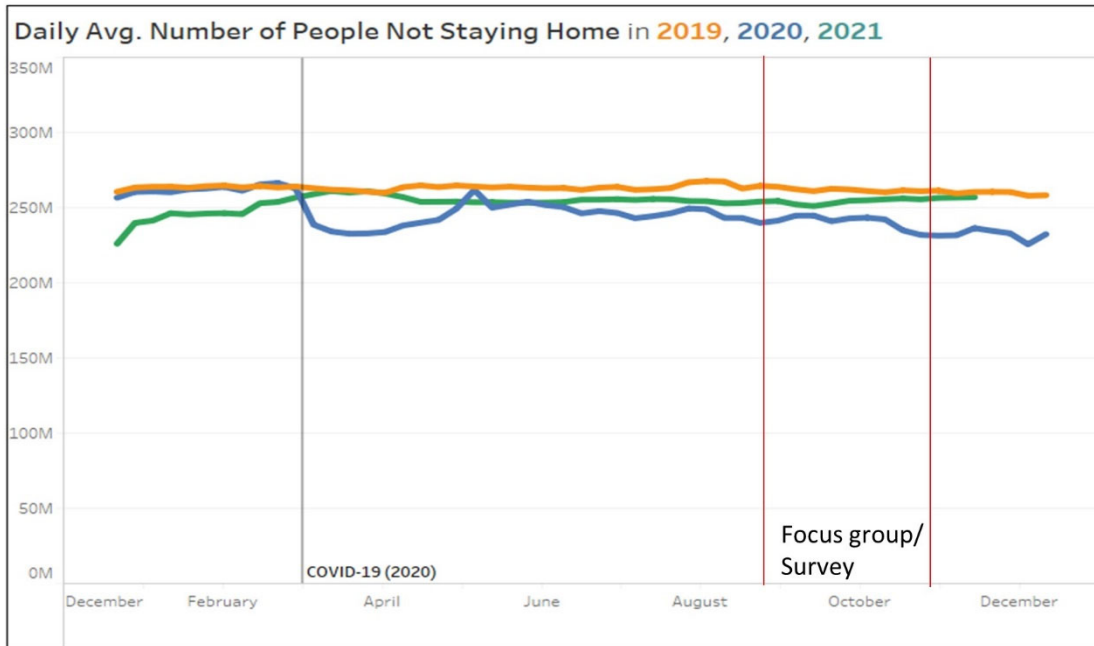
Figure 6.1

Travel statistics before and after COVID-19

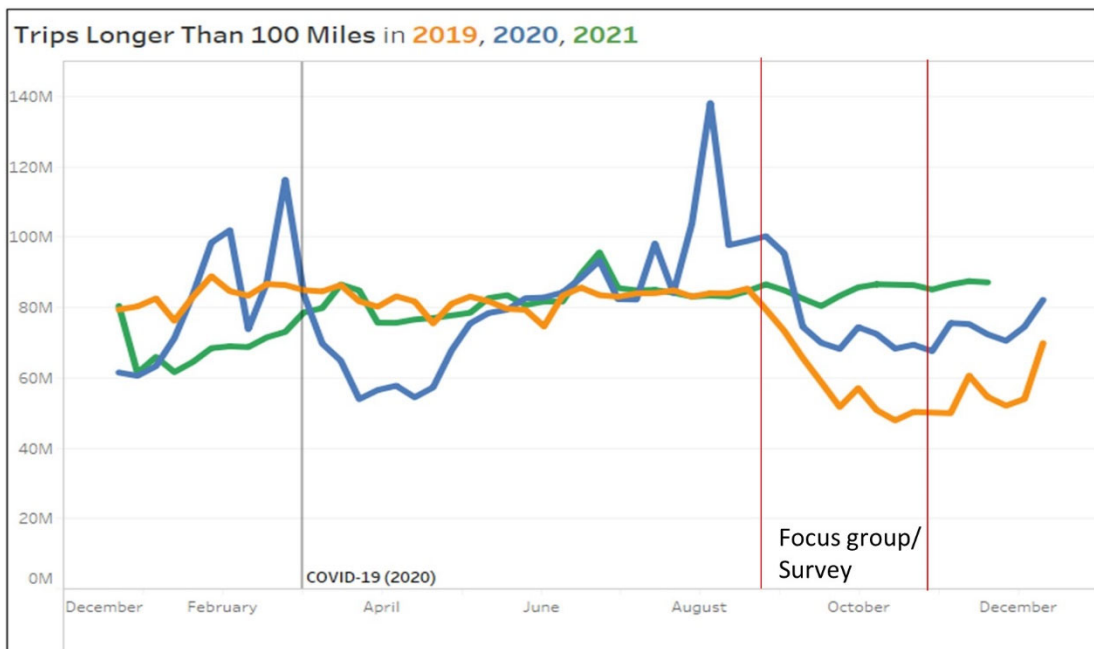
- (a) Average number of people staying home (2019,2020,2021)
 (Source: Bureau of Transportation Statistics (2021))



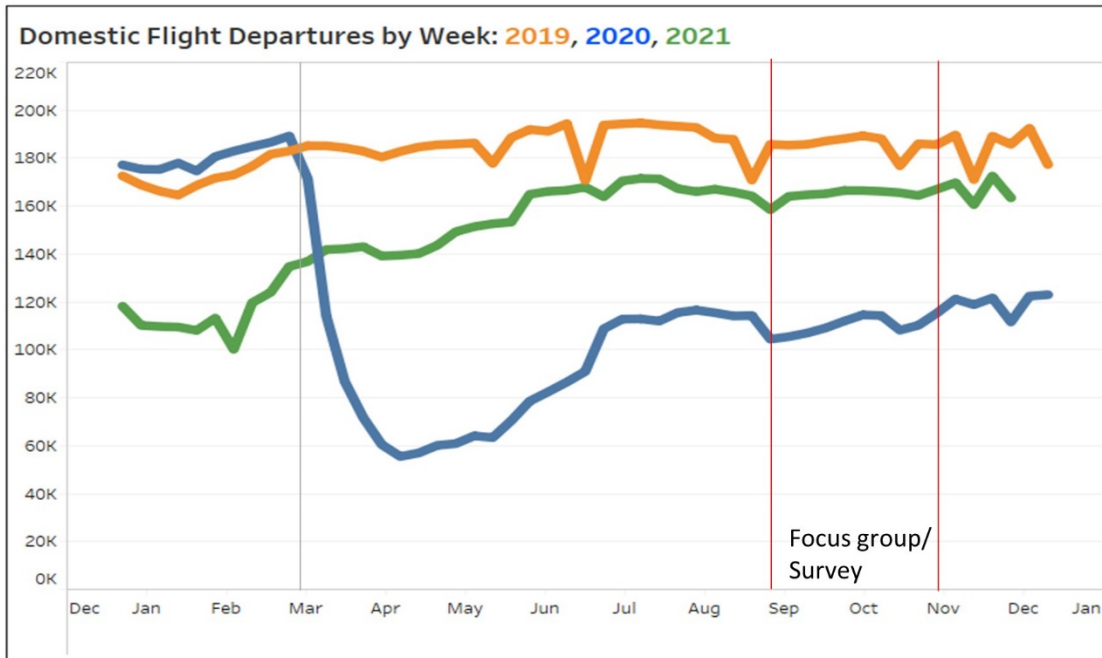
- (b) Average number of people not staying home (2019,2020,2021)
 (Source: Bureau of Transportation Statistics (2021))



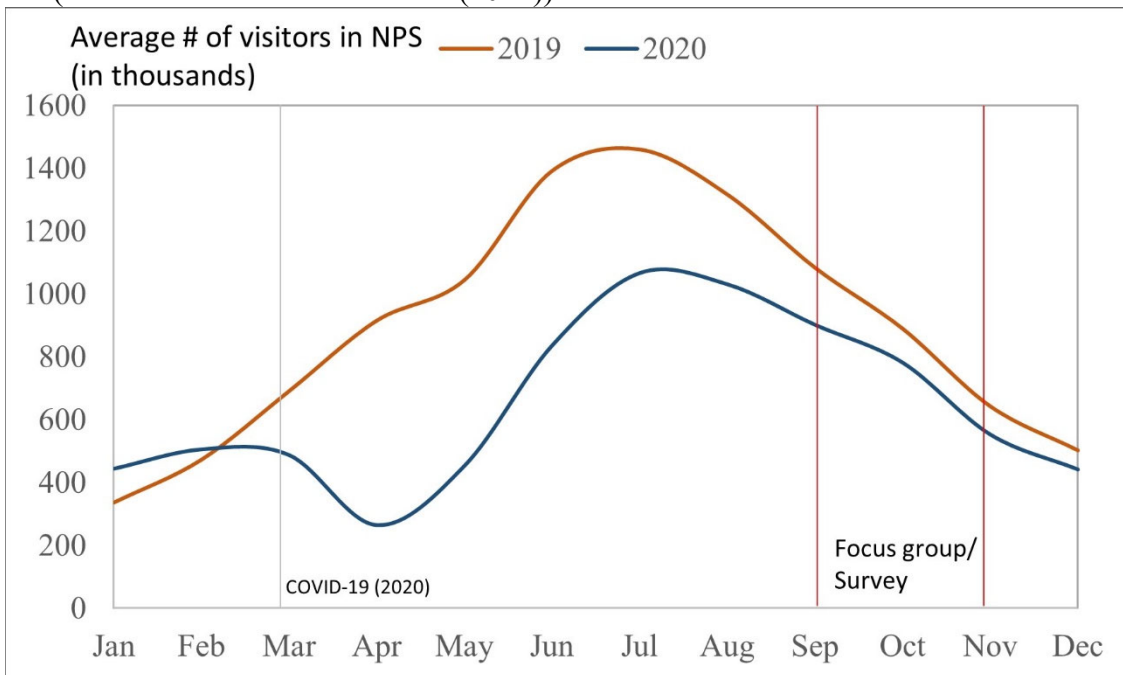
(c) Trips longer than 100 miles within US (2019,2020,2021)
 (Source: Bureau of Transportation Statistics (2021))



(d) Number of domestic flight departures by week (2019,2020,2021)
 (Source: Bureau of Transportation Statistics (2021))



(e) Average number of visitors in US national parks (in thousands) (2019 and 2020)
 (Source: National Park Service (2021))



The study time period can be hence characterized by the following that impacted tourists' outdoor recreation participation decisions:

- a) Varying COVID-19 laws across the U.S. –at the state and county level regarding mandatory quarantine days after arrival, limitations on public gatherings, closure of bars and restaurants- influencing the outdoor recreation decisions.
- b) Relatively low information about COVID-19, in general. Opinions about COVID-19 were divided between sources of media.
- c) Increase in the number of COVID-19 cases and the number of deaths.
- d) Indefinite lockdown in some of the states.
- e) Vaccination not widespread and easily available to the public.

Figure 6.1 details the mobility and travel patterns monthly and compares the changes in those patterns pre and after COVID-19. This further puts into the context of how the data collection time period fits into the COVID-19 timeline, especially after the widespread vaccination after January of 2021. After the declaration of COVID-19 emergency and government instructions to stay at home, a lot of U.S. residents preferred staying at home during the months from March to May (Figure 6.1 (a) and (b)), compared to 2019. However, more people stayed outside the home in 2021 during the same time period, most likely because of widespread vaccination, and the convenience of applying negotiation strategies and non-pharmaceutical interventions. The survey time period however saw a rapid decrease in people staying away from their homes due to lesser government restrictions, more information about how to be safe from COVID-19, and returning to their normal lifestyle. Similar trends were observed for people taking long-

distance trips (>100 miles), and air travel. A large decrease in the months of March to June was followed up by a gradual increase in long-distance and air trips up to the data collection period, because of similar reasons mentioned above (Figure 6.1 (c) and (d)). The national park visitation statistics also reveal a similar kind of distribution pertaining to a lower amount of visitation during the months of May-June 2020 followed up by a steady increase up to July, and a gradual decrease since. The winter season also has an influential role in decreasing the amount of visitors to the national parks. However, compared to 2019, the visitation decreased in large amounts. To conclude, the data collection effort in this study encompasses the early COVID-19 fear, as well as people's increased motivation to travel outside of their homes and towards achieving peace at recreational settings.

6.4.1 Implications for the future

The widespread vaccination, ease of government regulations, and familiarity with COVID-19 environment will certainly affect tourists' decision-making and behaviors. Whether or not tourists will engage in more outdoor recreation trips remains to be seen, but there lies cautious optimism about the tourism demand recovery with models (UNWTO, 2020) and experts suggesting that pre-pandemic frequencies would not be observed before 2024 (Abrahamsen et al., 2020). In lieu of the new environment, how does this study contribute to the overall research in tourism and what are the implications of this research in the broader COVID-19 context is explained, in brief, below (For details see section 6.1 and 6.2).

- a. Practicing prophylactic behaviors (such as the use of masks, sanitizers) during destination visit, companionship preferences (with immediate family and friends), preference to continue visiting domestic destinations over international destinations, and likeliness to search for large amounts of information will still be prevalent in the future. In short, most of the constraints, and negotiation strategies mentioned throughout this dissertation will still be applicable.
- b. Although the new environment would result in a different segment of tourists' than identified in this study, tourism destinations should generally focus their attention towards the socio-demographic and behavioral profile of overall constrained and all-but personally constrained groups i.e. tourists with higher income, higher household size, fully employed, and age above 35 as these are the people who have higher interest and positive intentions towards outdoor recreation participation.
- c. The relationships between COVID-19 destination practices and other variables found in Chapter 5 should also be interpreted with caution in the future. While COVID-19 destination practices could provide a safer environment to tourists, tourists might be more irritated and frustrated to use masks, practice social distancing, and other COVID-19 related measures at the destination. In such a case, the model with repeat visitors would be more relevant i.e. the COVID-19 measures at the destination would not likely affect destination loyalty (revisitation/recommendation intention), and even have a negative relationship with overall satisfaction during the visit.

- d. This study found that ethical constraints were a significant predictor of outdoor recreation intentions and several other psychosocial variables such as perceived behavioral control. With the widespread vaccination and opening of destinations around the whole U.S., the effect of ethical constraints is expected to be minimum and even redundant. However, personal constraints such as fear with COVID-19 would still be a primary deterrent to outdoor recreation participation.
- e. Besides the practical implications, this study has a number of theoretical implications to the COVID-19 research and tourism literature as a whole. The items identified and validated for constraints, negotiations, motivations as well as other psycho-social variables are important for researchers in this field and can be applied in the future. The findings of higher order models of negotiations and motivations and the inability of constraint items to form a structure of higher order add to the ongoing discussion about the dimensionality of the items in the field.

6.4.2 Concluding remarks

How will tourists' behavior look in the future? This is a question that needs to be sought out for the next couple of years. Will tourists continue to use NPIs during their destination visit after the widespread vaccination? Will tourism destinations need to apply COVID-19 measures? Or will things return to normal? Although the new-normal is envisioned by mask covered tourists socially distancing themselves in a destination, these prophylactic behaviors might not be needed after widespread vaccination. Besides, COVID-19 regulations can induce negative feelings and produce expectation—

disconfirmation (Oliver, 1980), triggering negative emotions and lower satisfaction during the destination visit. The risk and anxiety due to COVID-19 are also slowly decreasing, as seen by the steady increase in domestic spending in the U.S (Bureau of Economic Analysis, 2020). There is also a need to incorporate the group of people who share negative perceptions of vaccination—i.e. anti-vaxxers—in the tourism environment. This dissertation tries to take a more comprehensive approach; however, there is a need for an even broader perspective by considering the inter-connected system involving elements of social, political, destination, local community, and tourists' psychological structure. Thus, from an academic and practical lens, tourism (industry and research) for the future needs research that crosses the disciplinary borders to more holistically examine tourists' behaviors and highlight the relevant policy/management actions.

References

- Abrahamsen, Y., Hälg, F., Rathke, A., Sarferaz, S., & Sturm, JE (2020). Forecasts for the Swiss Tourism Edition May 2020 (No. 150). KOF studies. Retrieved from <https://www.econstor.eu/handle/10419/219412>.
- Baloglu, S. (2000). A Path Analytic Model of Visitation Intention Involving Information Sources, Socio-Psychological Motivations, and Destination Image. *Journal of Travel & Tourism Marketing*, 8(3), 81–90. https://doi.org/10.1300/J073v08n03_05
- Bureau of Transportation Statistics (2021). Latest Weekly COVID-19 Transportation Statistics. <https://www.bts.gov/covid-19/week-in-transportation#aviation>
- Chiu, W., & Cho, H. (2021). The Model of Goal-Directed Behavior in Tourism and Hospitality: A Meta-analytic Structural Equation Modeling Approach. *Journal of Travel Research*, 004728752199124. <https://doi.org/10.1177/0047287521991242>
- Cui, F., Liu, Y., Chang, Y., Duan, J., & Li, J. (2016). An overview of tourism risk perception. *Natural Hazards*, 82(1), 643-658.
- Crawford, D. W., Jackson, E. L., & Godbey, G. (1991). A hierarchical model of leisure constraints. *Leisure Sciences*, 13(4), 309–320. <https://doi.org/10.1080/01490409109513147>
- Godbey, G., Crawford, D. W., & Shen, X. S. (2010). Assessing Hierarchical Leisure Constraints Theory after Two Decades. *Journal of Leisure Research*, 42(1), 111–134. <https://doi.org/10.1080/00222216.2010.11950197>
- Hennink, M. M., Kaiser, B. N., & Weber, M. B. (2019). What Influences Saturation? Estimating Sample Sizes in Focus Group Research. *Qualitative Health Research*, 29(10), 1483–1496. <https://doi.org/10.1177/1049732318821692>

- Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage publications.
- Hubbard, J., & Mannell, R. C. (2001). Testing Competing Models of the Leisure Constraint Negotiation Process in a Corporate Employee Recreation Setting. *Leisure Sciences*, 23(3), 145–163. <https://doi.org/10.1080/014904001316896846>
- Iso-Ahola, S. E. (1986). A theory of substitutability of leisure behavior. *Leisure Sciences*, 8(4), 367–389. <https://doi.org/10.1080/01490408609513081>
- Jackson, E. L., Crawford, D. W., & Godbey, G. (1993). Negotiation of leisure constraints. *Leisure Sciences*, 15(1), 1–11. <https://doi.org/10.1080/01490409309513182>
- Kement, U., Çavuşoğlu, S., Demirağ, B., Durmaz, Y., & Bükey, A. (2020). Effect of perception of COVID-19 and nonpharmaceutical intervention on desire and behavioral intention in touristic travels in Turkey. *Journal of Hospitality and Tourism Insights*. <https://www.emerald.com/insight/2514-9792.htm>
- Kim, S. S., & B. McKercher. (2011). The Collective Effect of National Culture and Tourist Culture on Tourist Behavior. *Journal of Travel and Tourism Marketing*, 28 (2): 145–64.
- Kock, F., Josiassen, A., & Assaf, A. G. (2019). The xenophobic tourist. *Annals of Tourism Research*, 74, 155–166. <https://doi.org/10.1016/j.annals.2018.11.005>
- Kock, F., Nørfelt, A., Josiassen, A., Assaf, A. G., & Tsionas, M. G. (2020). Understanding the COVID-19 tourist psyche: The Evolutionary Tourism Paradigm. *Annals of Tourism Research*, 85, 103053. <https://doi.org/10.1016/j.annals.2020.103053>

- Kono, S., Ito, E., Walker, G. J., & Gui, J. (2020). Predictive power of leisure constraint-negotiation models within the leisure-time physical activity context: A partial least squares structural equation modeling approach. *Journal of Leisure Research*, 51(3), 325–347. <https://doi.org/10.1080/00222216.2019.1687266>
- Kozak, M., Crotts, J. C., & Law, R. (2007). The impact of the perception of risk on international travellers. *International Journal of Tourism Research*, 9(4), 233-242. <https://doi.org/10.1002/jtr.607>
- Lo, A. S., Cheung, C., & Law, R. (2011). Hong Kong Residents' Adoption of Risk Reduction Strategies in Leisure Travel. *Journal of Travel & Tourism Marketing*, 28(3), 240–260. <https://doi.org/10.1080/10548408.2011.562851>
- Liu, Y., Shi, H., Li, Y., & Amin, A. (2021). Factors influencing Chinese residents' post-pandemic outbound travel intentions: An extended theory of planned behavior model based on the perception of COVID-19. *Tourism Review*, 76(4), 871–891. <https://doi.org/10.1108/TR-09-2020-0458>
- Lyu, S. O., & Oh, C.-O. (2014). Recreationists' Constraints Negotiation Process for Continual Leisure Engagement. *Leisure Sciences*, 36(5), 479–497. <https://doi.org/10.1080/01490400.2014.920702>
- Manfredo, M. J., Driver, B. L., & Tarrant, M. A. (1996). Measuring Leisure Motivation: A Meta-Analysis of the Recreation Experience Preference Scales. *Journal of Leisure Research*, 28(3), 188–213. <https://doi.org/10.1080/00222216.1996.11949770>
- National Park Service. (2021). Visitation Numbers. <https://www.nps.gov/aboutus/visitation-numbers.htm>

- Nyaupane, G. P., Morais, D. B., & Graefe, A. R. (2004). Nature Tourism Constraints. *Annals of Tourism Research*, 31(3), 540–555.
<https://doi.org/10.1016/j.annals.2004.01.006>
- Park, K., & Reisinger, Y. (2010). Differences in the perceived influence of natural disasters and travel risk on international travel. *Tourism Geographies*, 12(1), 1-24.
<https://doi.org/10.1080/14616680903493621>
- Perugini, M., & Bagozzi, R. P. (2001). The role of desires and anticipated emotions in goal-directed behaviours: Broadening and deepening the theory of planned behaviour. *British Journal of Social Psychology*, 40(1), 79–98.
<https://doi.org/10.1348/014466601164704>
- Son, J. S., Mowen, A. J., & Kerstetter, D. L. (2008). Testing Alternative Leisure Constraint Negotiation Models: An Extension of Hubbard and Mannell's Study. *Leisure Sciences*, 30(3), 198–216. <https://doi.org/10.1080/01490400802017308>
- Song, H., C.-K. Lee., S. K. Kang., & S.-J. Boo. (2012). The Effect of Environmentally Friendly Perceptions on Festival Visitors' Decision-Making Process Using an Extended Model of Goal-Directed Behavior. *Tourism Management* 33 (6): 1417–28.
- UNWTO.(2021). UNWTO Tourism Recovery Tracker. <https://www.unwto.org/unwto-tourism-recovery-tracker>
- Wang, I. M., & Ackerman, J. M. (2019). The Infectiousness of Crowds: Crowding Experiences Are Amplified by Pathogen Threats. *Personality and Social Psychology Bulletin*, 45(1), 120–132. <https://doi.org/10.1177/0146167218780735>

White, D. D. (2008). A Structural Model of Leisure Constraints Negotiation in Outdoor Recreation. *Leisure Sciences*, 30(4), 342–359.

<https://doi.org/10.1080/01490400802165131>

Appendix

Survey Questionnaire

Standard: Start (3 Questions)

Branch: New Branch

If

If 2020 Outdoor Recreation Travel Study - Sign Up Welcome! You are invited to participate in a quest... No, I am not US resident or over the age of 18 or I do not agree to participate in this study. Is Selected

EndSurvey:

Standard: Participation (6 Questions)

Branch: New Branch

If

If How many outdoor recreation trips did you take after March 2020? 0 Is Not Selected

Block: Recent Participation (16 Questions)

Standard: Information Search Behavior (1 Question)

Standard: Constraints (2 Questions)

Standard: Motivation (2 Questions)

Standard: Negotiation of Constraints (2 Questions)

Standard: Attitudes, desires and other factors (4 Questions)

Block: Socio-demographics (12 Questions)

EndSurvey:

Page Break

Start of Block: Start

Q21

2020 Outdoor Recreation Travel Study - Sign Up

Welcome! You are invited to participate in a questionnaire survey related to outdoor recreation participation.

Please fully review the following Informed Consent document before deciding whether or not to sign up for this study. You must be 18 years or older, and US resident to participate in this study.

You are invited to participate in a research study conducted by Prasanna Humagain, a Ph.D. Candidate supervised by Patrick Singleton in the Department of Civil and Environmental Engineering at Utah State University, for his dissertation.

The purpose of this research is to study different factors related to participation in outdoor recreation trip during and after the COVID-19 pandemic. Specifically, we are interested in learning about your opinions, perceptions, motivations, and concerns about making decisions related to going on outdoor recreation trips. You are being asked to participate in this research because you are a resident of United States.

Your participation in this study is voluntary. You may close your browser at any time to exit the survey. However, since this is an anonymous survey, once you submit the survey, we will not be able to withdraw your answers because we will not know which answers are yours.

If you take part in this study, you will be asked to complete two 20-minute online questionnaires, approximately six months apart. If you agree to participate, the researchers will collect information about your socio-demographic characteristics as well as your experiences, opinions, perceptions, motivations, concerns, and COVID-19 impacts on your decision to participate in an outdoor recreational trip. Approximately six months after completing the questionnaire for the first time, you will be invited to complete a similar second round questionnaire. Your total participation in this study is expected to be less than 40 minutes.

The possible risks of participating in this study include loss of confidentiality. Although, you will not directly benefit from this study, it has been designed to learn more about how people make decisions about outdoor recreation travel during pandemics such as COVID-19. We will make every effort to ensure that the information you provide remains confidential. We will not reveal your identity in any publications, presentations, or reports resulting from this research study. We will collect your information through

Qualtrics.com, an online survey platform. Online activities always carry a risk of a data breach, but we will use systems and processes that minimize breach opportunities. This survey data will be securely stored in restricted-access folder on Box.com, an encrypted, cloud-based storage system. For your participation in this research study, your HIT will be compensated via Amazon's Mechanical Turk with a payment of \$1.00 for your completed survey. Thus, you will receive an equivalent of \$3.00/hour after successful completion via Amazon Mechanical Turk. You will not receive compensation if you withdraw from the study. Also, you will not receive compensation if you do not complete the full questionnaire by answering every question. You can decline to participate in any part of this study for any reason and can end your participation at any time. If you have any questions about this study, you can contact transportation.study@usu.edu, Prasanna Humagain (Student Investigator, prasanna.hmg@usu.edu, 435-999-4610), or Patrick Singleton (Principal Investigator patrick.singleton@usu.edu, 435-797-7109). Thank you again for your time and consideration. If you have any concerns about this study, please contact Utah State University's Human Research Protection Office at (435) 797-0567 or irb@usu.edu.

By continuing to the survey, you agree that you are 18 years of age or older, and wish to participate. You agree that you understand the risks and benefits of participation and that you know what you are being asked to do. You also agree that if you have contacted the research team with any questions about your participation, and are clear on how to stop your participation in this study if you choose to do so. Please be sure to retain a copy of this form for your records. (Click here [11318 singleton loi survey final](#))

Yes, I am US resident, over the age of 18 and agree to participate in this study.

(3)

No, I am not US resident or over the age of 18 or I do not agree to participate in this study. (4)

Display This Question:

If 2020 Outdoor Recreation Travel Study - Sign Up Welcome! You are invited to participate in a quest... = No, I am not US resident or over the age of 18 or I do not agree to participate in this study.

Q25 Based on your responses. you are ineligible to participate or you do not wish to participate in this study. Thank you for your time. Please click Next (→) to exit the survey.

Display This Question:

If 2020 Outdoor Recreation Travel Study - Sign Up Welcome! You are invited to participate in a quest... = Yes, I am US resident, over the age of 18 and agree to participate in this study.

Q27 Thank you for agreeing to participate in the study. Now, you will be redirected to our survey.
Please click Next (→) to continue.

End of Block: Start

Start of Block: Participation



Q13 An “outdoor recreation trip” is a journey involving at least one overnight stay away from home, and where the purpose is to engage in recreational activities in an outdoor or natural environment, within U.S. Based on the definition, please respond to following questions about outdoor recreation trip. How many outdoor recreation trips did you take last year (2019)? (Please enter a number)



Q15 How many outdoor recreation trips have you taken this year (2020)? (Please enter a number)

Q55 How many outdoor recreation trips did you take after March 2020?

0 (4)

1 (5)

2 (6)

3 (7)

4 (8)

5+ (9)

Q30 If the COVID-19 pandemic did not occur and everything was normal, how many outdoor recreation trips of would you have taken this year (2020)?

0 (1)

1 (2)

2 (3)

3 (4)

4 (5)

5+ (6)

Q31 If the COVID-19 pandemic did not occur and everything was normal, how many outdoor recreation trips of one or more nights from home would you be interested in going in the next twelve months?

0 (1)

1 (2)

2 (3)

3 (4)

4 (5)

5+ (6)

Page Break

Q19 Now considering the next twelve months, please specify to what you agree with following statements regarding making a recreation trip in the future.

	Strongly disagree (18)	Somewhat disagree (19)	Neither agree nor disagree (20)	Somewhat agree (21)	Strongly agree (22)
I am planning to go on an outdoor recreational trip in the next 12 months (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am not sure if I will go on an outdoor recreational trip in the next 12 months (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I already have a plan to go on an outdoor recreational trip in the next 12 months (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Participation

Start of Block: Recent Participation

Q36 Please answer the following questions based on an outdoor recreation trip that you took recently, in 2020. For your most recent outdoor recreation trip (within US), please

respond to the following questions.

Which of the following best describes your destination? [Check all that apply]

Beach (1)

Cities or small towns (2)

Mountain destination (3)

National Parks (4)

State, county, or regional parks (5)

Campground (6)

RV or motorhome trips (7)

Others (Please specify) (8)

Q18 Where was your destination?

State (1) _____

City/County (2)

Q39 Was that your first visit to the destination?

Yes (1)

No (3)

Display This Question:

If Was that your first visit to the destination? = No

Q40 How many times have you previously visited the destination?

1 (1)

2 (2)

3+ (3)

Q38 What transportation means did you use to reach the destination? (If you have taken two or more modes, please select the mode used for longest duration)

Bicycle (1)

Motorcycle (2)

Walking (3)

Airplane (4)

Motorbike (5)

Automobiles (Cars, trucks, vans and SUVs), (6)

Trailer, RV's, ATV's (7)

Others (Please Specify) (8)

Q41 How long did it take you to reach the destination from your home?

1-3 hrs (1)

3-6 hrs (2)

6-9 hrs (3)

9+ hrs (4)

Q29 What activities did you do on your recent outdoor recreation trip?(Check all that apply)

- Fishing (1)
- Sailing and motor boating (2)
- Hiking and Camping (3)
- Canoeing, kayaking and rafting (4)
- Golfing (5)
- Horse-riding (6)
- Hunting (7)
- Sports (8)
- Rock climbing (9)
- Skiing (10)
- Restoration and conservation volunteering (11)
- Hanging out with family and friends (12)

Others (please specify) (13)

Q42 Who did you travel with?

Alone (1)

With family (2)

With friends' (3)

Business/Work colleagues (4)

Organized tour group (5)

Other (6) _____

Q43 How many nights did you spend at your destination?

1 (1)

2 (2)

3 (3)

4 (4)

5+ (5)

Q44 What type of accommodation did you stay in? [Check all that apply]

Guesthouse (1)

Airbnb (2)

Campsite (3)

Hotel (4)

Outdoor activity center (5)

Family/friends home (6)

Other (7) _____

Q45 Based on your experience at the destination, how satisfied were you with the following practices at the destination?

	Extremely satisfied (1)	Somewhat satisfied (2)	Neither satisfied nor dissatisfied (3)	Somewhat dissatisfied (4)	Extremely dissatisfied (5)
Signage placed to encourage people staying six feet apart from one another in crowded areas (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Efforts to enforce social distancing and use masks/face coverings (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Staff efforts to regularly wipe down surfaces (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Advising visitors with flu-like symptoms to stay home (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provision of station touchless hand sanitizers (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing employees with personal protective equipment (e.g. gloves, masks) (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Well ventilated and clean restrooms (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q46 Based on your experiences at the destination, please indicate your satisfaction with following things at the destination?

	Extremely dissatisfied (1)	Somewhat dissatisfied (2)	Neither satisfied nor dissatisfied (3)	Somewhat satisfied (4)	Extremely satisfied (5)
Hotels, restaurants, and lodging (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cultural experiences (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nature and diverse landscapes (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Friendliness of local community (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tourist information (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q47 Do you think the goods and other services you purchased at the destination were a good value for money?

- Strongly disagree (1)
 - Somewhat disagree (2)
 - Neither agree nor disagree (3)
 - Somewhat agree (4)
 - Strongly agree (5)
-

Q48 How likely would you return to the same destination for an outdoor recreation trip in the near future?

- Extremely unlikely (1)
 - Somewhat unlikely (2)
 - Neither likely nor unlikely (3)
 - Somewhat likely (4)
 - Extremely likely (5)
-

Q49 Based on the experiences you had during your recent outdoor recreation trip, how satisfied were you overall with your visit to this destination?

- Extremely dissatisfied (1)
 - Somewhat dissatisfied (2)
 - Neither satisfied nor dissatisfied (3)
 - Somewhat satisfied (4)
 - Extremely satisfied (5)
-

Q50 Based on the experiences you had during your recent outdoor recreation trip, how likely it is that you would recommend the destination to others?

- Extremely unlikely (1)
- Somewhat unlikely (2)
- Neither likely nor unlikely (3)
- Somewhat likely (4)
- Extremely likely (5)

End of Block: Recent Participation

Start of Block: Information Search Behavior

Q51 The statements below asks about your information search behavior when you plan on making an outdoor recreation trip. Please specify how likely are you to do the following before going on an outdoor recreation trip.

	Extremely unlikely (1)	Somewhat unlikely (2)	Neither likely nor unlikely (3)	Somewhat likely (4)	Extremely likely (5)
I make my outdoor recreation trip decisions without gathering information from any information sources (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Before I start planning my outdoor recreation trip, I am likely to search for information about activities and facilities at the destination (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Before I start planning my outdoor recreation trip, I am likely to search for COVID-19 related information at the	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

destination (3)					
I spend time seeking information about COVID related county/state policies at the destination (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Information Search Behavior

Start of Block: Constraints

Q32 The statements below include conditions that may limit your outdoor recreation trip participation, some of which may be initiated by current COVID-19 pandemic. Please specify to what extent you agree or disagree with these statements regarding constraints to your recreation travel.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I have no interest in going on an outdoor recreation trip (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't have the physical ability and skills for outdoor recreation (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am afraid to go on an outdoor recreation trip (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I don't have people to go with (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't know if my friends have been practicing social-distancing (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Friends have varied perceptions of COVID (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People I know are hesitant to go on an outdoor recreation trip (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have no time to take a trip (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have family and work commitments (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Going on an outdoor recreation trip impacts my finances (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I cannot afford to go on a recreational trip (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The destination is too far away (15)

I don't feel safe/comfortable to travel via flights or public transit (16)

Closure of facilities at the destination (18)

Fewer options for food (19)

All activities are not offered at the destination (20)

Q56 The statements below includes several other constraints to your outdoor recreation trip participation, some of which may be initiated by current COVID-19 pandemic. Please specify to what extent you agree or disagree with these statements regarding constraints to your recreation travel.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
Inadequate sanitization measures at the destination and nearby services (21)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of public restrooms and ventilation (22)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of health facility/hospitals at or near the destination (23)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of information about state and county-specific COVID-19 laws (24)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't know where to go or whom to contact if I feel sick during travel or during the trip (25)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of information about preventive measures at the destination	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

or during travel (26)					
Unable to socialize with other people (27)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unfriendly environment- everyone thinks others are a threat to them (28)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local people being less receptive to tourists (29)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It's unethical to take a trip during the pandemic (30)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Travelling will help spread the virus (31)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Traveling during the pandemic makes me socially irresponsible (32)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Constraints

Start of Block: Motivation

Q57 Thinking about outdoor recreational travel in general, here are some different things that may or may not be important to you when going on such trips. For each item, please

specify to what extent it is an important reason or motivation for your outdoor recreational participation. (1 - Not Important , 5- Extremely Important)

To be with people who enjoy the same things (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To bond with family and do things together (22)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To get away from the demands of life (24)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To get away from cars, people and crowds (25)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To get away from technology and toxic news in the environment (26)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To clear your mind and enjoy outdoors (28)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To re-energize myself (29)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To experience normalcy (30)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



To experience
the peace and
calm (31)



Page Break



Q33 Thinking about outdoor recreational travel in general, here are some different things that may or may not be important to you when going on such trips. For each item, please specify to what extent it is an important reason or motivation for your outdoor recreational participation.

	Not at all important (6)	Slightly important (7)	Moderately important (8)	Very important (9)	Extremely important (10)
<input checked="" type="checkbox"/> To view scenic places (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input checked="" type="checkbox"/> To be close to nature (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input checked="" type="checkbox"/> To view or take advantage of natural beauty (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input checked="" type="checkbox"/> To get exercise and fresh air (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input checked="" type="checkbox"/> To keep physically fit (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input checked="" type="checkbox"/> To explore places, I have never been before (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

To take advantages of reduced crowds (9)

To experience cultural diversity around the area (10)

To be with friends (11)

End of Block: Motivation

Start of Block: Negotiation of Constraints

Q59 Here are some other strategies, that you could try to do when planning or participating on an outdoor recreation trip. To what extent do you try to do the following?

	Never (1)	Sometimes (2)	About half the time (3)	Most of the time (4)	Always (5)
Try to go on weekdays, with less crowd (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Try to use face coverings and use sanitizers more often (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Try to go on destination with limited occupancy and adequate health and hygiene measures 3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Try to maintain social distancing, and travel with smaller groups (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Try to go to wilderness areas (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Try to bring
your own
food (6)

Try to
minimize
visits to
services (for
groceries
and others)
at
destination
(7)

Try to refrain
talking and
socializing
with other
people (8)

Page Break

Q34 When planning or participating in an outdoor recreation trip, to what extent do you try to do the following? (Never-1, 5- always)

Try to plan ahead of time (9)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Try to plan around when my family and friends are free (10)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Try to notify companions and family members in advance (11)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Try to book hotels and campsite well in advance (12)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Try to budget money (13)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Try to set aside money to use for outdoor recreation trip (14)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Try to look for cheaper ways or discounts/deals (15)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Try to go with people you know (16)	★	★	★	★	★
Try to find people with similar perceptions about COVID (17)	★	★	★	★	★
Try to find people with similar health standards (18)	★	★	★	★	★
Try to convince people to apply social distancing and safety measures during the trip (19)	★	★	★	★	★
Try to go to places that are accessible by car (20)	★	★	★	★	★
Try to travel within state (21)	★	★	★	★	★
Try to go to familiar destination (22)	★	★	★	★	★

Q35 Please specify to what extent you agree or disagree with these statements about going on outdoor recreation trip.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
People important to me think I should go to outdoor recreation trip (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People important to me support my outdoor recreation activities (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People who I value think I should go on an outdoor recreation trip (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am confident that if I want to, I can go on an outdoor recreation trip (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I want to go on an outdoor recreation trip, I can go easily (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Factors that influence my decision to go on outdoor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

recreation
trip are in my
total control
(6)

I desire to go
on an
outdoor
recreational
trip in the 12
months (7)

I hope to go
on an
outdoor
recreation
trip in next
12 months
(8)

I
passionately
want to go
on an
outdoor
recreation
trip in next
12 months
(9)

Q53 If I can go on a recreational trip in the next twelve months, I will feel

	Not at all (6)	Slightly (7)	Somewhat (8)	Moderately (9)	Very much (10)
Excited (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Happy (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Satisfied (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Glad (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q54 If I cannot go on a recreational trip in the next twelve months, I will feel

	Not at all (6)	Slightly (7)	Somewhat (8)	Moderately (9)	Very much (10)
Sad (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Angry (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Disappointed (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Frustrated (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Attitudes, desires and other factors

Start of Block: Socio-demographics

Q1 In the following section, we will ask about your personal information. It will help us understand about YOU.

What is your age?

18–24 (1)

25-34 (2)

35-44 (3)

45-54 (4)

55-64 (5)

65-74 (6)

75-84 (7)

85+ (8)

Q2 Which of the following describes you? (Check all that apply)

White (1)

Hispanic (2)

Latino, or Spanish Origin (3)

Black or African American (4)

American Indian or Alaska Native (5)

Native Hawaiian or Pacific Islander (6)

Asian (7)

Others (Please Specify) (8)

Q3 What is your gender?

Female (1)

Male (2)

Transgender (3)

Do not identify as female, male, or transgender (4)

Q4 What is the highest degree or level of school you have completed?

- Not a high school graduate, grade 12 or less (1)
 - High school graduate (diploma or GED) (2)
 - Some college credit but no degree (3)
 - Associate or technical school degree (4)
 - Bachelor's or undergraduate degree (5)
 - Graduate or professional degree (6)
 - Other (Please specify) (7)
-

Q5 Are you currently enrolled in any type of school?

- Yes, full time (1)
 - Yes, part-time (2)
 - No (3)
-

Q6 What is your current employment status?

- Employed, full time (1)
 - Employed, part time (2)
 - Unemployed (3)
 - Retired (4)
-

Q60 Currently, do you work from home or at your workplace?

- Work always or mostly from home (1)
 - Occasionally from home (2)
 - Not working from home (3)
-

Q7 Including yourself, how many people live in your home?

1 (just me) (1)

2 (2)

3 (3)

4 (4)

5+ (5)

Q8 Do you or any members of your household associate with following?

Any kind of disability that hinders ability to move (1)

Pregnancy or recent birth of baby (2)

Infant below 5 years (4)

Adult greater than 65 years (3)

Any kind of respiratory or heart diseases (5)

Q9 What is your total annual income (before taxes)?

- \$0-\$14,999 (1)
 - \$15,000- \$24,999 (2)
 - \$25,000-\$34,999 (3)
 - \$35,000-\$49,999 (4)
 - \$50,000-\$74,999 (5)
 - \$75,000-\$99,999 (6)
 - \$100,000-\$149,999 (7)
 - \$150,000+ (8)
 - Don't know (9)
-

Q11 Which of following means of transportation are available at your home? Check all that apply

Bicycle (1)

Automobiles (Cars, trucks, vans and SUVs) (2)

Trailer (3)

RV's (4)

ATV's (5)

Others (Please specify) (6)

Q28 Where do you live?

State (1) _____

City/County (2) _____

Zip Code (3) _____

End of Block: Socio-demographics

Prasanna Humagain

Utah State University

Department of Civil and Environmental Engineering

Logan, UT 84322

435-999-4610

prasanna.hmg@usu.edu**CV**

464 E 300 S

Logan, UT 84321

prasanna.humagain@gmail.com<https://www.linkedin.com/in/prasanna-humagain-phd-b15585137/>EDUCATION

Ph.D. Doctor of Philosophy in Civil and Environmental Engineering (2018-2021)

Utah State University (Logan, UT)

- GPA 4.00
- Thesis: Investigating tourists' decision making and intentions for outdoor recreation participation during early COVID-19

AWARDS

- Outstanding PhD Scholar of the year, 2021, College of Engineering-Utah State University
- Doctoral researcher of the year, 2022, Department of Civil and Environmental Engineering

M.S. Master of Science in Transportation Engineering (2014-2017)
Institute of Engineering, Pulchowk Campus (Lalitpur, Nepal)

- Full Scholarship

B.S. Bachelor of Science in Civil Engineering (2010- 2014)

- Full Scholarship

SKILLS

Statistical Analysis:

- Probabilistic modeling, Linear/Non-linear regressions, ANOVA, time series regression, latent class analysis, discrete choice modeling (including experiment design), multinomial, mixed and hybrid choice modeling

Psychometrics

- Factor analysis, Principal Component Analysis, Structural equation modeling, path analysis, Partial Least Squares-SEM (PLS-SEM), Multi-group analysis, Longitudinal analysis (random and fixed intercept model, simplex model, latent change score model, latent growth curve models, trait-state-error model), Moderation-Mediation analysis, Hierarchical models, latent class analysis

Transportation related

- Travel demand modeling, Activity based modeling, forecasting travel demand for various scenarios, developing health impact models
- Network optimization
- Market research, and travel behavior analysis (using surveys and mixed methods)

- Transportation big data analysis
 - Traffic safety analysis, before and after analysis, CRASH modeling
- Spatial Analysis: ArcGIS, network analyst, time series analysis
- Machine learning
- Clustering, Principle component, Decision trees, Random forest, KNN, SVM
- Data Collection:
- Qualitative (Focus group, in-depth interviews), survey design and analysis
- Data mining
- Tidyverse and ggplot, Shiny, SQL, XML, html scrapping in Rstudio

SOFTWARES

R, SQL, Access, ArcGIS products, Tableau, Microsoft Office, Google workspace, TransCAD, VISSIM, SYNCRO, CUBE, SAS, MPLUS, GAMS.

PUBLICATION AND REPORTS

Google Scholar: <https://scholar.google.com/citations?user=N38M914AAAAJ&hl=en>

1. Acharya, S., & Humagain, P. (2022 January). Public Interest in Autonomous Vehicle Adoption: Evidence from the 2015, 2017, and 2019 Puget Sound Travel Surveys. *Journal of Transportation Engineering, Part A: Systems* (accepted, soon online)
2. Humagain, P., & Singleton, P. A. (2021). Advances in pedestrian travel monitoring: Temporal patterns and spatial characteristics using pedestrian push-button data from Utah traffic signals. (2021). *Journal of Transport and Land use* (accepted, soon online).
3. Humagain, P., & Singleton, P. A. (2021). Exploring tourists' motivations, constraints, and negotiations regarding outdoor recreation trips during COVID-19 through a focus group study. (2021). *Journal of Outdoor Recreation and Tourism*, 36, 100447. <https://doi.org/10.1016/j.jort.2021.100447>
4. Humagain, P., & Singleton, P. A. (2021). Examining relationships between COVID-19 destination practices, value, satisfaction, and behavioral intentions for tourists' outdoor recreation trips. (2021). *Journal of Destination Marketing and Management*. 22, 100665. <https://doi.org/10.1016/j.jdmm.2021.100665>
5. Humagain, P., & Singleton, P. A. (2021). Exploring satisfaction with travel time profiles towards understanding intrinsic utilities of travel time. *Travel Behavior and Society*, 24, 22-33. <https://doi.org/10.1016/j.tbs.2021.02.001>
6. Humagain, P., De Vos, J., & Singleton, P. A. (2021). Analyzing travel captivity by measuring the gap in travel satisfaction between chosen and alternative commute modes. *Transportation Research Part D: Transport and Environment*, 97, 102965. <https://doi.org/10.1016/j.trd.2021.102965>
7. Singleton, P. A., Runa, F., & Humagain, P. (2020). Utilizing archived traffic signal performance measures for pedestrian planning & analysis. Utah Department of Transportation, Salt Lake City, UT. Retrieved from <https://drive.google.com/file/d/1AwLf1DZVw0Vj-tPl5eoWe0UOw9TyFwq/view>

8. Humagain, P., & Singleton, P. A. (2020). Investigating travel time satisfaction and actual versus ideal commute times: A path analysis approach. *Journal of Transport & Health*, 16. <https://doi.org/10.1016/j.jth.2020.100829>
9. Humagain, P., & Singleton, P. A. (2020). Would you teleport or spend some time commuting? Investigating individuals' teleportation preferences. *Transportation Research Part F*, 74,458-470. <https://doi.org/10.1016/j.trf.2020.09.010>

MANUSCRIPTS PREPARED

1. Segmentation of U.S. outdoor recreation tourists by constraints and negotiations: A study during the early COVID-19 pandemic.
2. Extending the model of goal directed behavior to understand outdoor recreation intentions during COVID-19: the role of constraints, negotiations, motivations and information search.
3. Segmentation analysis of attribution of responsibility over air pollution and its impacts on travel behavioral responses.

PRESENTATIONS

List includes peer-reviewed conference proceedings. Note: * denotes accepted presentations but postponed due to COVID-19

1. Acharya, S., & Humagain, P. (2022 January). Public Interest in Autonomous Vehicle Adoption: Evidence from the 2015, 2017, and 2019 Puget Sound Travel Surveys. To be presented at 101st Annual Meeting of the Transportation Research Board.
2. Humagain, P., Biehl, A., & Singleton, P.A. (2022 January). Segmentation analysis of attribution of responsibility over air pollution and its impacts on travel behavioral responses. To be presented at 101st Annual Meeting of the Transportation Research Board.
3. Humagain, P., & Singleton, P. A. (2021 January). Impact of Episodic Poor Air Quality on Trip-Making Behavior and Air Quality Perceptions from a Longitudinal Travel Diary Study in Northern Utah. Presented at 100th Annual Meeting of the Transportation Research Board.
4. Humagain, P., & Singleton, P. A. (2021 August). Advances in pedestrian travel monitoring: Temporal patterns and spatial characteristics using pedestrian push-button data from Utah traffic signals. Presented at 2021 World Symposium on Transport and Land Use Research.
5. Humagain, P., & Singleton, P. A. (2020 September). Developing typologies (factor groups) of pedestrian activity patterns at signalized intersections using pedestrian push button data. Presented at NaTMEC/ITE Webinar Series: Safety, Travel Monitoring and Relating the Two.
6. Humagain, P., & Singleton, P. A. (2020 January). Investigating travel time satisfaction and actual versus ideal commute times: A path analysis approach. Presented at the 99th Annual Meeting of the Transportation Research Board, Washington, DC.

7. Humagain, P., & Singleton, P. A. (2020 January). Would you rather teleport or spend some time commuting? Investigating individuals' teleportation preferences. Presented at the 99th Annual Meeting of the Transportation Research Board, Washington, DC.
8. *Humagain, P., Singleton, P. A., Monz, C., & Sisneros-Kidd, A. (2020 August.) Activity-based modeling with GPS data in public lands: A framework and case studies in Grand Teton and Rocky Mountain National Parks. To have been presented at the 17th National Tools of the Trade Conference, Boise, ID.
9. *Singleton, P. A., Park, K., Runa, F., Lee, D. H., & Humagain, P. (2020 June). Exploring uses of high-resolution traffic signal controller log data for pedestrian traffic modeling. To have been presented at the 8th International Conference on Innovations in Travel Modeling, Seattle, WA
10. Humagain, P., & Singleton, P. A. (2020 June). Developing typologies (factor groups) of pedestrian activity patterns at signalized intersections using pedestrian push button data. To have been presented at the National Travel Monitoring Exposition and Conference, Raleigh, NC
11. *Humagain, P., Ward, J., Thompson, S., & Singleton, P. A. (2020 May). Examining episodic air pollution, active transportation behaviors, and psychosocial factors using a multi-day travel diary survey in Northern Utah. To have been presented at the 12th International Conference on Transport Survey Methods, Porto Novo, Portugal.
12. *Humagain, P., Runa, F., & Singleton, P. A. (2020 May). Evaluating a new source of big data on walking behavior: Validation and opportunities for using traffic signal pedestrian push button information. To have been presented at the 12th International Conference on Transport Survey Methods, Porto Novo, Portugal.
13. Humagain, P., Singleton, P. A., Runa, F. (2019 April). Determining typology of signalized intersections based on pedestrian actuation through use of traffic signal controller data. Presented at the Utah State University Student Research Symposium, Logan, UT

PROFESSIONAL EXPERIENCE

- Graduate Research Assistant Aug 2018-Present
 - Transportation—health impact modeling and scenario planning for Utah. Develop health impact models from travel demand models in Utah.
 - Utilizing archived traffic signal performance measures for pedestrian planning and analysis: Exploring the use of pedestrian push button count as proxy of pedestrian volume. Using machine learning to identify typologies of intersections and relationship with built-environment.
 - Exploring the positive utility of travel and mode choice: Understanding intrinsic values of travel time, actual and ideal travel times, travel satisfaction and travel captivity

- Investigate visitor activity patterns in public lands: Activity-based modeling with GPS data.
- Identifying effective travel behavior change strategies for poor air quality events in the northern Utah: Asses the effectiveness of travel demand management strategies using real-world self-reported travel behavior data.
- Examining tourists' decision making process for participation in outdoor recreation during COVID-19: Conduct focus group to develop questionnaire. Survey design and data collection in Qualtrics.
- Individual consultant, ITAD Ltd. Part-time during July 2016 – July 2017
DFID Nepal Rural Access Program 3 (RAP3): Monitoring, evaluating and learning component Independent Verification of Disbursement Linked Indicators (DLI's)
 - Field Visit of Rural roads and preparation of methodology for sampling of road sections, documentation of results, submission of report to local agency and ITAD
- Project team leader Jun 2015- Jun 2017
 - Design, Supervision and Training of Pre-fab Stone Masonry Building of 50 houses through community participation in Ghusel, Lalitpur, Nepal

MEDIA MENTIONS

- Reid, C. (2020, January 20). Bicycle commuters experience joy but motorists would much rather teleport. Forbes.
<https://www.forbes.com/sites/carltonreid/2020/01/20/bicycle-commutersexperience-joy-but-motorists-would-much-rather-teleport/#4e2e2dce112b>
- Albert, D. (2020, February 26). Would you rather teleport to work? If you walk or bike, maybe not. Greater Greater Washington.
<https://ggwash.org/view/76340/would-you-rather-teleport-to-work-if-you-walk-or-bike-maybe-not?>
- Bellis, R. (2020, February 10). Bicycle commuters experience joy, but motorists would rather teleport. State Smart Transportation Initiative.
<https://www.ssti.us/2020/02/bicycle-commuters-experience-joy-but-motoristswould-rather-teleport/>
- (2020, January 27). GCN Show Ep. 367. Global Cycling Network.
<https://www.globalcyclingnetwork.com/video/is-going-vegan-a-game-changerfor-cycling-gcn-show-ep-367>

PEER REVIEW

Journal

- Journal of Transport and Health
- Transportation Research Part A: Policy and Practice
- Transportation Research Part D: Transport and Environment
- Current Issues in Tourism

- Travel Behavior and Society
- Transportation Research Part F: Traffic Psychology and Behavior Conference
 - Transportation Research Board: Annual Meeting
 - World Symposium on Transport and Land Use Research

FUNDED RESEARCH

- Exploring the positive utility of travel and mode choice • \$15,000 (National Institute for Transportation and Communities)
- Utilizing archived traffic signal performance measures for pedestrian planning & analysis. \$65,000 (Utah Department of Transportation)
- Transportation—health impact modeling and scenario planning for Utah. \$50,000 (Utah Department of Transportation)
- Identifying Effective Travel Behavior Change Strategies for Poor Air Quality Events in Northern: \$60,000 (USDOT)
- Impacts of Wildfire Smoke and Other Area-Wide Air Pollution on Multimodal Traffic Volume: \$90,000 (USDOT)