DRIVERS OF TOURISTS' SUSTAINABLE BEHAVIOR: AN INVESTIGATION OF MULTILEVEL GOAL FRAMING APPROACH

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PhD

The Hong Kong Polytechnic University

2022

The Hong Kong Polytechnic University

School of Hotel and Tourism Management

Drivers of Tourists' Sustainable Behavior: An Investigation of Multilevel Goal

Framing Approach

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A thesis submitted in partial fulfillment of the requirement for the degree of

Doctor of Philosophy

May 2022

CERTIFICATE OF ORIGINALITY

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    EMMANUEL GAMOR

Dedication

This thesis is dedicated to my family.

Abstract

Governments, industry players, and academic researchers have gained interest in the tourism industry's contribution to sustainability in the wake of intensified advocacy for the sustainable use of available resources. The pillars of sustainability form part of an essential focus of global discussions, with environmental sustainability leading the discourse. Over the past two decades, the hospitality and tourism industry has paid attention to sustainable tourism development. A vibrant quest to attain sustainability has contributed significantly to innovative ideas that conserve resources and reduce production costs and service delivery. These efforts have focused on the supply side, leaving the demand side with limited attention.

With emerging literature highlighting the pivotal role tourists play in the sustainability agenda, tourists' preferences and choice behavior are fundamental to the sustainability of the environment, society, and economy. Though behavior is essential, drivers of sustainable behavior among tourists have gained little attention. Studies on factors influencing tourists' behavior focus on tourists' psychological and personal characteristics.

Given that the external environment can influence the behavior of a tourist, psychology and economics researchers recently posited that social and country-level factors influence how individuals behave. However, they are often left out of the picture, creating a vacuum in the theoretical and empirical discussions on behavioral predictors among tourists. Therefore, there is a need to consider these factors to generate a holistic understanding of the sustainable behavioral predictors of tourists. Recent studies on factors influencing tourists' sustainable behavior have explored the phenomenon from a single-level perspective, ignoring the multilevel nature of the factors.

Global changes, including COVID-19, have changed the decision-making and behavior of tourists globally. The pandemic anxiety can potentially influence goal formation and behavioral tendencies during travel in the post-COVID-19 era. Goals that drive tourists to pursue particular behavior can give vital information that can help understand and design environments to prime tourists to behave sustainably. Therefore, a nested approach needs to be adopted to understand the multilevel factors that influence the sustainable behavior of tourists through goal orientation.

The current study addresses these gaps by investigating tourists' sustainable behavior drivers. Four research objectives were formed to realize the aim of the study. (1) To determine sustainable behavior among international leisure tourists. (2) To investigate how multilevel factors relate to the tourists' sustainable behavior. (3) To examine the mediating effect of goal frame orientation on the predictors-sustainable behavior relationships. (4) To examine the influence of COVID-19 anxiety on future sustainable behavioral intentions.

A comprehensive review of relevant literature informed the adoption of theory, the development of a framework for the study, and the questionnaire design. Consequently, the Goal Framing Theory guided the framework. After the pre-test and pilot test of the questionnaire, the final instrument was translated into Chinese (Mandarin) and used to collect data from residents of Mainland China, the USA, and the UK through the online panel of Dynata. Data from 1020 questionnaires from residents of 34 provinces/states/counties across the three countries were analyzed after data cleaning. This thesis used descriptive statistics, ANOVA, CFA, regression, and multilevel modeling (MLM) to examine the data.

Guided by the Goal framing Theory, the results show that international leisure tourists are somewhat sustainable in their behavior at destinations, indicating the possibility of

improvement in sustainability among tourists. Multiple domain factors influence the sustainable behavior of international leisure tourists, revealing that multilevel factors influence tourists' sustainable behavior. Interestingly, gender, education, employment status, information from mobile technology platforms, and recommendations do not significantly influence tourists' sustainable behavior. In addition, the affluence of the origin inversely impacts sustainable behavior. However, self-efficacy and social pressure are the most decisive influential factors. Goal orientation plays a vital role in sustainable behavior formation. Furthermore, while the hedonic goal strongly affects behavior and relationships with the predictors, the normative goal exhibits weak effects. The anxiety about travel due to COVID-19 negatively affects future sustainable behavioral intentions; thus, it needs attention toward future tourism management.

The unique contribution of this thesis to theory is that it establishes, with empirical evidence, that multilevel drivers influence sustainable behavior among tourists. Goal orientation also plays a vital role in sustainable behavior formation. It extends the understanding of drivers of sustainable behavior in tourism. Practically, the study suggests that using strategies that reward tourists, such as gamification, will improve sustainable behavior. Again, enhancing policies and proper communication will improve behavior. Marketing of destinations should incorporate travel anxiety reduction strategies. This assurance will help reduce anxiety during travel in the post-COVID-19 era and, by extension, improve sustainable behavioral intentions and contribute to achieving the Sustainable Development Goals in 2030.

Acknowledgments

My Ph.D. journey has been exciting and life-changing. An opportunity worth recounting. I express my profound gratitude to all who supported me on this journey.

First, I would like to express my sincere gratitude to Dr. Alice H.Y. Hon, my chief supervisor, and Prof Rob Law, my co-supervisor, for their continuing supervision and support throughout my study. Without their guidance, this study would not have been successful. With their mentorship, I have learned new skills that will help me become a refined scholar. Their guidance and contribution to my research career path have been inestimable. I appreciate their attention to detail, constructive criticisms, and kindness over the years.

I would also like to show special appreciation to my External Examiners, Prof. Christine Chan and Prof. Raymond Loi, the Chairman of the Board of Examiners (BOE), Dr. Vincent Tung, my confirmation committee chair, Prof Brian King, internal members of the confirmation supervisory committee (Dr. Linda Woo and Dr. Youngjoon Choi), the School Research Committee (SRC), and the faculty members of the School of Hotel and Tourism Management of the Hong Kong Polytechnic University.

My heartfelt gratitude goes to the Hong Kong Government and The Hong Kong Polytechnic University for granting this scholarship to read Doctor of Philosophy in Hotel and Tourism Management in one of the world's best hotel and tourism schools. The support of the university and the School of Hotel and Tourism Management through providing an enabling environment and the encouragement of the faculty members has been overwhelming. My heartfelt gratitude goes to Prof. Kaye Chon, the Dean of the School of Hotel and Tourism Management of The Hong Kong Polytechnic University, and Prof. Haiyan Song, the Chairman of the School Research Committee, for their leadership. To Ms. Yuki Lui, the Executive Assistant in charge

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List of Acronyms

Acronym		Meaning
(E-E)-E	-	Environmental-Economic Efficiency
(S-E)-E	-	Socio-Economic Ethical Responsibility
(S-E)-S	-	Social and Environmental Stewardship
AC	-	Awareness of consequences
AN	-	Awareness of need
ANOVA	-	One Way Analysis of Variance
AR	-	Awareness of responsibility
AVE	-	Average Variance Extracted
CFA	-	Confirmatory Factor Analysis
CFI	-	Comparative Fit Index
CMB	-	Common Method Bias
COVID-19	-	Corona Virus Disease
CR	-	Composite Reliability
CSR	-	Corporate Social Responsibility
DMO	-	Destination Management Organization
EPS	-	Environmental Policy Stringency Index
GDP	-	Gross Domestic Product
HLM	-	Hierarchical Linear model
ICT	-	Information and Communication Technology
IUCN	-	International Union for Conservation of Nature
MCFA	-	Multilevel Confirmatory Factor Analysis

MEFA	-	Multilevel Exploratory Factor Analysis
MGB	-	Model of Goal-directed Behavior
MLM	-	Multilevel Modeling
NAT	-	Norm Activation Theory
OECD	-	Organization for Economic Corporation and Development
PATS	-	Pandemic anxiety Travel Scale
PPP	-	Purchasing power Parity
RMSEA	-	Root Mean Square Error of Approximation
S	-	Sustainability
SRMR		Standardized Root Mean Squared Residual
TLI	-	Tucker-Lewis Index
TPB	-	Theory of Planned Behavior
TRA	-	Theory of Reasoned Action
UNEP	-	United Nations Environment Program
UNSDG	-	United Nations Sustainable Development Goals
UNWTO	-	World Tourism Organization
VBN	-	Value-Belief-Norm Theory
VIF		Variance Inflation Factors
WCED	-	World Commission on Environment and development
WTTC	-	World Travel and Tourism Council
WWF	-	World Wild Fund for Nature

CHAPTER 1: INTRODUCTION

1.1 Introduction

This chapter provides a general context and background that define the entire study's goals, motivations, and parameters. It begins with a brief statement of the purpose of the study and is followed by the background. The background of the study discusses sustainable development in the tourism industry and articulates the study's rationale. It also explains how the precariousness of tourist behavior stems from multiple factors of different levels and the goal orientation of the individual tourist. In addition to the study's purpose and background, the chapter presents the research problem, the research question, objectives, and the significance of the study. This chapter ends with definitions of concepts and terms used in the study and a presentation of the organizational structure of the proposed thesis.

1.2 Purpose of the study

The notions of sustainability and sustainable development have gained considerable attention across the globe, resulting in advocacy for sustainable utilization of available resources and conserving them for future generations. Tourism planners, scholars, and other stakeholders have, since the 1980s, identified that tourism is a sure way of conserving resources for the benefit of future generations (Zolfani, Sedaghat, Maknoon, & Zavadskas, 2015). This recognition has triggered the interest of governments, industry practitioners (i.e., hoteliers, tour operators and guides, restauranteurs, and destination managers, among others),

and researchers to investigate tourism development and sustainable tourist behavior. Such investigations will inform decisions and apply the best sustainable practices to ensure continued benefits. Tourists' behavior plays a pivotal role in the tourism literature due to its precariousness and, if well understood, can promote the sustainability agenda in the industry. Consequently, there is an increasing interest in research on tourist behavior and tourists' sustainable behavior (Dolnicar, Knezevic Cvelbar, & Grün, 2019a; Frey & George, 2010).

There is existing research on tourist behavior. Recently, researchers have shown interest in how tourists' behavior, attitudes, and preferences relate to sustainable development (Dolnicar et al., 2019a; Grilli, Tyllianakis, Luisetti, Ferrini, & Turner, 2021; Passafaro, 2020; Poudel & Nyaupane, 2017). However, these studies have not examined the sustainable behavior of tourists in detail, especially with a focus on the determinants of such behaviors among tourists (Filimonau, Matute, Mika, & Faracik, 2018; Juvan & Dolnicar, 2017). Hence, this study aims to contribute to the emerging literature on the drivers of tourists' sustainable behavior by determining the main predictors, their comparative importance, and their hierarchical effect on the behavior of tourists relative to goal orientation. Therefore, this thesis argues that more attention needs to be paid to the sustainable behavior of tourists to better understand and plan for the sustained growth of the destinations and the industry at large.

1.3 Background of the study

Sustainable development is high on the agenda in this decade as the year 2020 begins the critical decade marked for attaining the Sustainable Development Goals in 2030. Research relating to sustainability has become a recognized part of the global governance and development agenda. The hospitality and tourism industry tends to be a successful example (Budeanu, Miller, & Moscardo, 2016). The main reasons for pursuing sustainability can be expressed in three ways. The first reason is for communities to build a realistic and human-centered approach to development. The second is expressed as a way for communities to safeguard the development of humans in good health and productivity while maintaining harmony with nature. The third reason is for communities to ensure long-term and dynamic development with future generations in mind. These reasons have led to further classification of the pillars of sustainability so that the pillars are evaluated individually. As a result, there is growing interest in research on sustainable development, and researchers have branched their studies into environmental, social, and economic sustainability. Evidence in the literature suggests that sustainability in hospitality and tourism has become very important as it supports many economies and maintains the culture and heritage of a given destination. This assertion has led to an interest in studying travel decisions, activities, destination development, and corporate responsibility toward a more sustainable industry. In the last two decades, the focus of sustainability studies in tourism has been on the environmental dimension (Hall, 2010). However, to realize sustainability, all pillars must be present in the form of a systems approach. Though amalgamation is necessary, it is also essential to understand the independence of each of the pillars toward societal development (Gibbes, Hopkins, Díaz, & Jimenez-Osornio, 2020).

Recent changes in our societies have made it necessary for lasting solutions to curb the sustainability challenges associated with the management, production, and consumption of products and services. A striking force of change today is the COVID-19 pandemic. After the outbreak in 2019, the travel and tourism industry was severely affected. The pneumonia-like flu outbreak that surfaced in December 2019 has disrupted international travel. Travel and tourism changed after the World Health Organization affirmed COVID-19 a world pandemic in March 2020. The travel volume was reduced to the nadir, but this created desirable environmental effects (Kanda & Kivimaa, 2020) due to reduced pollution. Therefore, the behavior of individuals who travel internationally has become a critical concern (Nimri, Patiar, Kensbock, & Jin, 2020). Consumers' travel and consumption of tourism-related products and activities may contribute to an unsustainable society. Tourists and other travelers may not be as cautious as they are in their homes due to increasing hedonism in tourist travel and the lower cost of unsustainable activities during travel compared to the cost at home. The behavior trend is likely to change as the COVID-19 outbreak will make society aware of the need to be altruistic to take care of other people's welfare and the environment. In effect, the change that COVID-19 has brought can increase the localization of the supply chain and improve sustainability (Kanda & Kivimaa, 2020). However, this pandemic affects tourists psychologically, changing their travel behavior and beliefs regarding sustainability (Zenker, Braun, & Gyimóthy, 2021). In other words, the pandemic could be a blessing in disguise for sustainable development.

Mobile technology plays a significant role in the tourism industry. The use of mobile applications and social media is noted to influence the perceived social presence of a consumer (Ahn, 2021; Mehraliyev, Choi, & King, 2020). The social presence also influences consumers'

experiences and behaviors (Chuang, 2020). Technological innovations and impacts on society are numerous and relatively different from one group to another. These impacts can be positive or negative (Baek & Lee, 2021). More so, technological advancement has resulted in a new model of relationships, decision-making (Kim, Jodice, Duffy, & Norman, 2020), and accessible travel-related information (Sun, Law, & Luk, 2020; Dayour, Park, & Kimbu, 2019), and services through multiple channels (e.g., social media, mobile payment systems, recommendation systems, and virtual travel arrangement systems) (Budeanu, 2013; Budeanu et al., 2016; Dorcic et al., 2019; Han et al., 2016; Law et al., 2020; Wang et al., 2012). These advancements, coupled with other developments like the sharing economy (Boxall, Nyanjom, & Slaven, 2018; Collina, Galluzzo, Gerosa, Bellè, & Lidia Maiorino, 2017), have added new layers of ramification to academic research and sustainable industry practices as they make travel more accessible than it used to be in the past. Though mobile technology benefits society, including facilitating customer experiences and behavior in this dispensation, its negative impact has increased significantly since 2010. It has been noted that mobile technology increases consumers' pleasant experiences and hedonic drive (Ahn, 2021). Again, mobile technology is used to stimulate the sustainable tendencies of consumers. Due to the mobile nature of technology, the day-to-day life of consumers, including tourists, is increasingly digitized, giving rise to awareness and socio-economic sustainability (Kanda & Kivimaa, 2020; Kucia, Hajduk, Mazurek, & Kotula, 2021). These combine to improve travel. However, it does little to counter the unsustainable activities and behaviors of tourists and other travelers (Hjalager, 2000), as tourists tend to find ways to moralize their behaviors.

1.3.1 Sustainable tourist behavior

Tourists behave during a tour relatively differently from their behavior at home (Stanford, 2008). The behavior change gives rise to unsustainable actions that reduce the aesthetic scenery and quality of the natural environment, diminish cultural values and increase capital flights over time to destinations worldwide. Given that the implications of unsustainable behavior at home outweigh the implications of such behavior during a tour, unsustainable behaviors and their consequences have been attributed to frequent travel and tourism activities (Davis & Duarte, 2004). It has also been noted that tourists behave differently in different situations (Thøgersen & Ölander, 2003), including having different reactions to marketing campaigns, commercials, and other advertisements compared to residents of a given destination (Dolnicar & Leisch, 2008). Interestingly, tourists from different countries behave differently (Frempong & Deichmann, 2017). The social dimensions of consumption have made the behavior construct complex. Hence, it is essential to know its antecedents to influence behavioral actions. Over the years, in general, sustainable behavioral actions of tourists have been linked to several antecedents, the majority of which are associated with the supply side. This link is so because most of the sustainability initiatives come from tourism-related organizations and the governments of tourist destinations, including, but not limited to, Eco-labelling and taxation.

Until the early 2000s, the behavior of tourists towards sustainability was not a significant area of research. Hjalager's (2000) study entitled "Consumerism and sustainable tourism," published in the *Journal of Travel and Tourism Marketing,* highlighted the need to address the lack of attention on the behavior of tourists and the enhancement of sustainability issues among individual tourists. Hjalager noted that the expositions presented by the isolated studies that

somewhat discussed tourists' behavior were unsatisfactory in their attempt to explain the concept. Her assertion drew the attention of researchers to the phenomenon. Since then, academic interest and research into the sustainable behavior of tourists have been rising, more than before 2000. As already noted, behavior differs in various contexts. The triggers of behavioral actions are varied and can be found at different levels, such as the individual and national or country levels (Milfont & Markowitz, 2016). Similarly, sustainability efforts can be found at different levels, such as the individual, industry, and governmental levels (Mckercher, Prideaux, & Cheung, 2010). Actions of indicators from different levels result in inter-level interactions that lead to a complex dynamism in behavior that contributes to global problems such as climate change.

Individual attitudes, perceptions, and beliefs play a vital role in how individuals behave. Other psychological actors and individual characteristics, including gender, age, level of education, and perceived control over one's behavior, also contribute to the formation of behavioral traits and actions. These factors are usually internal or at the personal level. They form a strong opinion that pushes the direction of a person's behavior (Pinna, 2020; Quaglione, Cassetta, Crociata, Marra, & Sarra, 2019). Research has proven that personal level traits and how an individual perceives his or her control over the behavior enacted cannot be ignored as far as the formation of behavior is concerned (Kiatkawsin & Han, 2017; Lee & Jan, 2018). In addition, individual differences owing to the varied thinking patterns of people, sociability or social inhibition, the level of irritability in response to issues, and the tendency towards negative emotions influence the behavior of consumers, especially with environmental friendliness (Funk, Sütterlin, & Siegrist, 2021). Thus, individuals behave differently towards sustainability based on their differences in individual traits.

Individual traits alone do not constitute one's behavior. Social groups such as family, friends, workgroups, and travel parties also influence the behavior of individuals. The social environment in which an individual finds himself or herself significantly influences the exhibited behavioral actions. Thus, a tourist may be influenced by the social settings from which he or she came and the social setting of the tourist destination. Tourists usually behave in ways contrary to their beliefs due to influences from their travel party made up of friends, work colleagues, or family members (Nimri et al., 2020). Meaning that the people one travels with can influence one's behavior during the travel, and the opinions of people close to the tourist can also influence their behavior.

Moreover, the regulations and laws of countries of origin and countries of destination and professional groups influence the way people behave (Chan, Hon, Chan & Okumus, 2014). Over the years, there have been several laws from government bodies and advocacy from pressure groups and corporate societies regarding the sustainability of existing resources (Chan et al., 2014; Pearce, 2020). Restrictive movements and actions set by regulations or legislative instruments are essential influencers on the attitudes and behavior of people within a jurisdiction, including tourists. These measures may help control tourists' behavior in a destination and encourage the locals to behave sustainably (Araña & León, 2016; Sheng & Tsui, 2009). Other researchers note that the policies and laws of governments of destinations are used as a deterrent. Hence, tourists may be punished (e.g., through fines) for actions that affect the environment (Pearce, 2020). This shows that country-level factors are also used in controlling or influencing the behavior of tourists in a given destination, thereby making such factors important in the behavior of tourists. All the levels of factors influence the behavior of tourists. Therefore, all these factors need to be considered

when investigating the drivers of behavior, especially of people who are away from their usual home and work and are on vacation.

In the service industry, including tourism and hospitality, concerns over climate change coupled with food security and the recent Coronavirus pandemic have brought changes in behavior and travel experiences (Farzanegan, Gholipour, Feizi, Nunkoo, & Andargoli, 2020; Hoque, Shikha, Hasanat, Arif, & Abu Bakar Abdul Hamid, 2020; Mair, Ritchie, & Walters, 2016; Moon & Han, 2019; Ying, Wang, Liu, Wen, & Goh, 2020). These changes can potentially alter the future service delivery and goals of tourists. It will be necessary to re-examine and rethink consumption patterns, service delivery, behaviors, determinants, and effects on sustainability in the tourism context after consumers have been denied experiencing tourism during the height of the COVID-19 pandemic (Baum, Thi, & Hai, 2020). Thus, helping to understand and encourage desired travel behaviors in the post-COVID-19 pandemic.

1.3.2 Goal and behavior

The behavior of tourists at a destination is framed by the goals that drive them. These goals determine how people process information and act following the decisions reached at a given time. Social psychologists have observed that individuals' behavior emanates from factors from different levels framed by their goals (Chaiken & Trope, 1999). Goals that affect the decisions and behaviors of individuals were first thought of as external determinants of the viewpoint and interpretation of situations resulting in behavioral actions (Skinner, 1938). Later, a dual-process perspective was hypothesized to explain goal-oriented behavior activated by psychological,

situational, or environmental cues (Chaiken & Trope, 1999). These perspectives have evolved to enhance understanding of human behavior in the last two decades. They have provided fascinating insights into how humans behave, including when engaging in tourism activities.

To understand this better, Lindenberg and Steg (2007) developed the Goal Framing Theory, which helps to assess the cognitive and contextual factors that influence sustainable behavior. This theory expresses the assumption that individuals act and behave based on the goals framed by internal characteristics and the external conditions determined by the environment in which the individual finds him or herself. The foundation of this theory stems from early studies in sociology and psychology, which posit that goals determine how an individual interprets a situation and subsequently acts on it or behaves (Bargh & Chartrand, 1999; Chaiken & Trope, 1999). This theory posits that multiple domain factors, including personal and contextual factors (i.e., group-level, community-level, and national-level), influence an individual's behavior. Therefore, the travel party that a tourist has, the social connections and interactions made at a destination, coupled with the environmental, economic, and social regulations, together with the individual's characteristics, influence the sustainable behavior that he or she exhibits through a goal. The goal framing theory posits that three main goals influence behavior. The focal goal can change relative to the internal and contextual determinants. At a given time, the goal influencing the tourists' behavior may be a gain goal, normative goal, or hedonic goal. The drivers of tourists' sustainable behavior will be well understood with the goal framing theory since it considers factors from multiple levels of society.

The literature on the drivers of tourists' sustainable behavior has focused on single-level factors supported by single-level theories (Han, Meng, & Kim, 2017) but has not comprehensively

assessed multilevel factors. The current study addresses this gap in the extant literature by examining the drivers of tourists' sustainable behavior to contribute to the burgeoning literature on the determinants of sustainable behavior among tourists.

1.4 Problem statement

The hospitality and tourism industry has attempted to develop tourism sustainably in the last three decades. The implementation of tourism activities at a destination helps to maintain local culture and values, enhance economic opportunities for the local community as well as protect the physical environment (Muller, 1997; Pérez & Rodríguez del Bosque, 2014) through the diversification of tourism-related services and products (Benur & Bramwell, 2015). Success in the sustainability of tourism requires the involvement of all stakeholders from both the supply side (e.g., tour operators, tour guides, hoteliers, and restaurateurs, among others) and the demand side (the tourists and other facility users). Generally, tourism development has focused mainly on the supply side and has highlighted how service providers can offer sustainable products and services (Baum, 2018; Becken, 2005; Benur & Bramwell, 2015; Chan et al., 2014; Li, Liu, & Qiu, 2020). Burns (1999) notes that "however one defines, describes or analyzes tourism, it is the tourist that remains at the heart of the matter" (p. 41). It is essential to pay attention to the tourists' contribution to sustainability.

For such an important subject that has received limited attention in the tourism context, it is crucial to pay particular attention to the drivers that influence the sustainable behavior of tourists beyond the single level to have a holistic understanding of how multilevel factors influence tourists

to act sustainably. The current study contributes to the existing knowledge on tourist behavior by addressing specific gaps.

First, the emerging literature on sustainability has shed light on the role that tourists play in the achievement of sustainable tourism (Klöckner, 2013; Lee & Xue, 2020; Qiu, Zhang, & Zheng, 2018; Sampaio, 2012), but the drivers of tourists' behavior that contribute to sustainable tourism have hardly been discussed in the literature (Mak & Chan, 2019). Although travel behavior determinants, including motivation for the consumption of tourism-related products and services, income, decisions, and personal goals, are considered as actions and reflections viewed from the individual level (Lee, 2015), it is essential to note that they are nested within a system of products, social relations, laws and regulations, culture, and the economy (Milfont & Markowitz, 2016). Existing literature shows that the affluence of a nation, infrastructure, political influences, and the stringency of laws exhibit an association with sustainable behavior (Heiskanen & Matschoss, 2017; Marquart-Pyatt, 2012; Milfont & Markowitz, 2016; Nguyen, Hung, Lee, & Nguyen, 2018). Therefore, the behavior of a tourist can be influenced by a nested range of factors that manifest and operate at multiple levels (individual-level and the contextual-level) such that individual characteristics will influence sustainable behavior, travel party, other social groups, and national and international legal and economic interventions, among others. An individual's behavior may be shaped by the immediate social group to which he or she is connected (Andrews, Mohammed, & Mostafa, 2019). According to Hilton, Charalambides, Demarque, Waroquier, and Raux (2014), an individual's behavior can be influenced by national-level factors such as tax policies, legal instruments, and infrastructure. These can affect both residents and visitors to such destinations. A study by Marquart-Pyatt (2012) revealed that sustainable behavior is affected by the

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complexities of multilevel and cross-national determinants that need to be researched. She further argues that contextual factors are important and that the role of country-level factors is necessary for a better understanding of sustainable behavior. As the individual travels, the individual characteristics, interactions with travel parties and other groups, the laws and regulations, economic interventions, infrastructure, and the affluence of both the origin and destination jointly influence the framing of goals, intentions, and behavior.

Several studies on sustainability and tourist behavior have focused on individual-level factors (psychological traits and individual characteristics) in the tourism literature. They have argued that such factors control behavior formation. Also, only a few studies have synthesized the factors of tourists from different levels (e.g., social-level and individual-level) that influence the behavior of tourists (Gamor, Hon, & Dong, 2022; Juvan & Dolnicar, 2017; López-Bonilla, del Carmen Reyes Rodríguez, & López-Bonilla, 2020; Su, Gong, & Huang, 2020). This little emphasis on the contextual-level factors (social and country) and their combination with the individual-level factors have created a void in the empirical and conceptual discussions regarding tourists' behavior formation and behavioral actions towards sustainability. This study argues that although the individual-level factors are vital in assessing behavior, contextual-level factors also play an essential role in how tourists behave at destinations. Therefore, all levels of factors work together to influence the behavior of a tourist.

Second, research on predictors of behavior has also given little attention to the role that technology, more specifically mobile technology, plays in shaping tourists' decisions, goals, activities, and experiences. Mobile technologies present the foundation that enhances the priming of travelers to act sustainably during their travel (Wheaton et al., 2016). As noted by Dayour, Park,

and Kimbu (2019), mobile technologies have become ubiquitous and ingrained in the lives and activities of tourists. Nevertheless, few studies recognize and examine the multiple and complex cues that usually work together on different levels to influence the sustainable behavior of tourists (Steg & Vlek, 2009) and the role that mobile technology play in shaping the cues and goals of tourists that influence behavior (Yu, Lin, & Liao, 2017).

Third, there are gaps in the tourism literature regarding sustainable behavior due to the narrow nature of most published works on the behavior of tourists at various destinations. The few studies that have investigated the behavior of tourists concerning sustainability have focused on the environmental dimension of sustainability (Juvan & Dolnicar, 2017; Juvan, Ring, Leisch, & Dolnicar, 2016; Steg & Vlek, 2009; Thøgersen & Ölander, 2003), while limited attention has been given to the pro-social (Coghlan, 2015a; Manosuthi, Lee, & Han, 2020) and the pro-economic dimensions (Mak & Chan, 2019). Even fewer studies take a holistic view of sustainable tourist behavior, comprising social, cultural, environmental, and economic sustainability, known as the "triple-bottom-line" (Cvelbar & Dwyer, 2013; Gifford & Nilsson, 2014; Passafaro, 2020).

Fourth, in the studies on the sustainable behavior of tourists, little attention has been given to goal orientation and the clinically proven internal factors that influence the behavioral actions of tourists towards sustainability as well as the actual behavior. Although individual traits have been applied in various studies to understand behavior (e.g., marketing and consumer science, human resource management, and education, among others), the influence of the internal factors and thought processes on tourists' goals are very limited in the study of sustainable tourists' behavior (Jani, 2014). What is missing from this literature is the primary role of goal orientation in the formation of behavioral actions of tourists.

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Fifth, the empirical literature demonstrates that behavior is influenced by factors nested in multiple domains. Thus, complex theories are needed to understand the nested factors in behavior. However, little attempt has been made to examine the multilevel factors to generate multilevel models that explain and assess nested behavior factors' influence on sustainability. Consequently, there is a need for a multilevel and multidimensional model that can help explain the influence of complex factors on the sustainable behavior of tourists (Lindenberg & Steg, 2007, 2013; Milfont & Markowitz, 2016; Steg & Vlek, 2009). Such studies will consider the multilevel predictors and their predictive power on the multidimensional nature of sustainable tourist behavior and will provide insight into the sustainable behavior of tourists.

Finally, COVID-19 that emerged recently has disrupted travel decisions, service delivery, employment in the hospitality and tourism industry, travel patterns, and behavior since 2020 and has enhanced the localization of sustainable supply chain actions (Baum et al., 2020; Kanda & Kivimaa, 2020). However, it has increased travel risk perceptions, leading to anxiety about travel and the avoidance of potentially dangerous behavior of tourists (Godovykh, Pizam, & Bahja, 2021). Though this has helped reduce the effect of unsustainable actions on the planet, it has a psychological effect on tourists (Zenker et al., 2021). The anxiety caused by this pandemic can negatively influence the desire to travel for tourism activities. As individuals become more conscious of their environment, spending locally can improve their sustainability.

The COVID-19 pandemic, according to Bouman et al. (2021), can improve the worldwide environmental crisis by strengthening the personal characteristics and response to motivate actions required to drive sustainability. Researchers note that the pandemic has altered the consumption

pattern, including dietary habits, transport type, and online platforms (Li et al., 2022). Individuals are becoming more sustainable in their actions. However, Patrício Silva et al. (2021) opined that the pandemic had encouraged global plastic pollution, hindering the UNSDG Goals 13, 14, and 15. They further acknowledge that links between policy and industry efforts can help curb the growing pollution. Though travel restrictions and other governmental policies contribute to isolation and quarantine, single-use plastic products and other environmentally harmful substances are encouraged. It is imperative to investigate the effects of COVID-19 and its accompanying travel anxiety on the sustainable behavior of tourists.

The following research questions inform the present study to address the research gaps:

The main research question is how do multilevel factors influence the sustainable behavior of tourists?

Specifically, the study poses the following research questions:

1. How sustainable are international leisure tourists when they tour a destination?
2. How do multilevel factors influence tourists' sustainable behavior?
3. How does goal framing orientation affect tourists' sustainable behavior?
4. How do the goal framing orientations influence the relationship between the multilevel factors and sustainable tourists' behavior?
5. How does COVID-19 anxiety influence the future behavioral intentions of potential international leisure tourists?

1.5 Research objectives

The main objective of this study is to analyze the drivers of tourists' sustainable behavior through goal orientation. Specifically, this study aims to:

1. determine the level of sustainable behavior among international leisure tourists.

2. investigate how multilevel factors (individual-level and contextual-level factors) relate to the sustainable behavior of tourists;

3. examine the mediating effect of goal frame orientation on the relationship between the multilevel factors and sustainable tourists' behavior;

4. examine the influence of COVID-19 anxiety on future sustainable behavioral intentions.

A conceptual framework is proposed on multilevel predictors (contextual and individual) through goals to achieve these objectives.

1.6 Context of the study

This study focuses on the drivers of sustainable behavior. Specific considerations were made to select a suitable setting for the study. Therefore, it is situated in the context of sustainability. The all-important act of utilizing the available resources to satisfy the needs of the current population or generation of tourists without compromising on the same level of access and opportunity to utilize the same resources (whether natural or artificial) has been an important topic in tourism research, practice and tourism development over the past two decades. Understanding tourists ' behaviors and the drivers that trigger sustainable behavior is critical to ensure the opportunity for future generations to experience memorable activities at the same authentic and

original destinations. This study is set within the three pillars of sustainability. It investigates the triggers of sustainable behavior of individual tourists during travel. The study uses goal frames to assess the sustainability actions of tourists traveling around the world.

A literature review revealed that previous studies point to active markets as the most suitable for tourists' behavioral studies (see Juvan et al. 2016; Dolnicar 2017; Milfont & Markowitz 2016; Su et al. 2020). Hence focusing on the top tourist-generating countries for respondents complement the efforts of the early studies. It, therefore, sourced respondents from three top tourists generating countries and spenders of the world: China, the United States of America (USA), and the United Kingdom (UK). Respondents for this study were above 18 years old, living as permanent residents of the selected countries, and had traveled to other countries for tourism activities. In this vein, the study serves as a good foundation for future replication studies.

Unlike other generating markets, the selected markets consistently generate more tourists than others. China, for example, shows promising signs of becoming the top tourist generating country and top spender for an extended period as it led the outbound travel and tourism expenditure in 2019 with US$ 262.1 billion. According to the United Nations Department of Economic and Social Affairs, many destinations depend heavily on tourists from the USA (Department of Economic and Social Affairs, 2020). Together, the selected markets generated over half of all outbound expenditure out of a total of over US$ 890.1 billion (Statista, 2020b; WTTC, 2020). Therefore, tourists from these countries were suitable for studying the multilevel drivers of tourists' sustainable behavior.

Regarding the significant contribution of China as a generating country to the growth of tourism worldwide, a recent pronouncement was made to add the Chinese language as the sixth official tourism language of the UNWTO. Chinese was added to English, French, Spanish, Russian, and Arabic in January 2021 (CGTN, 2021). It is, therefore, essential to understand the sustainable behavior of tourists from the top countries of the global outbound travel and tourism expenditure, including China.

1.7 Significance of the study

This study has both academic and practical relevance discussed below.

1.7.1 Theoretical contributions

This study is one of the first attempts to expand the literature on sustainable behavior among tourists in different vital aspects. These are unearthing the multilevel predictors of behavior of tourists within the sustainability context and the influence of goal frame orientation on the behavior of tourists in the broad sustainability context.

First, this study is one of the first to use the goal-framing theory to investigate the multilevel drivers of tourists' sustainable behavior by hierarchically examining the effect of the multilevel factors through goal frames. This study contributes to the academic literature by filling the gap associated with the limited use of theories to examine multilevel factors to create multilevel models. Such models give insight into the influence exerted on the sustainable behavior of tourists by nested determinants (Milfont & Markowitz, 2016; Steg & Vlek, 2009). It complements the efforts of researchers such as Lindenberg and Steg (2007), Lindenberg and Steg (2013), and Milfont and

Markowitz (2016) by giving the tourism context of multilevel sustainable behavioral factors through an integration of the individual or personal level and contextual level factors and examining its effects on sustainable tourist behavior. The study results offer new insights into the psychology of tourists regarding their activities and the behavior that transcends decision-making to behavioral actions through goal frames. Since the role of goal frames has largely been neglected in studying tourists' sustainable behavior, the results from this study explain the importance of goal frames in the formation and execution of behavioral actions aligning with sustainability.

Additionally, this study demonstrates the vital role of the goal frame orientation in mediating the relationship between the sustainable behavior of tourists and the multilevel hierarchical factors. This information has been missing in the literature over the years. Hence, this study highlights the importance of goal frames in tourist behavior formation and actions. It provides an impetus for further research on goal frames and tourists' behavior, choices, and activities in destinations.

Secondly, previous studies view the determinants of sustainable behavior among tourists as single-level predictors (Dolnicar et al., 2019a; Heesup Han et al., 2017; Juvan & Dolnicar, 2017; López-Bonilla et al., 2020). However, sustainable behavior is considered a complex and multilevel construct (Juvan & Dolnicar, 2017; Milfont & Markowitz, 2016). This thesis proposes a framework for studying sustainable tourists' behavior through the lens of the Goal-Framing Theory. In particular, it substantiates a multilevel nexus of predictors that influence the behavior of tourists within the sustainability context. It considers the goal orientations of tourists and determines their influence.

Given that tourists' sustainable behavior studies are limited and skewed towards environmental sustainability, it is crucial to understand how tourists' goals affect their behavior when they travel for vacations. The effects of various characteristics of tourists, especially the contextual factors, such as the GDP of a state, the government policies and actions on sustainability, and social relations and pressures, are examined to extend knowledge of tourists' behavioral patterns and actions. This provides a basis for further exploration of the complex nature of the behavior, involving a nexus of multilevel factors, and will encourage further research into sustainable actions of tourists at different destination types. This study, in effect, helps to understand how the factors associated with the personal or individual level influence the goal frame orientation of tourists, the relationship that exists between the contextual factors, goal frame orientation, and sustainable behavior of tourists. Examining these factors hierarchically has generated a new understanding of drivers and their influence on the sustainable behavior of tourists. Thus, contributing to the literature, a comprehensive set of factors from all main levels of interaction may influence the behavior of individuals and tourists. To this end, the study proposes a comprehensive model for examining the factors that influence the sustainable behavior of tourists holistically in order to significantly expand our knowledge and understanding of the significant drivers of sustainable tourist behavior.

Thirdly, this study extends the works of Kiatkawsin and Han (2017), Filimonau et al. (2018), Heesup Han et al. (2017), and Juvan and Dolnicar (2017), in which the reference-dependent behavior was examined in terms of environmental sustainability only. For this study, the reference-dependent behavior combines the three dimensions of sustainability (environmental, social, and economic) to extend previous studies' theoretical contributions. It is crucial to view

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sustainability in the tourism industry from the perspective of the three main pillars. In this way, understanding sustainability does not prioritize one dimension of sustainability over other dimensions of the same concept. Therefore, it helps explain the importance of a combined dimension of sustainability to the tourism industry. Combining the three dimensions as a dependent variable enhances the awareness, especially of new scholars, to balance the measure of sustainable behavior while maintaining the importance of individual dimensions.

Fourthly, this study generates estimates of the predictive strength of factors at both levels that can determine the factors that generate the most sustainable behavior through goal frames—inspiring the multilevel studies into sustainable behaviors, the results of this study insights interest in the hierarchical study of the multilevel drivers and their dynamics. Behavior is considered a complex construct and may be generated from multiple factors of different dimensions and knowledge acquisition, organization of information, the formation of intentions, and the execution of actions (Canavan, 2017; Martin, Bateson, & Bateson, 1993). This thesis generates a set of factors from both individual and contextual levels that relate to the goal frame of tourists to influence their behavior.

1.7.2 Practical contributions

Given the growing interest in sustainability and sustainable behavior among Destination Management Organizations (DMOs), attraction managers, hoteliers and restaurateurs, and local communities to gain insight into the behavior of tourists, the findings of this study hold the following practical contributions.

Managers of tourism-related organizations have made efforts to have creative work and an all-inclusive environment that will help provide sustainable services over time. For instance, creating a work environment that improves the intentions of employees to apply sustainable practices in the hotel industry (Baum & Hai, 2019; Chan et al., 2014) and putting in place management practices that help to curb the most evident environmental impact of hotels (waste) (Mensah, 2020). Though the service providers have been making efforts to manage and enhance sustainability, their efforts are usually one-sided. They often have little knowledge about the primary drivers of sustainable tourists' actions that complement their effort to improve sustainability in the hospitality and tourism industry (Juvan, Grün, Zabukovec Baruca, & Dolnicar, 2021). This study offers empirical evidence to support the industry's supply-side in identifying strategies to trigger and improve tourist sustainability practices.

Currently, having consumers with sustainable behavior is an ideal situation. As few studies have investigated the drivers of sustainable tourist behavior, industry practitioners have little reliable evidence of the underlying determinants of these critical behaviors (Juvan & Dolnicar, 2016, 2017). Providing empirically grounded evidence will help tourism stakeholders, especially the supply side, better understand the sustainable behavioral actions of tourists and their triggers. Empirical evidence helps the organizations make informed decisions about ways to prime tourists to behave sustainably to save resources. This thesis is relevant to tourism industry players. It provides significant insights required to help develop interventions that will encourage tourists to behave sustainably at all levels. It adds to the efforts of the supply side to attain the Sustainable Development Goal set for 2030. To this end, the tourism service providers can refer to the findings

of this study to make informed decisions about the media to use in strengthening the desire of tourists to act sustainably.

The effect that Information and Communication Technologies (ICTs) have on the decision-making process of tourists has become a significant concern. Any industry that neglects the potential effect of ICT on its operations is bound to be left behind in the competitive race. Smartphone penetration was expected to exceed about a third of the world's entire population (over 3.8 million) by 2021 (Statista, 2020a). As the majority of the relatively few studies on the impact of mobile technologies on the behaviors and patterns of travel by tourists focus on the travel experience and post-trip sharing of experiences (Law, Chan, & Wang, 2018; Zhang, Abound Omran, & Cobanoglu, 2017), it leaves the sustainable behavior of tourists unattended. The findings on how mobile technologies increase or decrease the desire to act sustainably and the predictor that maximizes strength will help managers of DMOs, hospitality facilities, transport services, and guiding services to plan the maximization of sustainable behavior of tourists in both advanced and emerging destinations. Doing so will help the service providers reduce operating costs and the negative impact of tourism on the environment, the socio-cultural fabric, and the economic status of host communities or destinations. At the same time, the impression that the active travel demand, potential travel demand, and the host community will have about the hospitality and tourism industry will be improved.

The use of resources for tourism comes with some detrimental effects on these same resources and their support activities. However, the practice of sustainable behavior by consumers of tourism and hospitality services and products can improve the performance of businesses, increasing their operational efficiency and their bottom line and reducing the waste of resources

such as money, time, and human capital (Hellmeister & Richins, 2019; Shou, Shao, Lai, Kang, & Park, 2019). Consequently, there is a need to reduce the negative impact of behavior while maintaining the level of satisfaction of tourists (Dolnicar, Knezevic Cvelbar, & Grün, 2019b). The study guides the creation and selection of innovative strategies to reduce the negative impact of unsustainable behaviors to save money and enhance businesses' bottom line, targeting sustainable practices and primers. This study informs managers about improving sustainable tourist behavior by properly framing information and the right desires to maximize sustainability among tourists by understanding the role of goal frame orientations. Goal frames are essential to forming sustainable behavior (Chakraborty, Singh, & Roy, 2017). Managers will know which goal frame to strengthen to influence the behavior and keep tourists satisfied by understanding the effects of goals on sustainable behavior. In addition, it will help maintain the cultural and social structure of the host communities for diversification and the enhanced economic status of locals while reducing capital flights.

Lastly, aside from determining the behavior of tourists in general, the findings of this study indicate the triggers of sustainable behavior for tourists from the top-generating countries. These dimensions are relevant for destinations that attract tourists from these countries. China, the USA, and the UK generate over half (50%) of all international tourists' spending and have relatively different economic backgrounds, cultural values, and general behaviors. Therefore, this study provides relevant information to almost all destinations worldwide, especially those confronted with the problem of saturation and experience declination. To help them understand the predictors of tourists' sustainable actions while on tours, DMOs can benefit from the results of this study in different ways. Prominent among them is the ability to determine the strategies that will work best

to implement and maximize sustainability behavior in their jurisdiction by using policies and legal instruments when serving tourists through economic-based strategies like taxation and other economic incentives and non-economic-based strategies like legal punitive actions.

1.8 Definition of key terms

This section defines and explains the key terms used in this study to give precise meanings to the terms and concepts that inform the study. Table 1.1 presents the definitions and sources of these terms.

Table 1.1: Definition of key terms

Key term/concept	Definition or explanation	Source
Behavior	Actions that emanate from acquiring and organizing relevant information toward a decided course or agenda.	Martin, Bateson and Bateson (1993)
Contextual factors	External factors that exert pressure from an individual's social group (e.g., family, friends, and society) resulting from interactions and connectedness or unwritten rules that seem to sustain harmony in a tourist's social group in addition to government's and circumstantial factors, including taxes and legal instruments, and influence of the environment that affect the way a person behaves in a given area.	Heiskanen and Matschoss (2017) VanHeuvelen and Summers (2019), Andrews, Mohamed, and Mostafa (2019)
Goal frame	A composite module of static and cultured cognitive modules that is formed when there is selective activation of sub-goals that focus on specific cognitions and evaluations within a particular overarching goal.	Etienne (2011), Lindenberg and Steg (2013)
Goal orientation	The purpose that an individual hold for participating or engaging in a particular task, activity, or behavior	Domurath et al. (2020) Kaspi-Baruch, (2019) Leenknecht et al. (2019)

Table 1.1 Continued

Individual-level factors	Cognitive ability and personal characteristics or socio-psychological factors influencing tourist behavior.	Chng, White, Abraham, and Skippon (2019) Chung et al. (2017) Wang et al. (2019)
Mobile technology	The presumably small size and weight, mobile electronic devices make communications and commerce easier and change how people make decisions and behave.	Sun, Law, and Luk (2020) Dayour, Park, and Kimbu (2019)
Multilevel drivers/factors	An integration of factors from across different levels to be analyzed hierarchically.	Milfont and Markowitz (2016)
Self-efficacy	The assessment of an individual's competencies to arrange into a certain structure and carry out a series of actions to accomplish a designated target and fulfill a goal or need	Bandura (1986), Taylor and Wilson (2019)
Social Capital	The altruistic tendencies of an individual and the connectedness to society formed through the interaction with other members of a group or society.	Mahfud et al. (2020) Jingyan Liu et al. (2014)
Sustainable tourist behavior	The actions of tourists that endure sustained utilization of available resources while conserving the same for future generations.	Desmichel and Kocher (2019) Dolnicar et al (2019a) Nimri et al. (2020)
Sustainability	Maximizing the utilization of available resources while at the same time preserving and conserving them for future generations.	Zolfani et al. (2015)
Triple bottom line	The measurement of sustainability made up of economic, environmental, and socio-cultural factors.	Miemczyk and Luzzini (2019) Shou et al. (2019)

1.9 Organization of the study

The study is organized into six chapters. These chapters are the introduction, literature review, methodology, analysis and results, discussion and implications, and conclusion. Chapter 1 has introduced the study and presented the background of the study, problem statement, purpose of the study, objectives, and the significance of the study. Chapter 2 provides a comprehensive review of relevant literature, including an overview of the nexus between sustainability and tourism, theoretical approaches used in studying tourists' behavior, empirical studies on traveler /tourist sustainable behavior, a critique of the existing empirical studies on sustainable tourist behavior, and the conceptual framework together with hypothesized relationships. Chapter 3 focuses on the methodology employed in the study. It describes the research design, research subjects and methods, and the analysis employed in the study. Chapter 4 will present the analysis of the data using SPSS and Mplus. It will include Confirmatory Factor Analysis and Multilevel Modeling. Chapter 5 will present the discussion of the findings and situate it in the current extant literature. Chapter 6 will present the summary of the study, conclusion, limitations, and recommendations from the study.

1.10 Summary of chapter

This chapter has introduced the study. It provided an overview of the background of the study and discussed essential issues and concepts that put the study in a proper perspective. It has stated the purpose of the study and provided a general background that defines the entire study's goals, motivations, and parameters. The chapter also stated the study's rationale, the research problem, the research questions and objectives, and the study's significance. Finally,

the organizational structure of the study was presented. The next chapter will situate the study within the extant literature, reviewing several related works.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter reviews relevant literature on sustainable tourist behavior and its predictors, focusing on concepts and empirical studies. It begins with the literature review of concepts. The chapter gives an overview of the relationship between sustainability and tourism, sustainable development, and sustainable tourism to better understand sustainable behavior in tourism and hospitality. The overview is followed by the thematic areas of sustainability research and an in-depth assessment of sustainable tourist behavior and possible factors that influence the behavior of tourists. Next, empirical studies on sustainable tourist behavior are reviewed. Here, much attention is given to the factors that influence sustainable tourist behavior. However, the paradigms of the various studies are also reviewed. A hierarchical grouping is made to critically review the factors found at different levels in terms of the factors. The existing literature gaps are identified in the last section of this chapter.

2.2 An overview of the nexus between sustainability and tourism

The quest to maximize the utility of available resources and, at the same time, conserve the resources for future generations has become an acceptable pursuit for the developmental activities of the individual and society at large (Zolfani et al., 2015). This action of preserving available resources while maximizing their utility is termed sustainability. According to Bramwell and Lane (1993), its origin is found in the 1973 publication authored by Raymond Dasmann, John Milton, and Peter Freeman entitled "Ecological Principles for Economic Development." Their publication

has been the focal point of discussions on development over the past three decades among researchers and governmental and industry levels. As the tourism and hospitality industry is one of the largest industries in the world, it cannot be neglected in this discourse (Zolfani et al., 2015).

Consequently, concerns have been raised over the tourism industry's degrading effects on the environment, societal fabric, and the economy of destinations worldwide (Wang, Huang, Gong, & Cao, 2020). In response to this and other global challenges, the term *sustainable development* was coined in the 1980s (Moldan, Janoušková, & Hák, 2012; Zolfani et al., 2015) by the International Union for Conservation of Nature (IUCN), supported by the United Nations Environment Programme (UNEP) and the World Wild Fund for Nature (WWF). Since then, sustainability has taken center stage in development studies, particularly in tourism. It has been one of the fastest-growing areas of study in tourism in the last two decades since the term 'sustainable tourism' was first used (Buckley, 2012). In 1992, the definition of sustainable development was extended to include the human impact on the environment by the United Nations at the Earth Summit for Agenda 21 (where the adoption of the values for sustainable management of forests was finalized) (Moldan et al., 2012). The definition further formalized a motion of the three pillars (United Nations, 2002) that embraced the agenda to advance sustainable development worldwide (Gibbes et al., 2020). Over the past three decades, these developments have brought attention to the responsive nature of development and humans' contribution to the degradation of finite resources. These developments have encouraged widespread research into human activities such as travel and tourism and the proliferation of definitions of sustainability in a multi-dimensional approach.

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Studies have shown that sustainable tourism development is multilevel as well as multi-dimensional in nature and so can be influenced by factors from different levels of people's life (Budeanu et al., 2016; Lin, 2018; Silvestre & Ţîrcă, 2019; Toivonen, 2020; Zolfani et al., 2015). Due to this, different definitions have been ascribed to the term, paving the way for sustainability studies in tourism (Purvis et al., 2019; Weaver, Tang, & Zhao, 2020). The World Commission on Environment and Development report (Our Common Future) stated the most widely used definition. This definition states that sustainable development is the "development that meets the needs of the present without compromising the ability of the future generations to meet their own needs" (WCED, 1987, p. 43). The report further explains that sustainable development is not a static state of harmony. Instead, it is a state in which all things dynamically change processes to enhance the potential of current and future generations to meet their needs and aspirations. This original definition of sustainable development has seen varying interpretations, especially tourism (Butler, 1993).

Several definitions have been postulated by different researchers and organizations (Liu, 2003). The World Tourism Organization (UNWTO) initially defined sustainable tourism development as the development that "meets the needs of present tourists and host regions while protecting and enhancing opportunities for the future" (World Tourism Organization, 1993, p. 7), cited in Zolfani et al. (2015, p. 3). Bramwell et al. (1996, p. 10) express that sustainable tourism is "tourism which develops as quickly as possible, taking into account … current accommodation capacity, the local population, and the environment". Other definitions from the same authors explain sustainable tourism as "tourism that respects the environment and as a consequence does not aid its disappearance" (Bramwell et al., 1996, p. 11). Butler also defines sustainable tourism

as "tourism which is developed and maintained in an area (community, environment) in such a manner and at such a scale that it remains viable over a finite period, does not degrade or alter the environment (human and physical) in which it exists to such a degree that it prohibits the successful development and well-being of other activities and processes" (Butler, 1999b, p. 35).

According to Tosun, sustainable tourism is an unconventional form of tourism that potentially enhances or, at the least, maintains "the quality of experiences for the visitors, life of host communities, and the environment indefinitely on which both the host community and the visitor depend" (Tosun, 1998, p. 596). For a long time, it has been argued that the various definitions of sustainable development in tourism are misleading (Butler, 1993) and vague. Various definitions focus on different aspects of the discipline. To maximize sustainable development, tourism activities must help improve people's (both tourists and host communities) wellbeing, relationship with nature, and long-term economic benefits to both the traveler and the host communities. Based on this, Butler (1993) argued that the most appropriate definition of sustainable tourism is "tourism which is in a form which can maintain its viability in an area for an indefinite period of time" (p. 29). A decade after the first definition of sustainable tourism development, the World Tourism Organization redefined sustainable tourism development as "Tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment, and host communities"(UNEP & UNWTO, 2005, p. 11). This definition expresses an intention of making destinations better places to visit and live. These definitions essentially point to the role of governments of destinations and other organizations in charge of resources used by the present generation of tourists and hosts. Therefore, they highlight the

role these institutions play in the process-oriented change management toward progressive life conditions for current and future generations to come (Liu, Tzeng, Lee, & Lee, 2013). Over the years, sustainable tourism has often been used interchangeably with sustainable development. Therefore, both are understood in the tourism literature as tourism practices that address the needs of all major stakeholders (i.e., tourists/visitors, host communities, and the industry players) in the tourism industry and take the responsibility of available tourism resources for an equal or better experience for current and future generations.

Common foundations of definitions. The wide-ranging definitions of sustainable tourism and sustainable development share some common foundations. In the first place, leading definitions of sustainable development focus on integrational equity (Vos, 2007). In the tourism literature, sustainable tourism development looks at sustainability as a system that balances the three main pillars of the definition. As shown in models that illustrate sustainability, overlapping areas exist that depict synergies. These overlapping areas serve as integrational equity. Economic development through tourism neither destroys the natural environment on which tourism thrives nor disintegrates the social fabric and the cultural values that hold communities in various destinations (Purvis et al., 2019).

Similarly, the conservation of the environment for the benefit of tourism activities must not deprive societies of attaining livelihoods and maintaining their cultural heritage. In addition, all the definitions cite ways of perceiving the challenges of one dimension concerning other dimensions. In previous studies, much attention has been given to environmental problems while considering sustainable development's social and economic dimensions as minor issues compared to the environmental problem (Bergel & Brock, 2019; Dolnicar, Crouch, & Long, 2008; Esfandiar,

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Pearce, & Dowling, 2019; Vos, 2007). It shows that other dimensions underpin its progress from environmental conservation and development through tourism. Therefore, the social capital and economic outcome should not be taken for granted (Vos, 2007). Neither should any of the dimensions that are not crucial at any point be taken for granted. Another common foundation of definitions relates to the issue of process trade-offs.

However, none of the dimensions is to be taken for granted in the pursuit of the other (Grilli et al., 2021; Moeller, Dolnicar, & Leisch, 2011). Different dimensions have different human-ascribed goals (Barbier, 1987) that are biased towards their pursuits, even though they are integrational by nature of the broad aim of sustainability. Evidence suggests that all the different goals cannot be attained or maximized simultaneously. The differing situations and conditions of destinations in which sustainability is pursued through tourism bring about different prioritization of objectives of the dimensions. Situational conditions such as societal norms, individual tourists' tastes, and preferences and conditions of the ecological settings change over time. Different dimensions become the focal point of tourism development at different points in time (Kallmuenzer, Nikolakis, Peters, & Zanon, 2018; Nickerson, Jorgenson, & Boley, 2016). Therefore, the maximization of a dimension's objective may affect another dimension. For instance, the study of Kallmuenzer, Nikolakis, Peters, and Zanon (2018) on trade-offs between dimensions of sustainability revealed that a high level of importance is usually placed on environmental and socio-cultural dimensions of sustainability compared to the economic dimension in the case of family tourism firms found in rural or countryside regions. A study by Kallmuenzer et al. (2018) is one of the many examples of trade-offs regarding the pillars of sustainability in the tourism discipline. There is a resistance in the industry toward implementing

sustainability resulting from the view that its implementation is reliant on economic cost (Moeller et al., 2011; Nickerson et al., 2016).

Furthermore, all the definitions of sustainable tourism focus on the future availability of tourism resources and future utilization for tourism activities that will benefit the host and tourists of the current and future generations. The general aim of sustainability is to make resources available for future generations and grant them the same opportunity to utilize the resources for their tourism pursuits. These common foundations are reflected in all historical and contemporary definitions of the concept (Bramwell et al., 1996; Butler, 1993, 1999a; Purvis et al., 2019; UNEP & UNWTO, 2005; Zolfani et al., 2015). This reflection leads to the last fundamental convergent idea that reflects altruism. All the definitions advocate beyond sustainability aims –working beyond existing laws, regulations, and compliance. This advocacy has linked sustainable development to Corporate Social Responsibility (CSR) (Hon & Gamor, 2022; Köseoglu, Hon, Kalargyrou, & Okumus, 2020; Lindsay, Cagliostro, Albarico, Mortaji, & Karon, 2018; Rosenbaum, Baniya, & Seger-Guttmann, 2017).

Though more such enterprises voluntarily engage in activities to reduce this environmental impact, a more significant majority do so to cut operational costs or comply with the country's legal measures or area (Buckley, 2012). Aside from these efforts and converging ideas from different definitions, there are challenges associated with defining sustainability in the tourism literature.

Challenges in defining sustainability. The definition of sustainability in tourism development should be unequivocal. Nevertheless, the existing literature continues to question the

issue of semantics and scale or scope (Weaver, Tang & Zhao, 2020). To date, no single authoritative definition of sustainable tourism that shows the needed illustrations has been accepted by all (Joseph, 2020; Spindler, 2013; Weaver et al., 2020). One of the challenges is that sustainable tourism has become a moving target for researchers to define. The concept indicates a fluid nature and ongoing broad and holistic conceptualization (Budeanu et al., 2016). Another challenge is assuming that the word 'sustainability' comes with philosophical and idiosyncratic repercussions. Therefore, it has been applied to a wide range of activities expected to hold some level of continued utilization that generates at least the same level of activity and satisfaction (Harrison 1996). The single word (sustainable) has been applied to different activities. In tourism, it has resulted in the advent and extensive adoption of the term 'sustainable tourism', that has often been without any attempt to define the concept (Hunter and Green 1995). Early researchers have argued that the challenges stem from several issues (Butler 1993). However, researchers have not treated this in much detail.

From a historical perspective, sustainability in tourism has been skewed towards environmental sustainability and the role of businesses and governments in ensuring optimal utilization and continued existence of resources (Butler, 1999a; Joseph, 2020; Zolfani et al., 2015). It has significantly affected environmental discourse over the past three decades. However, the goal of sustainable tourism transcends protecting the environment to strive for equilibrium between those mentioned earlier, promoting economic benefits, instituting social justice, and upholding cultural integrity as well as improving the standard of living among host communities around the world (Hon & Gamor, 2022; C. H. Liu et al., 2013; Zolfani et al.,

2015). In the 1980s, after the IUCN coined the term, the Brundtland Commission gave a clarified direction toward more comprehensive solutions for the world.

Table 2.1: Summary of selected definitions of sustainability in tourism

Author	Terms used	Definition
Bramwell et al. (1996)	Sustainable tourism	"Tourism that respects the environment and as a consequence does not aid its disappearance" (Bramwell et al., 1996, p. 11)
Butler (1993)	Sustainable tourism	"Tourism which is in a form which can maintain its viability in an area for an indefinite period of time" (Butler,1993, p. 29)
Butler, (1999b)	Sustainable tourism	"Tourism which is developed and maintained in an area (community, environment) in such a manner and at such a scale that it remains viable over a finite period, does not degrade or alter the environment (human and physical) in which it exists to such a degree that it prohibits the successful development and well-being of other activities and processes" (Butler, 1999b, p. 35).
Eber (1992)	Sustainable tourism	"Tourism and associated infrastructure that: both now and in the future operate within natural capacities for the regeneration and future productivity of natural resources; recognize the contribution that people and communities, customs and lifestyles, make to the tourism experience; accept that these people must have an equitable share in the economic benefits of local people and communities in the host areas" (Eber, 1992, p. 3).
Husbands and Harrison (1996)	Responsible tourism	"A framework and a set of practices that chart a sensible course between the fuzziness of ecotourism and the well-known negative externalities associated with conventional mass tourism" (Husbands and Harrison, 1996: 5).

Table 2.1 Continued

McIntyre (1993)	Sustainable Tourism	"Unconventional form of tourism that potentially enhances or, at the least, maintains the quality of experiences for the visitors." (McIntyre, 1993, p. 11).
Smith (1990)	Responsible tourism	"All forms of tourism which respect the host's natural, built, and cultural environments and the interests of all parties concerned" (Smith, 1990: 480).
Tosun, (1998)	Sustainable tourism	"the quality of experiences for the visitors, life of host communities, and the environment [indefinitely] on which both the host community and the visitor depend" (Tosun, 1998, p. 596).
UNEP and UNWTO (2005)	Sustainable tourism	"Tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment, and host communities"(UNEP & UNWTO, 2005, p. 11)
World Tourism Organization, (1993)	Sustainable tourism	"Development that 'meets the needs of present tourists and host regions while protecting and enhancing opportunities for the future." (World Tourism Organization, 1993, p. 7)

Though different researchers define the concept in different ways, Vos (2007) and Meadows, Randers, and Meadows (2004) are of the view that the multiplicity of definitions concerning sustainable tourism and development does not necessarily pose a problem but instead offers a broad spectrum of convergence of ideologies that are capable of streamlining social change when confronted with choosing between equally essential choices. Meadows, Randers, and Meadows' argument stem from the multiple agenda of sustainable development depicted by the three pillars of sustainability. A more detailed description of the pillars of sustainability is given in the next section.

2.3 Pillars of sustainability: The theoretical assessment

United Nations (2002) posited the understanding of sustainable development to incorporate three main pillars (also known as dimensions). These pillars are social sustainability, environmental sustainability, and economic sustainability. Attention was on sustainable production, supply, or delivery of tourism products and services in the 1990s by various organizations and institutions (Shamsub & Lebel, 2012). The behavioral perspective of tourists and travelers received very little attention, which is still the case today. The pillars were further linked to the symbolical representation of earth or planet, people, and prosperity (which is the same as the environment, social, and economic components of sustainability, respectively) in 2002 by the United Nations World Summit on Sustainable Development (Moldan et al., 2012; United Nations, 2002). According to Moldan et al. (2012), the overarching idea of sustainable development as an integration of economic and social development to preserve and enhance environmental development for human opportunities has

given way to attend to individual pillars. After developing the pillars of sustainability, the integral notion changed. The social and economic aspects were recognized as a part of human development on their own merits. The change gave recognition to the need to analyze environmental sustainability as an independent pillar. Over the past two decades, research on environmental sustainability has gained traction among tourism and hospitality researchers. Notable areas include environmental sustainability and marketing (Dolnicar & Leisch, 2008; Font & McCabe, 2017; Koos, 2011), the environmental footprint of tourism (Dolnicar, 2010), green lodging (Heesup Han, 2015; Mensah, 2020; Rodríguez & del Mar Armas Cruz, 2007), education (Kollmuss & Agyeman, 2002; McKercher & Prideaux, 2011), predictors of environmental sustainability (Juvan & Dolnicar, 2017; Schultz, Bator, Large, Bruni, & Tabanico, 2013), the psychology of environmental sustainability (Klöckner, 2013), and environmental binding behavior (Budovska, Delgado, & Øgaard, 2020; Esfandiar et al., 2019; Francoeur, Paillé, Yuriev, & Boiral, 2019; Joseph, 2020; Juvan & Dolnicar, 2016). Thus, sustainable tourism studies have paid more attention to environmental behavior than socio-cultural and economic behaviors. Several models with interrelated components, including economic, environmental, and socio-cultural factors, have been developed to inspire integration (e.g., business management) and measure sustainability. Common among them are the three circles of sustainability and the three pillars (Barbier, 1987; Purvis et al., 2019; Shou et al., 2019). It is often shown graphically using different illustrations and is usually referred to as the triple bottom line (Miemczyk & Luzzini, 2019; Shou et al., 2019) in business and management. The two most common models of sustainability are described in the subsequent paragraphs.

The three-pillar model. This classic three-pillar model of sustainability (Figure 2.1) shows that resources need to be supported by three pillars or dimensions for sustainability to be successful. Thus, for sustainability in tourism to be fully realized, all stakeholders, especially tourists, must exhibit managerial and behavioral traits in line with the three dimensions. Though it is ideal, this is not satisfactorily met due to the trade-off in the processes (Barbier, 1987; Kallmuenzer et al., 2018). Therefore, in reality, the ideal situation in the tourism field has not been met. Hence, the model has been criticized for assuming that the pillars or dimensions are not interdependent. Again, critics, including Purvis et al. (2019) and Thompson (2017), assert that the model is unclear and lacks a comprehensive understanding, irrespective of its dominance in the literature. Indeed, the model seems to neglect substantial overlaps and synergies that the dimensions seem to have in tourism operations. For a tourist to have a successful tour and an expected travel experience, there are some overlaps between the three dimensions or integrated for tourism resources to be preserved for the future generation. This model illustrates that sustainability can be achieved and maintained only when the individual pillars support it. Figure 2.1 shows the graphical illustration of the classical model of sustainability with the three pillars.
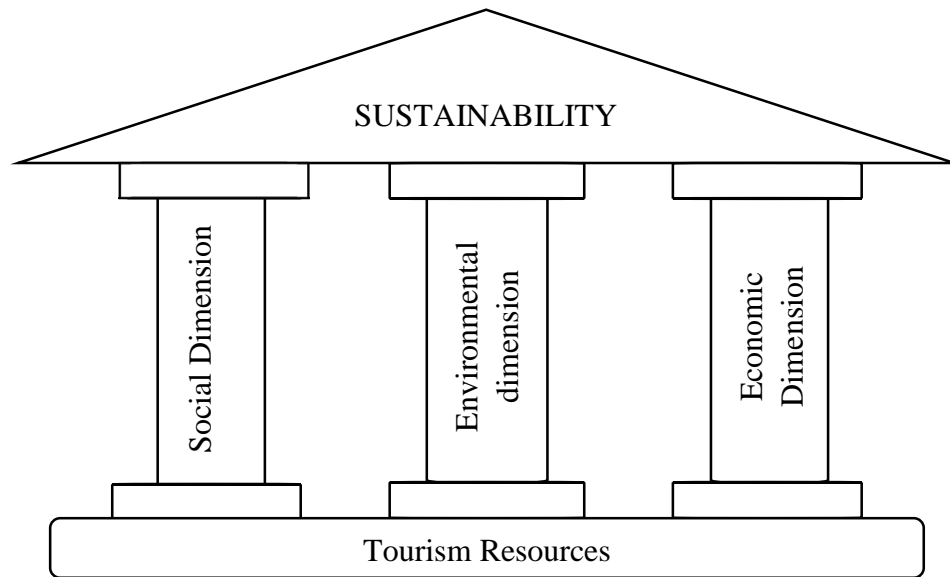
Figure 2.1: Three-pillar model of sustainability

Source: Adapted from (Purvis et al., 2019)

The three-circle model. The three-circle sustainability model also depicts sustainability's social, economic, and environmental dimensions as individual and interrelated dimensions. It gives an understanding of a holistic developmental approach that addresses some of the shortfalls of the model with independent pillars. It shows a nested relationship between all three dimensions with integrational functions. According to Purvis et al. (2019), this model shows a better illustration that explains the interdependency of the three dimensions of sustainability. The overlaps form synergies where benefits to societies are shown in this model. The overlap between the social dimension and the environmental dimension forms stewardship over the natural resources in the destination and the socio-cultural lifestyle (Social and Environmental Stewardship [(S-E)-S). Between the social and economic dimensions, Socio-Economic Ethical responsibilities [(S-E)-E] are formed to foster sustainable economic

development. Similarly, the overlap between the environment and economic dimensions forms an Environmental-Economic Efficiency [(E-E)-E]. When all the three dimensions come together, they form a synergy that produces the ideal sustainability (S) (Figure 2.2).
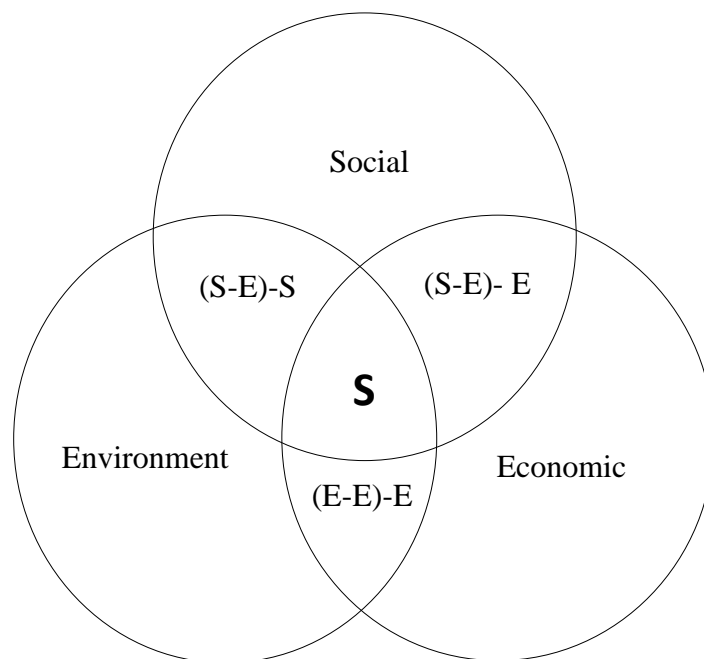
Figure 2.2: Three-circle model of sustainability

Source: Adapted from Barbier (1987) and Purvis et al. (2019)

The brief description of the two popular sustainability models sees the three-circle model as having a better relevance to tourists' behavior than the classic three-pillar model. Though this model performs better than the classical pillars of sustainability, it has some flaws. Previous studies using the three-circle model are limited in conceptualizing sustainability (Stanners et al., 2007).

Also, this model fails to consider the institutional dimension that upholds sustainable behavior's regulatory and policy aspects. Nevertheless, it links the dimensions to illustrate the synergistic relationships lacking in the three-pillar model. To this end, it is shown that sustainable development, and by extension, sustainable tourism development, has become a critical area of study in the tourism industry over the past three decades.

2.4 Thematic areas of sustainable tourism development research

As noted in the previous section, research on sustainability in tourism has been in existence for over two decades. It has become a common area of research and has seen an increase in literature. The body of literature includes studies on the supply of tourism products and tourists and hosts. The literature on sustainable tourism is situated in value judgment towards general sustainable development in recent times. This normative orientation encapsulates dimensions of development and behavior (i.e., environmental, economic, socio-cultural, and governance dimensions) (Bramwell, Higham, Lane, & Miller, 2017). This nexus has encouraged a shift in the literature over the years. There has been a change in how researchers view the subject area due to which certain trends have emerged.

Over the past twenty-five years, research in sustainable tourism has been based on different categories or themes. A literature review reveals that scholarly articles and books on sustainable tourism primarily reflect the achievement recognition of scientific publications. They provide a portrait of problems relating to tourism and the solutions professed to researchers, including the origin and evolution of sustainable tourism (Bramwell & Lane, 1993; Bramwell et al., 1996;

Buckley, 2012; Zolfani et al., 2015). In the paradigm theme of sustainable tourism studies, a call has been made to explore other dimensions of sustainability other than the environmental dimension. Hall (2010) affirmed that the environmental dimension had dominated tourism studies relating to sustainability in his study. It is followed by the economic dimension, while the social dimension has hardly received attention. Over time, a gradual shift has been noticed from tourism planning, marketing, and geopolitical analysis (Bramwell & Lane, 2010; Líšková et al., 2018; Weaver, 2010) to studies on digital footprint and technology advancement (Dayour et al., 2019; Law et al., 2020; Sun, Lee, Law, & Zhong, 2020). In addition, tourism de-growth (Sharpley, 2000, 2020) and tourist preferences and behavior (T. J. Brown, Ham, & Hughes, 2010; Font & McCabe, 2017; Juvan & Dolnicar, 2017; Shafi, Delbosc, & Rose, 2020) have emerged as a counter to the impact and the decline of tourism. Tourism has become very important in recent years to secure long-term sustained development through careful planning and management of tourists' behavior.

2.5 Sustainable tourist behavior

The adaptation of sustainable behavior by tourists remains a persistent challenge in the sustainability of tourism (Nimri et al., 2020). The literature on tourist behavior has been on areas such as destination image (George, Henthorne, & Williams, 2013; Lee, 2009; Lee & Jan, 2018; Moon & Han, 2019), travel preferences (Dragouni, Filis, Gavriilidis, & Santamaria, 2016), travel motivations, travel satisfaction and value perception (Dragouni et al., 2016; Kim et al., 2020; Poortinga, Whitmarsh, Steg, Böhm, & Fisher, 2019), and information search (Budeanu, 2013; Sun, Law, & Luk, 2020). Studies have shown that tourists are not generally sustainable in their activities, actions, and decision-making but hedonistic (Desmichel &

Kocher, 2019; Dolnicar et al., 2019a; Mckercher et al., 2010). Therefore, it is challenging to have tourists behave sustainably at all times.

Over the years, a social dimension has been added to the consumption of goods and services. Another value has been attached to "symbolic consumption" from the late 1990s and early 2000s and integrated into our societies (Hjalager, 2000; Speake & Kennedy, 2019). For instance, the purchase of fast cars and jewelry has culminated in luxury tourism (Desmichel & Kocher, 2019; Jain, 2018), and the purchase, renting, and hiring of water-front luxury properties (Speake & Kennedy, 2019) have become an essential part of the vacation and holidaying activities of some tourists. In this vein, consumers exhibit a marked tendency to consciously look for luxury goods while attempting to moralize their actions of consumerism which may go contrary to the quest for a sustainable society and express a paradoxical behavior toward sustainability (Hjalager, 2000) in an attempt to escape from the daily stress of work and family life.

This increasing hedonistic philosophy of pleasure and enjoyment and luxury-seeking and its acceptance in society has been blamed for the difficulty in achieving the ideal sustainable condition in tourism (Muller, 1997). Given this, the commitment of travelers and tourists towards the solution to sustainability challenges is expected to be low as they do not incur extra costs for being unsustainable during vacation travels compared to activities in their homes (Hjalager, 2000; Juvan & Dolnicar, 2016). The educational psychology literature has shown that changing an individual's behavior is difficult, especially among people away from their usual places of stay (Orams, 1997; Tubb, 2003). The hedonistic behavior that leads to unsustainable actions and the sustainable behavior of tourists are influenced by specific

determinants. These determinants or factors and how they influence the behavior of tourists are discussed in the next section.

2.6 Possible factors of tourists' sustainable behavior

The behavior of tourists at a destination is likely to be influenced by different and multiple factors. These factors may come from the supply side (organizations, institutions, and destinations that provide and manage tourism products) or the demand side (tourists). From the viewpoint of early researchers in the field of tourism and behavioral economics (e.g., Budeanu et al., 2016; Juvan & Dolnicar, 2017; Mak & Chan, 2019; Milfont & Markowitz, 2016; and Poudel & Nyaupane, 2017), it is vital for tourism and hospitality development and tourism activities to activate and secure long-term sustained growth. In other words, tourism must be developed sustainably (Juvan & Dolnicar, 2017). The sustainability of tourism can, however, be attained in two main ways: an increase in sustainable tourism supply (Panayiotopoulos & Pisano, 2019) and the act of increasing sustainable behavior among tourists (Juvan & Dolnicar, 2016, 2017; Wang, Wu, Wu, & Pearce, 2018).

On the supply side, efforts have been made to accelerate the reduction of negative impact, especially the environmental impact of tourism, as driven by an increase in certification programs such as the Eco-labelling certification and several ethics for operating green (Bucar, Van Rheenen, & Hendija, 2019; McKercher & Prideaux, 2011; Yilmaz, Üngüren, & Kaçmaz, 2019). Though these strategies have been applied widely by businesses and government institutions throughout the world, studies reveal that their effects on sustainability leave much to be desired (McKercher

& Prideaux, 2011; Vada, Prentice, & Hsiao, 2019). Therefore, whether tourism can provide long-term sustainability has been posed to interrogate how organizations can improve their activities holistically. It shows that the effort focused on the supply side is not enough to stem the non-sustainable effects. As a result, many studies have begun to examine the demand perspective of sustainable tourism (tourist characteristics and tourist or consumer behavior).

In recent years, researchers have acknowledged that sustainability is multilevel and can be influenced by factors from these different levels (Milfont & Markowitz, 2016). Before examining the literature on tourist behavior and its influence on sustainability, we need to understand the levels of sustainability efforts. According to McKercher and Prideaux (2011), sustainability efforts are made at three levels. First is the government level, where policies and control measures are set by the government of the destination or country. The second is at the industry level with the help of certification and imposition of ethical practices. The third is at the individual level, where behavior is of concern. Tourists' behavior has been noted as the focal point for sustainability. It is imperative to know which elements influence the behavior of tourists, whether actual or potential, to help change the unsustainable behaviors of tourists and travelers. In the literature, the drivers of sustainable behavior of tourists include psychologically-related factors (Chng et al., 2019; Orru, Poom, & Nordlund, 2019; Pan & Lu, 2020; Rojas-de-Gracia & Alarcón-Urbistondo, 2019) and other contextual or circumstantial factors (Joseph, 2020; Marquart-Pyatt, 2012). The literature shows that some factors are personal while others are situational (Milfont & Markowitz, 2016). The situational factors may emanate from social or group interaction or geographical or national conditions and policies (Heiskanen & Matschoss, 2017; VanHeuvelen & Summers, 2019), while the psychological factors include attitude and

perceived behavioral control (Ajzen, 2002). Some identified factors are explained in the following paragraphs.

2.6.1 Attitude

Many studies posit that attitude is a robust predictor of sustainable behavior (Ajzen, 1991). Research has found that a tourist's attitude is positively associated with behavioral intention and actual behavior (Wang et al., 2019). In general, a person adopts a behavior that aligns with their wishes or goals. When the action or behavior is deemed beneficial or favorable, it is easy and often executed without much resistance. Consequently, attitude is perceived as one of the internal or individual factors and a necessary trigger for the behavior of persons. Ajzen (1991, p. 188) defines attitude as the "degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question." According to some researchers, it is an important driver that predicts the intention of an individual to behave in a certain way (Gericke, Boeve-de Pauw, Berglund, & Olsson, 2019; Klöckner, 2013; Wang et al., 2019, 2018; Yuriev et al., 2020). The attitude of travelers, according to previous studies such as Choi and Park (2017) and Song, Lee, Kang, and Boo (2012), affects the behavior set of the individual to either exhibit altruistic behaviors, choose organic foods or reduce food waste among other pro-sustainable behaviors (Thøgersen & Alfinito, 2020). Studies have used attitude to measure travel behavior, including behaving sustainably (Juvan & Dolnicar, 2016).

2.6.2 Habits

People exhibit some actions with minimal effort in response to situations or actions of other people. These are the instinctive performance of behavioral actions that come up as a result of contextual cues to enable the fulfillment of specific goals under very little application of cognitive action that frequently occurs in a stable context with a high level of success rate or chances of happening (Klöckner, 2013; van den Broek, Walker, & Klöckner, 2019). These routine actions predict the behavior (Klöckner, 2013) and are considered behavioral scripts (López-Bonilla et al., 2020). An individual who instinctively exhibits a particular behavior under certain conditions and with some cues in the environment he or she finds him or herself is more likely to be willing to perform similar actions when the conditions at the destination are similar to the familiar environment with similar cues. This is because the willingness to perform, which may culminate into action, will need little or no motivation as long as it is an automatic performance of a behavior that occurs when the environment has the right cues to trigger the instinctive performance of the behavior. Klöckner found that habit strength has a relationship with the intention of an individual to act.

In the same way, Melián-González, Gutiérrez-Taño, and Bulchand- Gidumal (2019) found that a significant relationship exists between habits and tourist intention to use a chatbot for travel. Also, habits strongly influence the intention to act (Lee, Kang, Song, & Kang, 2020) and are influenced by emotional factors in a relatively robust way. In this case, however, habits are sometimes used to explain beliefs. In other studies, this automatic behavior performance can be influenced by framing, which has sometimes been done through advertising messages (e.g.,

Burböck, Kubli, & Maček, 2019). The behavior of tourists towards sustainable activities is likely to be influenced by the habits that the individual possesses.

Even though theoretical investigations assert that people make reasoned decisions and choices, the behavior is dependent mainly on habitual actions, controlled by an automated cognitive process that is goal-driven and which may be repeated once the outcome of the behavior is satisfactory or even when the outcome is not favorable to the individual or his or her immediate environment (Steg & Vlek, 2009). Habits may be reasoned out when the conditions or situations change (Miller, 2003; Orru et al., 2019), where the individual may not be automatically primed successfully.

2.6.3 Personal norm

The awareness and self-conviction to do or act in a particular way are essential predictors of behavioral intention. Defined as the "sense of obligation to take pro-environmental action" (Stern, 2000, p. 3), the personal norm is integrative for values and norms related to a particular action or behavior. In this case, a tourist who is aware of the effects of an action or behavior and values the recipient (e.g., local community, other tourists, environment, local businesses, social and cultural norms of locals) of the consequences of that action, and feels obligated to protect the recipient may develop the sense of obligation to act in a particular way (sustainable) in order to protect the values held towards the recipient. According to Klöckner (2013), people who embrace self-transcendence values and are aware of the possible detrimental consequences of behavior ascribe responsibilities to themselves in the form of a moral obligation to behave sustainably. Such

moral obligations ascribed to oneself lead to sustainable behaviors such as saving water, avoiding littering, and conserving energy, as revealed in several studies such as Dolnicar (2010). Unlike attitudes deemed precarious by some authors, the personal norm is relatively unchanging over time (Conner & Armitage, 1998; Juvan & Dolnicar, 2016). This characteristic shows that personal norm is an essential factor that can influence the behavior of a tourist at any point in time.

2.6.4 Social norm

The social norm is one of the stable determinants of intentions and behavior. The perceived behavioral expectations of others (individuals or groups) affect an individual's behavior. People are usually influenced by the views of others who are close to them. Such influences may be beneficial to achieving a sustainable community or society and tourism. On the other hand, influences from society, groups, and individuals can make tourists engage in unsustainable actions. For example, a tourist can be influenced by other tourists to act contrary to the norms and values of the local community visited.

In the same way, the tourist can also be urged by other tourists to abide by the cultural norms and values of a local community to uphold and sustain the socio-cultural fabric of the local community. Several studies have opined that subjective norms positively influence the behavioral intentions of travelers (Nimri et al., 2020) and customers (Schepers & Wetzels, 2007; Sun, Law, & Schuckert, 2020). This relationship is more likely to be found in multiple contexts. Various studies show that the influence of social norms can be found in green lodging (Mensah, 2020; Verma & Chandra, 2018), sustainable transport (Bösehans & Walker, 2020;

Soheon Kim, Filimonau, & Dickinson, 2020; Shafi et al., 2020), and mobile payment (Sun, Law, & Schuckert, 2020) among other contexts.

2.6.5 Policies and regulations

It is in the interest of the government of every destination to maintain or increase the flow of tourists to its destination and maintain tourism resources for continued benefits from tourism. The conventional decision of destination choice is based mainly on logic and purposeful calculations that tend to change at almost every consumption stage. As consumers or tourists seek the maximum benefit from their purchase, their actions may have negative impacts consequently. According to Araña and León (2016), designing effective sustainability policies and implementing them is crucial for destinations' sustained growth. It has been asserted that the use of policies is one of the effective ways to encourage tourists to act sustainably and that researchers have focused on the use of market-based policies, including tax payments, rebates, and holidays (Sheng & Tsui, 2009) and the use of punishment to deter tourists from acting unsustainably (Pearce, 2020) which may be a cross-national enactment. However, Alexander and Pector (2017) believe that few governments have used punishment and the imposition of fines to curb unsustainable acts of tourists. Market-based policies (e.g., taxes) and non-market-based policies involving social tourism will likely result in more effective sustainability interventions (Araña & León, 2016) to attain the best sustainability results in a community. However, taxes have mixed results, usually on the welfare of the residents and the tourists too (Araña & León, 2016; Gooroochurn & Sinclair, 2005). Such

policies and regulatory measures are suitable for controlling tourist behavior (Araña & León, 2016).

2.6.6 Mobile technology

Technology has become a significant part of tourists' daily activities and experiences. The mobile technologies that make communication and commerce easier also change how people make decisions and behave. Mobile technology has undoubtedly become a game-changer due to easy access, operations, and the presumably small size and weight (Dayour et al., 2019). Mobile technology has influenced the behavior of groups of people (Jeno, Vandvik, Eliassen, & Grytnes, 2019; Shaw & Kesharwani, 2019). Several studies have shown the ability of mobile technology to influence behavior (Hawi & Samaha, 2017; Shaw & Kesharwani, 2019) and travel choices primarily through social media (Mehraliyev et al., 2020). Technology has gradually changed the trajectory of tourists over the years through the provision of information and the availability of alternatives (Sun, Law, & Luk, 2020). Therefore, the use of mobile technology has been hypothesized by some studies to mediate the effects of other predictors on behavioral intentions.

According to Budeanu (2013), the advancement of technologies, especially mobile technology and social media, offers a good way by which all tourism stakeholders interact. Messages are channeled to encourage people traveling for vacations and other purposes to behave sustainably. She submits that sustainable tourism is dependent on a fragile equilibrium between fast growth and the consumption of resources that support tourism. Technology provides the grounds to unify such desires, ensure balance (Budeanu, 2013), and encourage the sustainability

of tourists. Mobile technologies provide the platform for triggering or prompting tourists, reaching a wide range of people (both actual tourists and potential tourists) to encourage sustainable behavior (Wheaton et al., 2016). Therefore, it has been used to change the behavior of individuals from pursuing non-sustainable behaviors to sustainability in different situations and contexts (Shen, Sotiriadis, & Zhou, 2020) as one of the most effective ways to encourage pro-environmental behavior, prompting through mobile technology platforms is noted to affect individuals' goals and behavior, including tourists (Osbaldiston & Schott, 2012; Shen et al., 2020). Researchers note that the increasing popularity and importance of mobile communication and mobile gadgets for travel, coupled with the development of advanced communication technology such as the fifth-generation mobile communication technology (5G), suggests different lifestyle and behavior changes in the day-to-day life and travel adventure (Chen, Law, Xu & Zhang, 2020). This increase means that access to products and services will be easy. The consumption of these goods and services related to tourism will also increase. Mobile technology and its usage have a significant influence on the sustainability of the tourism industry (Dorcic et al., 2019; Law et al., 2018; Liang, Schuckert, Law, & Masiero, 2017), tourists' behavior, and destination choice (San-Martín, Jimenez, Camarero, & San-José, 2020; Zheng, Huang, & Li, 2017). However, research on its role in the tourism industry mainly focuses on how technology is used to plan trips and excursions and share experiences through blogs, vlogs, and short articles on the internet (Bosangit, Dulnuan, & Mena, 2012; Wheaton et al., 2016). Mobile technology has been used to facilitate behavior change towards sustainability over time (Skeiseid, Derdowski, Grahn, & Hansen, 2020). It, therefore, is acknowledged as an important driver of change in the framework of sustainable tourism (Kim & Kim, 2017). Mobile technology and its influence have gradually changed the structure and the

procedures. It is expected that this technological advancement will help improve the economic development, value addition to tourism service delivery, and peaceful co-existence among different groups with social connections as mobile technology can bridge the gaps between people, including language (Gretzel, Sigala, Xiang, & Koo, 2015; Li, Hu, Huang, & Duan, 2017). In addition, mobile technology devices and services, together with their use, are likened to the nature of social network engagement such that they can intensify the engagement of tourists with other tourists as well as the host community or destination and give way to a positive effect on sustainability (Kim & Kim, 2017) though such effect is unconfirmed. In this case, mobile technology devices and applications have been created (such as the destination recommendation application, social media platforms like Facebook, Instagram, and tweeter) that motivate and influence travelers to behave sustainably (Wheaton et al., 2016) through sharing travel activities, recommending activities, destinations and practices, endorsement, following, and liking pages, and posts.

2.6.7 Socio-demographic characteristics

Researchers believe that sociodemographic characteristics are related to the intention to behave sustainably (e.g., Juvan & Dolnicar, 2017; Luchs & Mooradian, 2012; Milfont & Markowitz, 2016). According to Pinna (2020) and Brough, Wilkie, Ma, Isaac, and Gal (2016), gender is an essential demographic or personal antecedent of intentions to act (López-Bonilla et al., 2020). It can influence the intention of an individual to act sustainably, where being a female is a positive influence on the intention to behave sustainably and being a male is associated with negatively influencing the intention to be sustainable in one's behavior (Pinna, 2020). Income,

education level, age, and general trust in other individuals also have positive relationships to act sustainably (Milfont & Markowitz, 2016) and, ultimately, behavior. In other words, the higher one's education, the more likely he or she is to engage in sustainable behavior. This situation is because higher education has been associated with awareness of environmental consequences of tourism activities and that the higher the education of an individual, the more likely he or she is to be concerned about the effects of travel, vacation, or holiday activities (Steg & Vlek, 2009). It is also evident that individuals who are economically better off show a higher likelihood of being sustainable (Milfont & Markowitz, 2016). Thus, sociodemographic characteristics form part of the antecedents of the tourist travel and in-destination behavior (Quaglione et al., 2019).

2.6.8 Crises (Corona Virus Pandemic)

The occurrence of crises and disasters often causes reduced tourism activities, arrivals, and satisfaction (Senbeto & Hon, 2020). The unprecedented crisis emanated in late 2019 in one of the wet markets in the Chinese province of Wuhan. Initially known as the SARS-CoV-2, the Corona Virus Disease (COVID-19) was recorded to be one of the world's most infectious diseases and declared a "global pandemic" by the World Health Organization (WHO, 2020). Since then, travel and tourism and the hospitality industry have experienced a rapid decline globally. Researchers in tourism, behavioral sciences, and sustainability have begun inquiring into the effect that COVID-19 has on the tourism industry, human behavior, and sustainable development (Peter Jones & Comfort, 2020).

The rapid spread of the disease (a strange form of pneumonia) and its consequences have brought anxiety, fear, and stigma worldwide (Ahorsu et al., 2020; Sung, Hu, & King, 2021). It has also caused a wide range of challenges for the global tourism industry by grounding many airline companies, causing the closure of tourism-related businesses, and rendering many in the industry unemployed. This challenge poses a long-term detrimental effect on the tourism industry but is seen as a blessing by sustainability researchers (Kanda & Kivimaa, 2020; Škare, Soriano, & Porada-Rochoń, 2021). Among tourists, health and social and psychological risks remain the significant triggers of change in travel behavior. They can be part of the significant determinants of travel after the COVID-19 pandemic (Matiza, 2020). Therefore risk-averse tendencies are increasing among tourists due to the increasing awareness of exposure to hazards including polluted atmosphere in public transport, poorly kept beaches, and other unsanitized conditions coupled with uncertainty regarding personal health, safety, and security (Zenker et al., 2021). Given this, the risk of contracting contagious diseases during travel can change the behavioral pattern of tourists to either be pro-sustainable or less sustainable by adopting preventive health behavior (Chua, Al-Ansi, Lee, & Han, 2021). Tourists may prefer to stay away from locals and other tourists for fear of contracting contagious diseases such as COVID-19, which can affect the social aspect of sustainability. Likewise, familiar brands and sources of products may be preferred to the detriment of the local economy, harming economic sustainability in local communities.

These possible predictors of sustainable behavior can be grouped in different ways. For example, Klöckner (2013) asserts that predictors of behavior can be grouped into proximal and distal. In contrast, Marquart-Pyatt (2012) believes that the factors that influence people's behavior, especially environmental behavior, can be classified into individual-level and

country-level factors. In the same way, Milfont and Markowitz (2016) support the classification style of Marquart-Pyatt (2012) and opine that sustainable consumption is a multilevel phenomenon that is influenced by socio-psychological factors and contextual factors (made up of social-level factors and other situational factors). It is, therefore, essential to use multilevel research designs to help identify the factors at all levels.

2.7 Theoretical approaches used in studying tourists' behavior

Over the years, a gradual paradigm shift has resulted in the reconsideration of assumptions about the factors that influence the behavior and decisions of individuals during vacation and other travels. Social psychological theories have been broadly used in many areas of study, including hospitality and tourism. These theories are used to examine individuals' cognitive processes and behavior. Previous researchers explain social psychological theories as philosophical approaches that examine how an individual's thoughts, feelings, and behaviors are subjective to other people's actual presence, imagined, or inferred presence (Abascal, Fluker, & Jiang, 2016; Allport, 1984). Prominent theories used in the social sciences include the Theory of Planned Behavior (Ajzen, 1991; Fishbein & Ajzen, 1975; Ryan, 1982), Theory of Reasoned Action (Ajzen, 1971), Cognitive Dissonance (Cooper & Fazio, 1984), Social Cognitive Theory (Bandura, 1986; Bandura, 2001), Attribution theory (Jones & Davis, 1965; Weiner, 2010), and the Broken Window Theory (Kelling & Wilson, 1982). These and other psychological action theories such as the Norm-Activation and the Moral-Norm-Activation theories that depend on desire, moral conviction, and self-ascribed obligation are

commonly used in tourism studies. Some of these theories have been explained in the following subsections.

2.7.1 Theory of Reasoned Action (TRA)

TRA is one of the earliest theories used to investigate behavior among people. This theory was propounded to help better comprehend the relationships between motivations and behavioral intentions. Propounded in the 1970s (Ajzen, 1971; Fishbein & Ajzen, 1975), this theory focuses on the theoretical constructs related primarily to an individual's motivations. According to Ajzen (1971), these motivations determine the possibility of a person performing a behavior. This theory assumes that humans are rational and can systematically use the information presented to them to their benefit. To this end, the theory assumes that intentions are the best determinant of any behavioral action. To Fishbein and Ajzen (1975), an individual's behavioral intention directly predicts the behavior. It is a function of two main factors, namely attitude toward behavior, referring to the value judgment of the negative or the positive assessment of an action to perform, and social norm, which is the perception that an individual has about social pressures that may push him or her to perform particular behavior to conform with the desired actions. The action to be performed may be something the individual may or may not like. Although this theory is well accepted as a base theory in social psychology, its assumptions do not consider the attitudinal-behavioral consistency problem that confronts measuring a person's behavior (Foxall, Goldsmith, & Brown, 1998). However, several studies have supported the theory in its prediction of behavior. According to the principle of the theory, a tourist will intend to behave or act sustainably if he or

she holds an upbeat assessment about the action and when people close to him or her, society, and the group he or she belongs to think they should behave sustainably.

Therefore upon the assumption of tourist rationality, tourists will behave rationally. This theory, however, does not explicitly predict the behavior of tourists toward sustainable behavior, given its focus on general behavior. Hence, it has been applied in several fields of study, including marketing (Fitzmaurice, 2005), transport studies (Alzahrani, Hall-Phillips, & Zeng, 2019), and education (Nasurdin, Nasser, Noor, & Hassan, 2003).
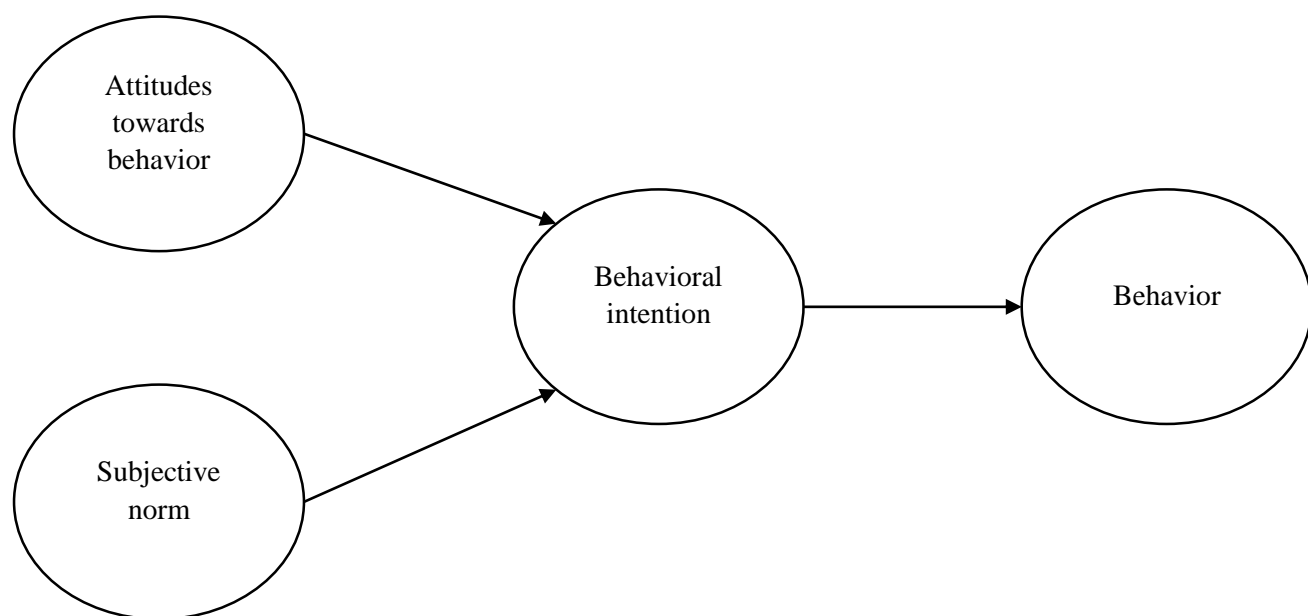
Figure 2.3: Theoretical model of Reasoned Action

Source: Adapted from Madden, Ellen, and Ajzen (1992)

2.7.2 Theory of Planned Behavior

The theory of planned behavior was developed by Ajzen (1991). This theory has the same basic principle as the theory of reasoned action. Though similar to the theory of reasoned action, this theory posits a parallel determining factor and the already established determinants of behavior (Perugini & Bagozzi, 2001). As used in the tourism literature, this theory assumes that every tourist can exert self-control. Unlike the theory of reasoned action, this theory acknowledges that the tourist controls whether sustainable behavior will be easy or difficult to perform.

Consequently, this theory was developed to consider such functions of humans and extend the theory of reasoned action by introducing another variable that measures the perceived control over a behavior; hence, the anticipated difficulty in performing sustainable actions as tourists. In this theory, Ajzen (1991) asserts that successful sustainable behavioral actions depend on the tourists' intention to behave sustainably and initiate and sustain such actions. In other words, the realization of sustainable behavior among tourists will depend on their motivation and behavioral control. Several researchers have used this theory in their studies (Ryan, 1998; Han et al., 2017), and the theory has been proven to have better explanatory power on the behavior of tourists and other travelers than the theory of reasoned action.
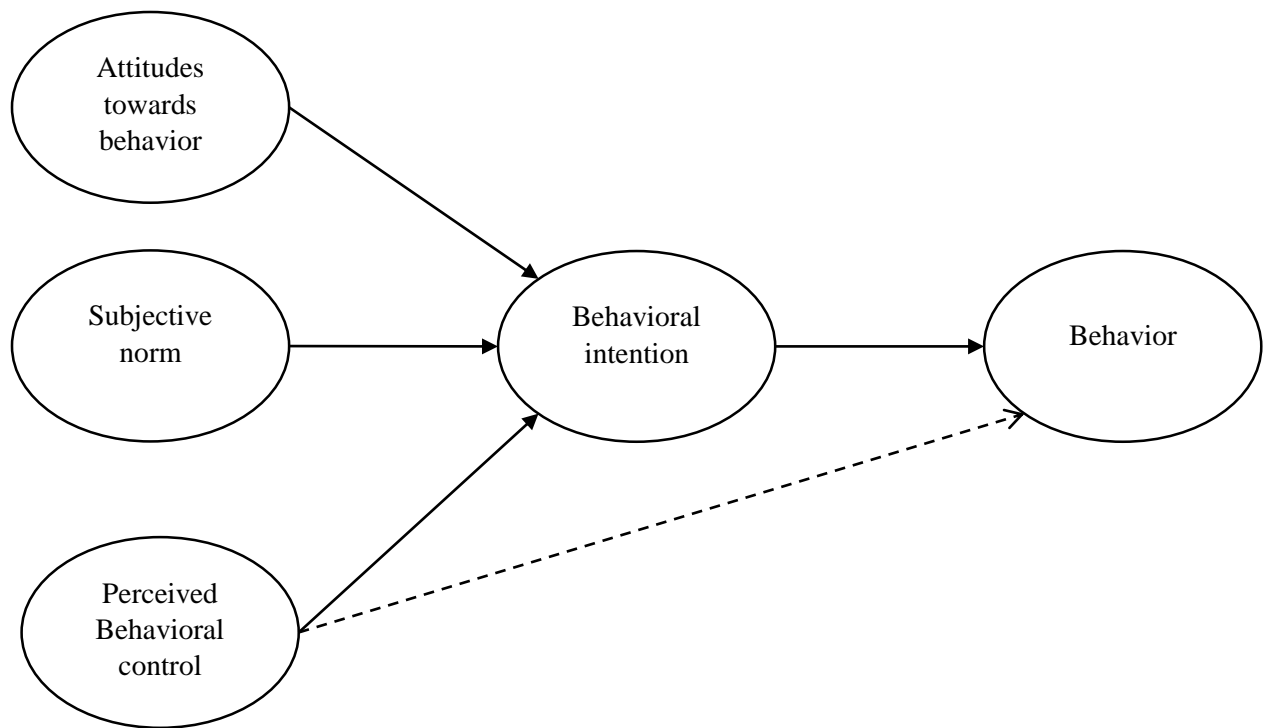
Figure 2.4: Theoretical model of Planned Behavior

Source: Adopted from Ajzen (1991) and Ryan (1982)

2.7.3 Model of Goal-directed behavior

The model of goal-directed behavior (MGB) was developed on the basic principle of the theory of planned behavior by Perugini and Bagozzi (2001) as an extended model of the TPB. This model posits that more constructs, namely emotions, desires, and past behavior, and the classical components of the TPB- attitudes, subjective norms, and perceived behavioral control broaden and strengthen the power of predicting behavior. This model explains that desire (the mental state at which an individual is motivated to achieve an intended goal) is necessary to convert attitude, anticipated emotions, subjective norms, and perceived behavioral control into an intention to act.

Further, Perugini and Bagozzi (2001) found that the MGB has high predictive power. It offers a substantial improvement of the TPB, and it is supported by other studies, including Chiu and Cho (2021), Jin, Choi, Lee, and Ahmad (2020), Lee, Song, Lee, and Petrick (2018), and Meng and Han (2016). Consequently, the MGB provides researchers a good direction for the study of goal-specific behaviors because it considers the emotional attachment to goals and its consequent attainment which is missing in the TPB. This, therefore, makes the MGB a better model to investigate goal-driven behavior than the classical TPB.

It is not surprising that the MGB has been recently adopted in psychology and behavioral studies (Kührt, Pannasch, Kiebel, & Strobel, 2021), sustainable development, and tourism (Bui & Kiatkawsin, 2020; Chiu & Cho, 2021; Song et al., 2012; Song, You, Reisinger, Lee, & Lee, 2014). In the tourism field, the MGB has been used to examine student intentions (Heesup Han & Yoon, 2015), destination experience (Huseynov, Costa Pinto, Maurer Herter, & Rita, 2020), and the revisit intention of tourists (Jin et al., 2020). In effect, the emotions and habits of individuals are incorporated in the assessment of behavioral intentions and behavior when using the Model of Goal-directed behavior.
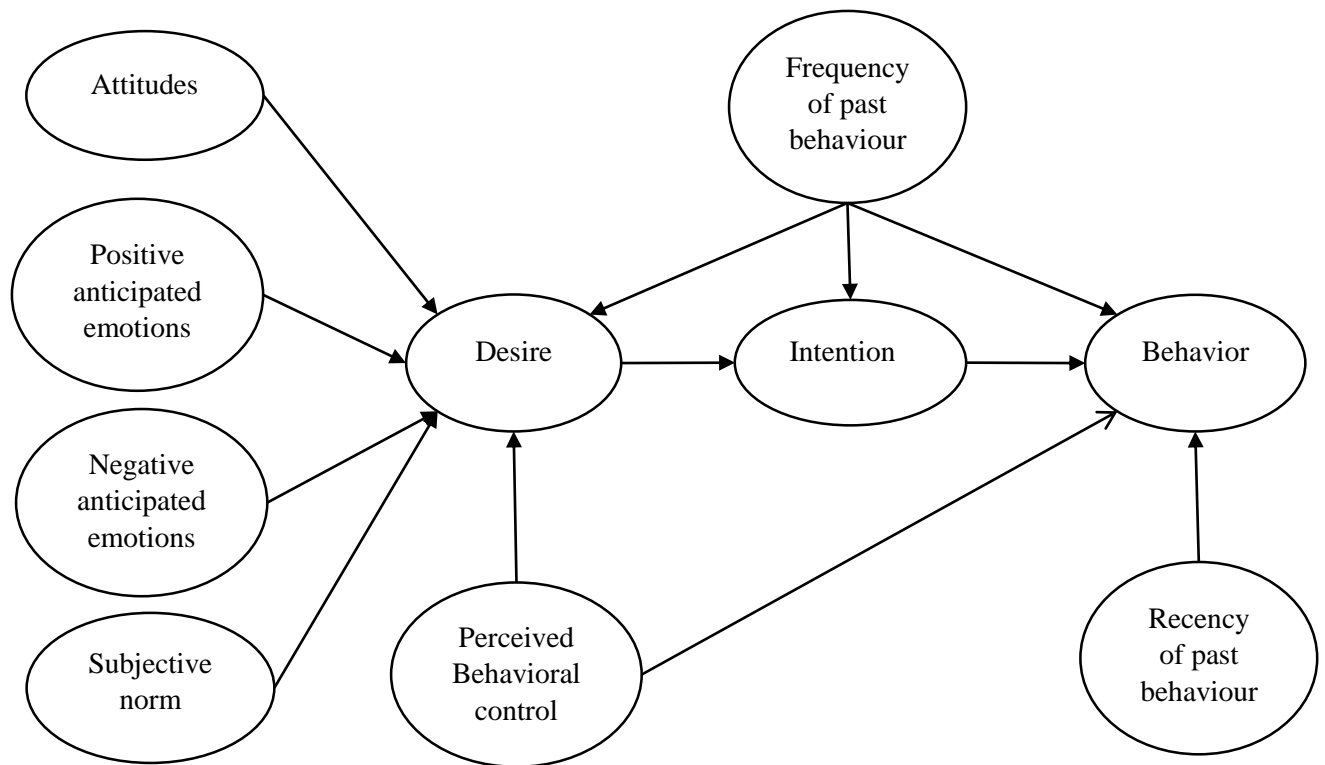
Figure 2.5: The model of goal-directed behavior
Source: Adopted from Perugini and Bagozzi (2001), and Jin, Choi, Lee, and Ahmad, (2020)

2.7.4 Norm-Activation Theory

The norm-activation-theory, also known as Schwartz's model, was developed in 1977 by Schwartz and later modified in the early 1980s (Schwartz, 1977; Schwartz & Howard, 1981). It is one of the critical theories that identify certain conditions under which norms can influence the behavior of helping others. These norms are usually altruistic norms that are important in performing sustainable behavioral actions. According to Schwartz (1977), the activation of norms is an essential process for action. The activation of norms for the performance of an action is realized when three things are accomplished. First, when there is the recognition of a need to act.

Second, when the actor is aware that the action can have a positive outcome for him or her, and third is when the actor feels responsible for performing that action.

This theory is based on three primary components: awareness of need (AN), awareness of responsibility (AR), and the awareness of consequences (AC). According to its proponents (Schwartz, 1977; Schwartz & Howard, 1981), the relationship between altruistic behavior and the values that the individual holds can be mediated by the awareness of the consequences of actions to be performed and the awareness of one's responsibility to perform such actions. The norm-activation theory originally had three sequential stages (Schwartz, 1977) but was extended to five (Schwartz & Howard, 1981). In the first stage, there is recognition of need. The second stage is activating the person's values to generate a feeling of obligation. In the case of the current study, the values of the tourist may make him or her feel obligated to act sustainably. After this stage, realizing that there is no form of dissonance or denial of responsibility, the individual proceeds to the last stage: 'performing the action' (behavior) (Blamey, 1998; Schwartz & Howard, 1981). This theory maintains that every action goes through checks to assess its benefits or implications and conformity with social norms and personal values before the behavior or action is performed.

Even though the few theories explained above, together with others like the value-belief theory by Stern (2000) and the cognitive dissonance theory by Bandura (1986), are accepted as base theories in the studies of behavior in the hospitality and tourism literature, they have certain limitations that prevent them from measuring all levels of behavioral factors. These limitations are discussed in the next section.

Table 2.2: Selected theories and their use in academic research

Theory	Proponent(s)	Academic paper	Finding (factors identified to influence behavior)
Theory of Planned Behavior	Ajzen (1991); Fishbein and Ajzen (1975); Ryan (982)	Han et al. (2017)	An individual's attitude and subjective norms towards a behavior are more important than the other drivers of behavior.
Environmentally Significant Behavior	Stern (2000)	López-Bonilla et al. (2020)	External-orientation habits and personal capabilities are significant determinants of environmentally significant behavior. Behavior also varies by the gender of the actor.
Value-Belief-Norm Theory	Stern (2000)	Kiatkawsin and Han (2017)	Personal norm plays a pivotal role in the determination of behavior. The awareness of the resultant effect of an individual's action influences the pursuance of such actions.
Cognitive Dissonance Theory	Cooper and Fazio (1984)	Juvan and Dolnicar (2017)	The feeling of guilt, personal norms, social norms, and organized environmentalism are essential predictors of behavior among international tourists
Norm-Activation Theory	Schwartz (1977), Schwartz & Howard (1981) Thøgersen (1996)	Warren and Coghlan (2016)	Social intelligence, judgment, self-regulation, citizenship in a hierarchical order and hope are prominent in determining an individual's behavior.

2.8 Limitations of traditional approaches for measuring sustainable behavior

Researchers in tourism have used models and theories to measure behavior among tourists and service providers. The most utilized are the Theory of Reasoned Action (TRA) propounded by Ajzen (1971), the Theory of Planned Behavior (TPB) (Ajzen, 1991; Fishbein & Ajzen, 1975; Ryan, 1982), Theory of Environmentally Significant Behavior, and Theory of Environmentalism (Stern, 2000; Stern et al., 1999). Other theories include the Norm Activation Theory (NAT) (Schwartz & Howard, 1981), Value-Belief-Norm Theory (VBN) (Stern, 2000), and the Social Cognitive Theory (Bandura, 1986, 1991, 2002). These theories are still used to investigate the behavior of tourists by recent researchers, including Garay, Font, and Corrons (2019) and Wang, Zhang, Yu, and Hu (2018). However, all these theories focus only on the intention or willingness to perform a specific action based on the attitude and subjective norms of the individual under investigation (Budeanu, 2007) but not the actual behavior as observed by Juvan and Dolnicar (2017).

Over the past two decades, much research has been conducted on tourists' travel behavior and in-destination activities using the Theory of Planned Behavior and the Theory of Reasoned Action. Researchers in tourism studies have observed that the two are general theories that may fit into any behavioral inquiry. However, they tend to be narrow and fail to exhaustively explain the sustainable behavior of tourists (Juvan & Dolnicar, 2017). They also fail to measure the efficacy of behavior concerning their components (Ajzen, 2002). These theories focus solely on rational thoughts without recognizing irrational ones caused by emotions such as sorrow, fear, and anger. However, heterodox studies over the past two decades prove that emotions play a particular role in the equation of behavior (Perugini & Bagozzi, 2001; Quaglione et al., 2019). Based on the

Theory of Planned Behavior, a tourist will always make a reasonable decision related to three major components that directly or indirectly affect the behavior: attitudes, social norms, and perceived behavioral control. Social norms are the pressures that emanate from social groups or the expectations from one's society to do what is right.

On the other hand, attitudes are the beliefs formed about what will be of benefit and what will not, while performance ability denotes perceived behavioral control. According to McKercher and Prideaux (2011), the Theory of Planned Behavior does not adequately address the sustainable behavior of tourists as individuals because it is best used on a campaign basis which involves specific actions of situations that need cognitive influences. In addition, studies have found a low relationship strength between attitude and behavior and further propose that attitude is removed from the model used in predicting behavior (Montaño & Kasprzyk, 2015). Quaglione, Cassetta, Crociata, Marra, and Sarra (2019) acknowledge that a combination of personal and contextual factors, supported by an appropriate theory that encompasses these factors, will be effective for studying the complex nature of tourists' sustainable behavior.

The Cognitive Dissonance Theory, Social Cognitive Theory, and the Value-Belief-norm Theory also have their shortfalls. Although they offer a good approach to account for the determinants of sustainable behavior, the principal limitation is the narrow focus on the cognitive or personal level factors without giving attention to the contextual factors that can influence the behavioral actions of an individual (Stern, 2000). Cognitive Dissonance and Social Learning theories also lack the validity of their predictive power toward sustainable behavior, according to Juvan and Dolnicar (2017). The lack of validity is because tourists have been observed to make sustainable choices seldom intentionally to have low negative impacts and enhance their actions

towards the destinations' culture, environment, and human interactions (Mckercher et al., 2010). Also, tourists who know about sustainability, especially environmental sustainability, do not always behave sustainably. Instead, being an active environmentalist significantly increases an individual's likelihood of behaving sustainably (Juvan & Dolnicar, 2016, 2017). On the other hand, the theory of Environmentally Significant Behavior considers attitude, personal capabilities, habits, and contextual factors as causal variables of significant behaviors.

Nevertheless, it is limited in the scope of application as it only applies to measuring environmental sustainability (Juvan & Dolnicar, 2017; Stern, 2000). Like the theory of Environmentally Significant Behavior, the Broken Window Theory focuses on the contextual factors that influence an individual's behavior. Although it explains the relationship between personal psychology, contextual factors, and individual behavior (Van Der Weele, Flynn, & Van Der Wolk, 2017; C. Wang et al., 2019), it fails to consider social norms and group influence as influential factors of an individual's behavior.

The theories mentioned above have been used to investigate the behavioral intentions of individuals in a society. In the tourism literature, they are used and have been accepted as base theories for tourism and hotel industry behavioral studies. However, recent studies have advocated an extension of the theories and combined theories that can be used for a holistic study (Lindenberg & Steg, 2013; Perugini & Bagozzi, 2001; Steg & Vlek, 2009; Yadav & Pathak, 2017). The behavior of tourists and other travelers, especially concerning sustainability, is complex, multileveled, and multifaceted. However, these theories mainly focus on only single-level determinants or factors, for example, either individual or unit level (Heesup Han et al., 2017; Juvan & Dolnicar, 2017; Kiatkawsin & Han, 2017; Warren & Coghlan, 2016), or

social-level factors (Bandura, 2000). Hence, they cannot account for complicated situations (organizational/social/external environment) that include how different individual, social and environmental levels influence sustainable tourist behavior.

The literature on the behavior of tourists and other travelers suggests that behavior is influenced by a combination of factors and motivations that go beyond the individual level and the social level to include other contextual and situational factors (Heath & Gifford, 2002; Joseph, 2020; Marquart-Pyatt, 2012; Milfont & Markowitz, 2016). Researchers such as Steg and Vlek (2009), Etienne (2011), Lindenberg and Steg (2013), and Joseph (2020) suggest that theories that are multileveled can better investigate the factors that contribute to and influence the behavior of tourists and other travelers.

Therefore, given the limitations of the theories discussed above, the present study submits that the Goal-Framing Theory would be more appropriate because the Goal-Framing Theory is more robust and adaptable to different settings and more parsimonious than the previously mentioned theories. Besides, the Goal-Framing Theory can measure different levels (individual, social, and contextual or situational level factors). It can stipulate a comprehensible account for how predictors interact through goals to determine the individual's preferences (Etienne, 2011) and, in this case, the tourist. The theory also allows for testing other external variables that may influence the activation of a goal into a goal frame that depicts behavior at a given time.

Table 2.3: Theories on sustainable consumer behavior

Theory	Main theme	Focus on sustainability	Level of focus	Explanatory power	Proponents
Theory of Reasoned Action (TRA)	Predict and explain the behavior of an individual through his/her attitudes and behavioral intentions	Social, Environmental, Economic	Individual	*Low*- it fails to measure the efficacy of behavior. It does not measure the actual behavior	Ajzen (1971) Fishbein & Ajzen (1975)
Theory of Planned Behavior (TPB)	Behavior is the product of individual beliefs, the ability to control one's behavior, attitude, and subjective norms	Social, Environmental, Economic	Individual	*Low*- the theory fails to measure the efficacy of behavior. Assumes that tourists behave rationally always	Ajzen (1991) Ryan (982)
Theory of Environmentally Significant Behavior	Behavior is shaped by an awareness of one's environment and the influence of social relations	Environmental	Individual and social	*Low*-It focuses on psychological and social networks only	Stern (2000)
Theory of Environmentalism	Awareness of one's environment and consequences, together with the influence of the social networks and	Environmental	Individual and social	*moderate*- Put much attention on moral and social normative and internal cognitive factors.	Stern, Dietz, & Abel (1999)
Norm Activation Theory (NAT)	Environmental behavior belongs to the moral domain where the morality of an individual controls it	Environmental	Individual	*Low*- narrow focus on the psychological factors with no attention on the contextual factors that can influence the behavioral actions of an individual	Schwartz & Howard (1981) Thøgersen (1996) Schwartz (1977)

Table 2.4 Continued

Value-Belief-Norm Theory	Behavior results from a chain of personal values, awareness of consequences, the ascription of responsibility, and an ecological worldview.	Environmental	Individual	*Low* - narrow focus on the cognitive or personal level factors without giving attention to the contextual factors that can influence the behavioral actions of an individual	Stern (2000)
Social Cognitive Theory	An individual's behavior results from learning from others within a social context of interaction and experiences.	Social	Social	*Low*-narrow focus on the cognitive or personal level factors without giving attention to the contextual factors that can influence the behavioral actions of an individual	Bandura (1986, 1991, 2002)
Cognitive Dissonance	Participating in an activity that goes against the beliefs held or holding two or more contradictory beliefs due to pressures of a peer group or new society	Social	Individual	*Low*-narrow focus on the cognitive or personal level factors without giving attention to the contextual factors that can influence the behavioral actions of an individual	Cooper and Fazio (1984)
Moral Norm-Activation Theory	Because environmental quality is a public good, altruistic motives must respond to personal norms that could avert dire consequences or threats to others.	Environmental	Individual; Social	*Moderate*- This primarily focuses on the internal factors that influence an individual's behavior and fails to consider the contextual factors. It thrives on guilt and other triggers to measure the behavior of individuals towards the environment.	Schwartz (1973, 1977)

Table 2.4 Continued

The Broken Window Theory	Environmental factors exert an intense influence on an individual's behavior and cause him or her to act in a certain way.	Environmental	Contextual	*Low-* It has a narrow scope due to its focus on environmental factors. It fails to recognize that an individual's cognitive process and personal beliefs influence how individuals act or behave.	Kelling and Wilson (1982)
Attitude-Behavior-Context (ABC)	Contextual factors such as policy and legislation make the relationship between a person's attitude and behavior. It focuses on integrating the internal and external variables contributing to behavior change.	Environmental	Individual; Contextual	*Moderate-* This theory addresses the shortfalls of the main attitude-behavior theories by combining attitude and external conditions to predict and explain an individual's presence or absence of behavior. However, it fails to recognize the precariousness and unpredictable nature due to the irrational choices of tourists.	Guagnano, Stern, and Dietz, (1995)
Goal-Framing Theory	Cognitive and contextual factors influence how an individual thinks and behaves at a given time. Behavior changes are based on the focal goal at a given time.	Social, Environmental, Economic	Multilevel Individual, Social, Contextual	*High-* more agile and adaptable to different settings given the precariousness of tourists' behavior and much more parsimonious than the previously mentioned theories. The theory also allows for testing other external variables that may influence the activation of a goal into a goal frame that depicts behavior at a given time.	Lindenberg & Steg (2007)

2.9 The theoretical framework of the current study

This study investigates the cognitive and contextual factors that affect the sustainable consumer behavior of leisure tourists during travel. The goal-framing theory by Lindenberg and Steg (2007) will be adapted for the study. Therefore, the subsequent sections define and explain the theoretical underpinning of the thesis by explaining the goal-framing theory and its components. The sections also elaborate on the relationships and effects of the various independent variables on the outcome/dependent variable (sustainable behavior) of the goal-framing theory. The conceptual framework of the study and how it addresses the research gaps identified in the literature are also presented.

2.9.1 The Goal-framing Theory

Social psychologists have studied people's actions and behaviors over the years. They are noted to result from the function of individuals' inner beliefs and their immediate environmental conditions. That is, sustainable behavior is guided by a combination of norms, which are personal norms that emanate from personal cognitive functions and social norms established by groups, society, communities, or countries (Bösehans & Walker, 2020; Lindenberg & Steg, 2013; Tokita & Tarnita, 2020). In addition, other external factors such as technology (Chung et al., 2017; Skeiseid, Derdowski, Grahn, & Hansen, 2020) also influence behavior. Consequently, the goal-framing theory is a multilevel theory that considers cognitive, also known as personal or internal factors, and contextual factors that influence the way an individual thinks and behaves at a given time. Lindenberg and Steg (2007) developed this theory, and it posits that "goals 'frame' the way people process information and act upon it" (p. 117). It, however, does not deal with setting goals

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before travel but rather switching between goals during the moments of truth as triggered by intentional cognitive selection or environmental cue activation. The goal-framing theory builds on the early assumptions made by researchers in psychology and sociology that goals form the main determinants of how an individual looks at and interprets a given situation and act on it to benefit him or herself or the society in the present or the future. However, these goals are mostly outside one's control (Bargh & Chartrand, 1999; Kelling & Wilson, 1982; Skinner, 1938). Early researchers believed in the theoretical assumption that behavior was purely outside the conscious mind's control. It was proposed that behavior was controlled by the stimulus conditions of external events or the environment (Skinner, 1938). Individuals are unconsciously influenced to behave differently based on their environmental conditions (Kelling & Wilson, 1982). Later, other researchers argued against the behavioristic perspectives to propose the causal-self perspective. They hypothesized that behavior is an act of one's conscious choice. To them, self-regulation and motivation formed the main determinants of behavior (Bandura, 1986). After about a decade, Chaiken and Trope (1999) combined the behavioristic and the causal-self perspectives to form and explain the dual-process perspectives in social psychology. The dual-process perspective explains that every action or behavior is goal-oriented. Individuals work or behave toward achieving specific goals activated by cognitive or environmental cues at a given time. Therefore, these perspectives compete in a dualistic process simultaneously for a frame of action or behavior. The goal-framing theory adopts the latter standpoint and relies on these multiple domain factors, including the personal, social, and environmental factors, to explain the behavior of individuals and, in this case, the behavior of international leisure tourists.

The goal-framing theory combines cognitive and motivational processes concerning the environment, decision-making, and the behavioral exhibition dynamics at every given time. This combination means that individuals tend to behave differently in response to the environment. That is, an individual depends on cues, from motivational and contextual factors, in their immediate environment to choose a behavior (Foss & Lindenberg, 2013; Joseph, 2020) consciously or unconsciously, and it is further argued that the behavior of an individual is influenced by multiple motivations (Steg & Vlek, 2009). Therefore, a tourist's sustainable behavior is influenced by his or her goals made up of cognitions and contextual or environmental cues. Meaning that for a tourist to behave sustainably, specific cues must trigger the behavior. The behavior of a tourist is framed by his or her goals which stem from multiple motivations on multiple levels, including influences from the people he or she is traveling with, the various interactions with local people of the destination, his or her personality traits, and also the legal system of the destination (that prevents certain behaviors and encourage other behaviors) among others. Tourists are susceptible to the influence of their environment. As such, the goal for visiting the beach or the monument bay not be stable throughout the visit.

Upon this foundation, the goal-framing theory explains that a specific goal of an individual can be focused on at a given time and can be replaced at another time in response to the cues in the environment, thereby pointing to the precariousness of behavior (Chung, Koo, & Lee, 2017; Lindenberg & Steg, 2013; Ushchev & Zenou, 2020). Thus, the theory considers multilevel factors and notes that although the individual-level factors (e.g., including the motives, beliefs, and values of an individual) generate goals geared towards satisfying one's self, pressure from society or associations and travel groups and expectations also influence the behavioral actions exhibited to

conform with the societal expectations. Other contextual factors such as policies, restrictions, national affluence, and laws also influence the behavior. The tourist avoids trouble for future benefits. The theory posits that three main goal-frames, namely hedonic, normative, and gain, guide a person's behavior at any given time. However, one becomes focal, owing to the environmental cues, while the other two stay in the background. In other words, a goal frame is activated to dominate and direct actions and behaviors when the individual's environment is compatible with that goal frame (Joseph, 2020). As a result, a tourist simultaneously pursues heterogeneous goals (within the three overarching goals that hold the all-inclusive nature of sub-goals). However, one will be the focal goal triggered by environmental cues or chosen automatically from cognitive functions. The focal goal may change owing to situational change and affordances (Elliot & Church, 1997a; Etienne, 2011; Foss & Lindenberg, 2013; Lindenberg & Steg, 2007, 2013), affecting the sustainable behavior of the tourists at a given time. This change may result in pro-sustainable behavior or unsustainable behavior.

The three overarching goals are the most comprehensive modules that determine a goal frame and explain human behavior (Lindenberg & Steg, 2007, 2013). They have been observed to provide reliable accounts of the collaborative and contributing power of heterogeneous motivations on the behavioral actions of an individual (Etienne, 2011). A goal frame is a composite module of static and cultured cognitive modules formed when sub-goals focus on specific cognitions and evaluations within an overarching goal (Etienne, 2011; Lindenberg & Steg, 2013). Thus, any overarching goals can become the goal-frame at any point in time because each goal-frames does not have the same magnitude of influence on emotional and cognitive processes that trigger behavior at any given time. They depend on the environmental or external and internal cues

to temporarily trigger a specific goal frame, giving it power over the other two (Joseph, 2020). According to Lindenberg and Steg (2007) and Lindenberg and Steg (2013), when a goal frame is formed, it creates domain-specific and selective inputs for domain-specific actions. When a goal domain is focal, sub-goals get selected, and the individual's behavior is geared towards achieving those goals. Here, it should be noted that contextual factors can positively or negatively influence an individual's behavior. When there is the availability of facilities, conditions or policies, and affordable means of getting sustainable activities done, individuals are encouraged to engage in sustainable behavior. On the other hand, a lack or an absence of these factors or constraints will deter people from behaving sustainably. Thus, when a tourist has the hedonic goal as the goal frame, his or her behavior will be geared towards achieving hedonistic goals while the common good goal (normative goal) and the gain goal (enhancement and investment of resources) stay in the background until triggered by environmental cues to replace the hedonistic goal as a goal-frame.

The common goal is to feel good or travel through activities like hiking, relaxation, and entertainment in tourism. Thus, the hedonic goal frame is usually activated when tourists travel for leisure activities that are usually less sustainable. This focal goal may switch to another while the tourist still enjoys the activities. When the aim of the activity, which was initially for pleasure, changes, for example, to benefit the local community through volunteering, donations, or purchasing the local goods and services instead of the well-known international brands, the behavior of the tourist may change to benefit the community and other people economically, socially or environmentally. Such a shift to "act appropriately" may result from the influence of factors other than the internal factors, including the travel party, the social connectedness with the

local community, group interest, role diversity, or the expectations of well-respected individuals (in the life of the tourist) to respect the local culture or protect the heritage (Liu, An & Jang, 2020). Also, when tourists are confronted by regulations and legal instruments by a governing body of a destination or country, their behavior may change to act sustainably through directives and signage (e.g., no littering, respect for local culture, hunting of game, among others) indicating fines for trespassing, tourist goals will change to protecting and enhancing resources (gain goal). Such precariousness of tourists' behavior may be accounted for by changing goals due to the environmental factors of the visit destination.

2.9.2 Main components of the goal-framing theory

The components of the Goal-Framing Theory are explained in the following paragraphs. The nature of each component and their relation to the study are also discussed in the subsequent paragraphs.

2.9.2.1 Hedonic goal-frame.

It is the most basic of the goal frames and the most rapidly and randomly focal of the three (Etienne, 2011). This goal frame is related to the personal influence of pleasurable activities and behaviors to achieve pleasure or self-satisfaction. With a hedonic goal frame, an individual moves away from pain and difficulty toward pleasure. The goal of "feeling good now" is projected as the goal frame. The feelings and actions are directed towards satisfying personal pleasures by identifying opportunities to behave according to the person's feelings (Lindenberg & Steg, 2007). In this case, the stimulation for pleasure is projected.

In contrast, the stimulation for task accomplishment is suppressed, preventing uncompensated losses that bring fear, shame, or the feeling of guilt and mitigating such losses through alternative actions or behaviors (Etienne, 2010; Foss & Lindenberg, 2013; Lindenberg & Steg, 2007). A tourist with a hedonistic goal frame will pursue activities for a memorable experience and hedonic well-being (Vada et al., 2019). Such behaviors among tourists may include hunting at a game reserve, littering indiscriminately, and acting contrary to the cultural values of destinations. The hedonic goal frame is, therefore, influenced by individual factors.

2.9.2.2 *Normative goal-frame.*

This goal frame focuses on appropriate acts that conform to societal or group norms. It develops due to humans living in groups with a common goal and usually using common property. The focus rests on conformity to social norms that are sometimes counted as law and expressed in classical sociology (Elliot & Church, 1997a; Moore, 1973). When this goal is focal or becomes the goal frame, the individual selects group goals. This goal, therefore, makes a tourist behave in a group accepted way (Bösehans & Walker, 2020; Lindenberg & Steg, 2007; Wijenayake, van Berkel, Kostakos, & Goncalves, 2020). Here, doing what is right becomes the goal frame for the benefit of group members or society. The normative goal-frame is selective of what must be done to achieve group goals by developing a social brain and adhering to social norms to exhibit altruism (Dunbar, 2003; Lindenberg & Steg, 2013; Sunstein, 1996). When the hedonic goal frame is absent at any given moment, social or group factors such as social norms are likely to activate the normative goal frame next (Horne, 2001; Horne, 2018; Wijenayake et al., 2020). When tourists have the normative goal as their goal frame, they tend to abide by destination norms and values

and act to protect the culture and environment of the host community. Some tourists usually exhibit this type or set of behaviors (e.g., volunteer tourists and responsible tourists). The normative goal will encourage tourists to engage in sustainable behavior when it is focal.

2.9.2.3 *Gain goal-frame.*

This third component of the goal-framing theory aims to protect and improve the individual's resources. When this goal is focal, the receptors of the individual are stimulated to receive and process cues that are to protect resources and avoid trouble. Choosing environments that will either expose the individual to resource improvement is selected while avoiding specific cues that will cause losses or generate trouble for the individual (Lindenberg & Steg, 2007). As the brain develops beyond the self and society, future thoughts arise to trigger the individual to shift a goal focal towards putting oneself in his or her future self. This situation is equipped with the ability to engage in self-regulation to avoid losses and gain (Lindenberg & Steg, 2013). The gain goal is closely related to utility maximization, which aims to preserve or improve an individual's resources or situation or target a reward or recognition shortly (Elliot & Church, 1997a). The gain goal frame is relevant for measuring sustainable behavior. Tourists may have to forgo their hedonic goals to help maintain the environment, culture, and businesses for future consumption. Contextual factors such as policies, laws, climate, and country affluence, among others, may form antecedents of this goal frame.

Research advancement in psychology and sociology has given insight into how norms and values influence individuals' behavior. This advancement has brought up the advantage of

formulating policies based on the behavior of individuals. Norms and values that have been observed to guide people's behavior may be formally or informally enforced and are rooted in some consensus (Horne, 2001; Lindenberg & Steg, 2013). These norms are greatly influenced by group pressures, including pressure from travel parties, social groups, and local/host communities. It makes people feel obliged to behave appropriately with the norms of the more significant majority in a given location (Hechter & Opp, 2001; Lindenberg & Steg, 2013; Tokita & Tarnita, 2020; Ushchev & Zenou, 2020; Wijenayake, van Berkel, Kostakos, & Goncalves, 2020).

An example is the influence that social norms exert on the environmentally friendly behavior of people in households (Czajkowski, Hanley, & Nyborg, 2017; Lindenberg & Steg, 2013). Wang, Zhang, Cao, Hu, and Yu (2019) found that apart from the personal factors of tourists, the contextual factors of tourist sites can influence the environmentally responsible behavior of visitors. It agrees with early studies by researchers such as Kelling and Wilson (1982). They opined that a poor environment could stimulate deviant and unsustainable behavior. Previous studies have used different theories to ascertain the behavior of groups of people, including tourists. This view shows that an individual's behavior is triggered by interwoven individuals, groups, or contextual factors. This multilevel framework (the Goal-framing Theory) shows that when a goal is made focal or activated, what the individual thinks at that moment, the set of information that the person will be sensitive to, the alternatives to be perceived, and how action will be taken are important to the formation and execution of behavior. Also, the Goal-framing Theory conflates the assumptions of three of the early relevant complementary theoretical lenses that have been popularly used in measuring behavior of tourists. These theories are the Theory of Planned behavior, the Value-Belief-Norm Theory, and the Norm Activation Theory.

2.10 Empirical studies on traveler/tourist sustainable behavior

Following the recognition of man's significant contribution toward many problems affecting the sustainability agenda, several studies have been conducted on sustainable tourism development and behavior (see Araña & León, 2016; Bramwell et al., 2017; Budovska et al., 2020; Dolnicar, 2010; Dolnicar et al., 2008; Doran & Larsen, 2014; Heesup Han, 2015; Hsu et al., 2020; Juvan & Dolnicar, 2017; Passafaro, 2020).

From the early 1990s, research on tourism's relationship with the environment became popular. Bramwell and Lane (1993) provide an overview of sustainable tourism and assert that the concept was developed against the background that the Brundtland Commission presented as an extra "rider" to the ongoing debate about maintaining the quality of the environment while pursuing development. Based on this assertion, research on sustainable tourism development has been conducted in different destinations of the world, including Australia (Larson & Herr, 2008), Canada (Jayawardena, 2003; Jayawardena, Patterson, Choi, & Brain, 2008), China (Shen et al., 2020; Ying-Hui, 2019), Balearic Islands, Spain (Fortuny, Soler, Cánovas, & Sánchez, 2008), Kenya (Irandu, 2006; Sindiga, 1999), Egypt (Shaalan, 2005), Cyprus (Altinay & Hussain, 2005), the Caribbean (Harrison & Clayton, 2003), Guiana, South America (Sinclair & Jayawardena, 2003), and Turkey (Tosun, 2001). These empirical studies and many others have shed light on how tourism is interlinked with the environment, the culture, and the economic advancement of communities and nations and the impact of such development on the various sectors. Sustainability has, therefore, become a very important aspect of daily human activities. To achieve sustainability in the hospitality and tourism industry, various studies show that multiple approaches can be adopted. However, two main approaches dominate the literature: first,

increasing the sustainable supply of tourism-related goods and services, including green hotels and restaurants and sustainable transportation, and second, increasing sustainable demand for tourism, which includes managing tourists' behavior.

Studies on tourists regarding sustainable behavior and practices have paid much attention to environmental effects and pro-environmental behavior (see Dolnicar et al., 2008; Hu et al., 2020; Joseph, 2020; Juvan & Dolnicar, 2017; Passafaro, 2020), pro-environmental behavioral change (Budeanu, 2007; Font & McCabe, 2017; Skeiseid et al., 2020; van den Broek et al., 2019), tourist mobility and digital footprint (Chung, Chung, & Nam, 2017; Mou et al., 2020; Prillwitz & Barr, 2011; Quan Vu, Li, Law, & Ye, 2014). This body of knowledge has been spread across the supply side of the tourism industry, regulatory and policy planning, and the demand side. With much empirical research on the aforementioned areas, other research areas pertinent to sustainability have been given little attention in the sustainable tourist behavior literature. Such areas include traveler social sustainable behavior and hedonism (Coghlan, 2015b), voluntarism (Filimonau et al., 2018; Grazzini, Rodrigo, Aiello, & Viglia, 2018), economic sustainability, and determinants of sustainable behavior of tourists or travelers (Coghlan, 2015b; Juvan & Dolnicar, 2017; Lengieza, Swim, & Hunt, 2019; Manosuthi et al., 2020) – these areas require extensive research in order to enhance effective planning, marketing, and management of the tourism industry.

Among the various tourism and hospitality management studies that focus on sustainability, the industry's supply-side appears to be dominant in the literature. Before 2015, most studies on sustainable tourism focused on development (Zolfani et al., 2015). In a comprehensive literature review on sustainable tourism literature application, Zolfani,

Sedaghat, Maknoon, and Zavadskas identified that the leading application areas of research regarding sustainability are sustainable tourism development, marketing, environment and crises management infrastructure, modeling, and planning, which are centered on the supply side of the tourism industry (Zolfani et al., 2015). Studies on the paradigm and sustainable tourism development account for about 50% of studies published between 1993 and 2013. Qian, Shen, and Law (2018) affirm that studies on sustainable tourism over the past two decades have been dominated by supply-side analysis. Their longitudinal study posits that 599 journal articles published between 2008 and 2017 in the flagship journal in sustainable tourism research (*Journal of Sustainable Tourism*) were conducted mainly under "Sustainable tourism development." This outcome shows that the journal articles published over the years are disproportionately distributed among the tourism and hospitality industry's supply-side, regulatory, and demand-side. However, Bramwell et al. (2017) noted that there had been a gradual realization of the importance of the consumer in the sustainable tourism discourse. To them, there is a gradual shift in the course of sustainable tourism research with a focus on the way in which research and policy can concentrate on understanding the attitudes, decisions, choices and behaviors of tourists and other travelers and attempt to alter them to suit the sustainability agenda for a better tomorrow. This may channel attention and efforts to promote more sustainable consumption behavior on the path of the tourist who depends on finite resources for experience and satisfaction as opined by Shove (2012). Given that the demand side of the industry, referring to the tourists, shares an equally important role in the sustainability agenda, a review of studies in relation to the sustainable behavior of tourists is considered to be relevant – this is the focus of the next section.

2.10.1 Sustainability studies in tourism and hospitality

As explained in the previous section, there is extensive empirical literature on sustainability in tourism and hospitality. Active investigations into consumer behavior in the tourism and hospitality industry that center on sustainability began two decades ago. This section provides a review of selected studies. In this section, the selection of studies borders on the behavior of tourists. It identifies the study context and conceptualization used by researchers in the industry. It also talks about the empirically determined major factors that influence the behavior of tourists.

Starting from the early 2000s, Hjalager (2000) reviewed papers on sustainability in tourism, focusing on consumerism as a phenomenon and its application to tourism, the market analysis and methods, and the institutional frameworks used in the operations for sustainable tourism development. Results from her study revealed that the market pressure that consumers (in this case, tourists) invoke has to a lesser degree, been incorporated into the systematic analysis of sustainable tourism development and management. The study observed that even though noteworthy findings that will help in the sustainable tourism agenda could be derived from studying individual consumers' socio-economic, psychological, nationality, and sub-segment differences, such studies were absent in the literature. Also, the study pointed out that there was a gap in the literature on tourists' expression of environmental awareness and their attitude toward paying more for sustainable tourism development (Willingness to Pay). In addition to this, Hjalager (2000) expressed advocacy for consumerism studies since it was not well studied as of the year 2000. The increase in consumerism studies in tourism would help curb the lack of targeted intelligence on tourists' or consumers' decisions and preferences and increase product and service personalization, consumer confidence, and loyalty towards destinations and tourism-related organizations.

In response to the call, researchers have conducted studies on customer-related issues. The areas in which studies have been conducted include market segmentation of tourists (Thurau, Carver, Mangun, Basman, & Bauer, 2007), tourists' perception and decision-making (Gössling, Bredberg, Randow, Sandström, & Svensson, 2006), tourist attitudes and response behavior (Budeanu, 2007; Dolnicar, 2010; Juvan & Dolnicar, 2014, 2016; Kang & Moscardo, 2006), future tourist behavior and behavioral change (Lee, 2009; G. Miller, Rathouse, Scarles, Holmes, & Tribe, 2010), travel mobility and constraints (Gardiner, King, & Wilkins, 2013; Ram, Nawijn, & Peeters, 2013). This proliferation of research shows that tourist or consumer-related studies have gained attention over the past two decades. These studies have revealed that studies on tourists' behavior are critical to governments, tourism service providers, accommodation and other facilities managers for sustainable planning and development delivering quality services, and enhancing travel experience in order to generate consumer confidence and loyalty for the survival of tourism businesses, destinations and the industry at large.

Budeanu's (2007) study on opportunities to change tourists' unsustainable behavior revealed that tourists' positive attitudes that may be demonstrated towards environmentally benign vacations are usually not the same as the actions they exhibit. This variation in behavior could be attributed to the level of understanding that tourists may have regarding the effects of tourism on the environment that may harm the very attractions they visit. Analyzing responses from 252 tourists regarding their perception of the consequences of travel on climate change and its subsequent influence on the environment, Gössling et al. (2006) found that tourists are generally unaware of the consequences of vacation travel on climate change. Of this, different tourists held different views about the notion. In the findings, only about 17% of the respondents explicitly

related the effect of tourism, specifically air travel. At the same time, the majority only seem to give a diffused notion of the link between tourism and environmental problems. Their research revealed a difference in perception regarding environmental problems that tourism contributes. Perception affects the tourists' attitude to tourism, their response behavior to issues, and expectations in destinations they visit.

On the contrary, Juvan and Dolnicar (2014) study revealed findings that do not agree with Gössling et al. (2006). From the analysis of 25 interview data, Juvan and Dolnicar concluded that consumers of tourism-related products and services were aware of the various adverse impacts of tourism on the environment even though they were uncertain about specific activities and their related impacts. They, however, acknowledged other causes of adverse effects of tourism on the environment that are not directly related to travel or transport, such as waste generation (Juvan & Dolnicar, 2014). This result may stem from the fact that respondents were sampled from affiliates of environmental organizations. Hence, their knowledge of the issue will generally be higher than that of the general tourist group sampled by Gössling et al. (2006). In a later study, Juvan and Dolnicar (2017a) emphasized that active environmentalism of individuals increases the chance of becoming and acting sustainably. Consequently, they opine that engaging in an organized form of environmentalism on one's own will significantly influence tourist behavior.

Over the years, the thematic coverage of research relating to sustainable behavior in tourism has centered on the environmental dimension of sustainability. Interestingly, the distinctive concepts or thought processes exhibited in the selected literature are on different aspects but are primarily based on sustainability's environmental dimension. As put forward by Qian et al. (2018), the consistent theme on which studies in sustainable tourism are based is sustainable

tourism development. Therefore, it is embedded in the subthemes of studies that were reviewed. Juvan & Dolnicar's (2017a) study explained sustainable behavior to mean environmentally sustainable behavior. They argue that it is essential to determine the underlying factors that influence international tourists to be environmentally friendly to initiate interventions that will successfully encourage them to act environmentally friendly. The factors will further help to prime altruistic motives of tourists or travelers to various destinations from both internal and external sources since altruistic motive attribution of an individual is positively associated with his or her travel intentions, as revealed by Su et al.'s (2020) 2x2 experimental study. Climate change has also been an area that has attracted attention within behavioral studies. The relationship between tourism and climate and climate change is essential such that several studies explore its dynamics (Fang, Yin, & Wu, 2018). Scholars such as Juvan and Dolnicar (2014) explored the awareness of tourists to come up with better insight into the attitude-behavior gap within the environmentally sustainable tourism concept.

Similarly, Gössling et al. (2006) argued the importance of studying tourists' perceptions regarding the weather condition of a destination using a bottom-up approach to gauge and predict the attitudes and preferences of tourists to some geographical regions. Another theme that has been researched and noted as an essential measure of a tourist's sustainability is the willingness to pay for sustainable activities, products, and services (Grilli et al., 2021; Hjalager, 2000; López-Sánchez & Pulido-Fernández, 2016). Sustainable actions are important in the tourism industry. However, tourists do not intentionally set out to be environmentally friendly, respect societal norms and customs of destinations, and purchase local goods from the communities they visit (Mckercher et al., 2010). Given this, other themes such as traveler perception of travel decisions (Filimonau et

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al., 2018; Gössling et al., 2006; Kang & Moscardo, 2006; López-Sánchez & Pulido-Fernández, 2016) and pro-social behavior (Coghlan, 2015a; Manosuthi et al., 2020) that tends to answer social networks and influences can alter the behavior of tourists (Verbeek, Mommaas, & Desir, 2008) and address the social prejudices in their attitudes. Also, the theme of tourist mobility studies (Quan Vu et al., 2014; Ram et al., 2013; Verbeek et al., 2008) where technology is applied through mobile devices to determine the geospatial characteristics and the movement pattern of tourists in a destination (Law et al., 2018; Quan Vu et al., 2014; Wu, Law, Fong, & Liu, 2019; Xu, Li, Belyi, & Park, 2021) is being introduced into the tourists' sustainable behavior studies. Over time, mobile data is becoming a meaningful way to study tourists' behavioral patterns and geospatial movement due to mobile technology's ubiquitous and handy nature (Park & Zhong, 2022).

Table 2.4: Summary of selected tourism studies on sustainable tourist behavior

Author(s)	Country	Sample	Dimensional Context		
			Environmental	*Social/ Cultural*	*Economic*
Grilli et al., (2021)	UK	843 potential tourists	✓	✓	✓
Su et al. (2020)	China	167 tourists, 140 students		✓	
López-Bonilla et al. (2020)	Spain	347 golf tourists	✓		
Adam et al. (2019)	Ghana	342 tourists	✓		
Dolnicar et al. (2019)	Slovenia	466 guests	✓		✓
Lee and Jan (2018)	Taiwan	1440 tourists	✓		
Filimonau et al. (2018)	Poland	454 tourists	✓	✓	
Han et al. (2017)	China	394 bicycle club members	✓		
Juvan and Dolnicar, 2017b)	Australia, UK, USA, Canada	1038 respondents	✓		
López-Sánchez and Pulido-Fernández (2016)	Spain	666 tourists	✓		✓
Warren and Coghlan (2016)	Australia	145 hotel guests	✓		
Juvan et al. (2016)	Australia, UK, USA, Canada	2785 respondents	✓		
Coghlan (2015a)		10 volunteer tourists		✓	
Doran and Larsen (2014)	Norway	1607 tourists	✓	✓	
Juvan and Dolnicar (2014)	Australia, Slovenia	25 tourists	✓		
Mckercher et al. (2010)	Hong Kong	859 respondents	✓		

2.10.2 Factors that influence tourists' sustainable behavior

The factors that influence the behavioral actions of tourists are critical. They are because the tourist remains a vital stakeholder in the tourism industry. Concerning tourism sustainability, the tourist is an essential variable (McKercher & Prideaux, 2011) due to the behavior exhibited. As discussed in previous sections, the factors that influence tourists to behave in a particular way can be grouped into categories. The factors that inform tourists' sustainable behavior identified in the literature have been grouped into individual, social, and country-level factors in this literature review section.

2.10.2.1   *Individual-level factors*

At the individual level, the factors that influence tourists to behave in specific ways are primarily psychological, psychographic, or internal (Ajzen, 1991; Pinna, 2020; Quaglione et al., 2019; Wang et al., 2019). These include attitudes, perceived behavioral control, beliefs, and values.

Attitude is one of the most popular determinants identified in the selected literature for this study. In Lee and Jan's (2018) study on ecotourism behavior of tourists who travel for nature-based tourism activities, the attitude was found to positively and significantly affect the intentions of tourists to behave sustainably. There was a direct relationship between the attitude of the tourists and their behavioral intentions. Similarly, Han et al.'s (2017) study of 374 bicycle travelers affirms that attitude directly predicts behavioral intentions.

Perceived behavioral control is also a significant predictor of sustainable behavioral intentions. It was found to be a direct and positively significant determinant of the sustainable

behavioral intention of tourists who visited the Kenting National Park in southern Taiwan (Lee & Jan, 2018). Further investigation by Lee and Jan (2018) revealed that the perceived behavioral control of tourists had a significant direct effect on the sustainable behavior itself. Han et al.'s (2017) study results conclude that a traveler's perceived behavioral control affects the intention to behave sustainably.

Beliefs in various forms are also determined as significant determinants of sustainable behavior. Structural equation modeling analysis by Lee and Jan (2018) revealed a relatively strong positive and significant effect of biospheric belief on tourists' behavior. Similarly, Kiatkawsin and Han's (2017) study revealed a similar result where biospheric values of tourists indirectly predicted the intention to behave pro-environmentally through awareness of the consequences and adoption of responsibility. In addition, the results of Abascal et al.'s (2016) study of domestic tourists' demand for indigenous tourism experience in Australia revealed that 52% of domestic tourists link their intention to participate in low-impact indigenous tourism to beliefs and 16% to valuing.

Further, a study by Kiatkawsin and Han (2017) found that personal norms can indirectly predict the intention of tourists to behave pro-environmentally through expectancy, while ascription of responsibility has a direct positive effect on the intention to behave pro-environmentally. Awareness of consequences that tourists have also indirectly predicted the intention of the tourist to behave in a pro-environmental way through personal expectations. Juvan and Dolnicar (2017) used binary logistic regression to determine the drivers of tourists' pro-environmental behavior. They affirmed that feeling guilty is more likely to make a tourist

dismiss environmentally unsustainable types of transportation, not participate in environmentally damaging vacation activities, and not go on vacation.

More so, personal norms are noted to predict the pro-environmental behavior of tourists, including using environmentally certified tourism providers and refusing providers who do not follow environment protection principles, as revealed by the results of Juvan and Dolnicar's (2017) study.

2.10.2.2   *Social-level factors*

On the group level, certain factors are significant predictors of behavior. Empirically tested social norms, altruism, and social capital were significant determinants of tourists' behavioral actions. Lee and Jan (2018) found that subjective norms of tourists to Taiwan directly and significantly predicted behavioral intention and the actual sustainable behavior of the tourists. Similarly, Han et al. (2017) affirm that subjective norm predicts the behavioral intentions of travelers. Social norms, according to the results of Juvan and Dolnicar (2017), directly predict certain pro-environmental behaviors such as dismissing environmentally unsustainable types of transport, having vacations in destinations that are close to home, refusing to purchase from providers following no sustainability principles, and not going on vacation at all.

Altruistic tendencies of tourists also contribute to the sustainable behavior exhibited at destinations. In a 2 x 2 experimental study, Su et al. (2020) revealed that altruism has a direct and positive significant effect on the behavior of tourists at a destination. Also, the findings of Kiatkawsin and Han (2017) revealed that altruism is a significant indirect predictor of pro-

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environmental behavioral intentions through awareness of consequences, personal norms, and adoption of responsibility, although the effect is not a strong one.

2.10.2.3 *Country-level factors*

At the macro level, policies, legal instruments, and sustainability indicators such as carbon emissions have been noted as part of the main factors that influence the behavior of tourists at destinations. Using a Structural Equation Model -Partial Least Squares analysis, Filimonau et al. (2018) revealed in their study of 454 tourists that national culture is a significant factor influencing tourists' behavior. According to their results, high individualism scores that most tourists demonstrated had a positive and significant indirect effect on pro-environmental behavioral intentions. Individualism had a positive indirect effect on intentions through personal environmental interest and anti-environmental attitude. In the same study, the long-term orientation of tourists revealed similar results through anti-environmental attitudes and perceptions of tourists concerning the environmental impact of tourism.

Governments' market-based policies, such as taxes, will likely reduce CO_2 emissions. In the study of Araña and León (2016), the results revealed that environmental taxes, when emotions are corrected, reduce travelers' unsustainable decisions during travel. Interestingly, the more the tax percent on travel-related activities and products, the less the emission of CO_2 (Araña & León, 2016). In the same study, giving information on CO_2 reduced the emission of harmful gases.

2.11 Criticisms of previous studies and research gaps identified

From the review of relevant literature presented above, it is evident that most studies on the sustainable behavior of tourists and other travelers have been conducted in the environmental dimension of sustainability. This research dimension is good progress since the hospitality and tourism industry activities rely primarily on the environment and its offerings. Again, these studies have deepened the understanding of the environmental effects of tourist activities and the behavioral complexities of tourists and other travelers regarding sustainability. However, this has skewed the understanding of tourists' behavior. It seems that the environmental dimension matters the most.

Nonetheless, when tourists travel for tourism activities, he/she becomes a customer of tourism-related businesses. Hence, economic considerations consider the social interactions with host communities and the destination's environment. Because of this, studies that measure the intentions and sustainable behavior of tourists and other travelers would be helpful, mainly if they address the gaps identified in the literature.

One limitation that runs through the various studies used to form this study's theoretical and empirical background is single-level theories. Most theories used to study tourists' sustainable behavior measure individual or internal or psychological factors. For example, in Han et al.'s (2017) study, a theory that focuses only on internal factors (Theory of Planned Behavior) was used to test behavior in the bicycle tourism context. In complex situations, authors such as López-Bonilla et al. (2020) used the Environmentally Significant Behavior Theory. This theory combines the individual-level and the social-level factors to determine behavior and its predictors, while Su et al. (2020) used the Attribution theory to investigate

destination social responsibility and its effects on tourists' behavioral intention. Other studies tried to combine theories to offset the deficiencies of single theories. Such studies include Juvan and Dolnicar (2017), Kiatkawsin and Han (2017), Lee and Jan (2018), and Poudel and Nyaupane (2017). Steg and Vlek (2009) opined that the behavior results from multiple and complex motivations and cues that are mostly not mutually exclusive. They also emanate from different levels such that the theoretical perspectives cannot be easily separated. With little emphasis on other factors (i.e., group and country factors) in previous studies, there is a gap in the empirical discourse concerning the complexity of tourists' formation and enactment of sustainable behavior. Complex theories that commensurate the different levels of factors and their combination are also missing from previous studies. Therefore, there is the need to measure determinants of tourists' sustainable behavior with a more comprehensive theory that captures the perspectives from all levels.

Aside from the complexity of the theory use, an essential aspect of the literature that needs attention is the narrow perspective of research on sustainable tourist behavior. It is imperative to identify and measure sustainable behavior holistically. The environmental dimension of sustainability dominates the current literature; hence, the underrepresentation of the social and economic dimensions can be addressed by conducting more research on sustainability's social and economic dimensions. Although the literature analyzes different level factors, very little has been done to develop multilevel models explaining the nested nature of factors that influence sustainable behavior among tourists. As Lindenberg and Steg (2007) (2013), Milfont and Markowitz (2016), and Steg and Vlek (2009) assert, the behavior of tourists is multilevel and multidimensional; hence, there is a need for a broader view of

sustainable tourist behavior. Studies must consider the multidimensional nature of the sustainability phenomenon while paying attention to the multilevel nature of the predictors that influence behavior. This review shows that little attention has been given to sustainability's pro-social and pro-economic dimensions (Mak & Chan, 2019; Manosuthi et al., 2020; Passafaro, 2020). It highlights the gap that published works on the behavior of tourists in various destinations do not look at the holistic picture but preponderantly the environmental dimension.

Additionally, studies have not given enough attention to other internal factors that clinical and social psychologists have proved to influence an individual's behavior. The majority of studies that focus on the individual level factors that influence the behavior of tourists have analyzed the attitude, personal norms, and perceived behavioral control without paying attention to the unique pattern of thoughts and feelings and the variations that influence the choices and actions of an individual. Even though the concept of personality in psychology has been applied to various studies to understand the behavior of individuals, very little attention has been paid to the concept in travel and travel-related research (Jani, 2014). While there appear to be few publications linking a tourists' thought pattern, feelings, and sustainable behavior, personality has been used to study other groups of people. Examples include the study of proactive personality and employee creativity (Kim, Hon & Crant, 2009, Kim, Hon & Lee, 2010) and personal characteristics and empowerment of employees (Hon & Rensvold, 2006). Researchers have, therefore, not treated the issue of internal factors, the thought process, and the feelings of tourists concerning sustainable behavior.

Technology, an essential factor in changing people's conceptualization, approaches to activities and behavior, and life in general, has been overlooked in studying tourists' sustainable behavior. However, it is changing how people communicate, travel, and even make travel reservations and purchasing transactions. Few studies on tourists, including Dayour, Park, and Kimbu (2019), Khazraee and Novak (2018), Sun, Law, and Luk (2020), and Quan Vu et al. (2014), have investigated tourist behavior concerning technology. However, their focus was not on sustainable behavior. As technology, and more specifically mobile technology, has become part of the everyday life of individuals, tourists use the affordances of technology to make decisions, share experiences, and search for information. The influence of mobile technology on the intrinsic motivation of tourists to behave sustainably (Hawi & Samaha, 2017; Jeno et al., 2019) is, therefore, worthy of investigation.

2.12 Research Gaps

The extant literature on tourists' sustainable behavior suggests multidimensional behavior formation and performance. Hence, the sustainable behavior of tourists is a complex phenomenon due to its precarious nature. Existing literature acknowledges that tourist behavior is an essential element in the general sustainability of a tourist destination. The emergence and rapid development of mobile technologies have transformed tourists' behavior and activities, likely affecting the sustainable behavior they exhibit when they travel. Although scholars have examined the behavior of tourists over the past two decades, the sustainable behavior of tourists needs more understanding. In specific terms, the review of extant literature revealed the ensuing gaps:

1. Developing literature on sustainability acknowledges tourists' vital role in accomplishing sustainable tourism (Klöckner, 2013; Lee & Xue, 2020; Qiu, Zhang, & Zheng, 2018). Nevertheless, limited attention is given to the drivers of sustainable behavior among tourists (Mak & Chan, 2019).

2. A majority of published works on tourists' behavior show a narrow nature. Studies that have investigated the behavior of tourists concerning sustainability primarily focus on the environmental dimension of sustainability (Juvan & Dolnicar, 2017; Juvan, Ring, Leisch, & Dolnicar, 2016), while limited attention has been given to the pro-social (Coghlan, 2015a; Manosuthi et al., 2020) and the pro-economic dimensions (Mak & Chan, 2019).

3. Mobile technology has become ubiquitous (Dayour et al., 2019; Law et al., 2018). Its ubiquity has transformed the tourism landscape and travel behavior (Skeiseid et al., 2020). Nevertheless, little attention has been given to mobile technology's role (i.e., information and recommendation for tourists) in shaping tourists' decisions, goals, activities, and experiences regarding sustainable behavior.

4. Previous studies have not given enough attention to other internal factors that clinical and social psychologists believe influence an individual's behavior. Personality has seen very little attention in travel and travel-related research (Jani, 2014). However, it highlights the unique pattern of thoughts and feelings that stimulate the choices and actions of an individual.

5.   The behavior is multileveled and multidimensional (Lindenberg and Steg, 2013; Milfont and Markowitz, 2016). Nonetheless, studies on tourists' sustainable behavior are dominated by single-level studies. Little has been done to develop multilevel models and theories explaining the nested nature of factors that influence sustainable behavior.

6.   Goal orientation plays a vital role in forming and acting out behavior (Chen, Elliot, & Sheldon, 2019; Elliot & Church, 1997). It stresses the activities of diverse forms of sustainable behavior (Kornilaki et al., 2019), including environmental engagement (Garay et al., 2019). However, this critical concept is lacking in the extant literature on tourists' sustainable behavior.

2.13 Conceptual framework and hypotheses development

This section illustrates the study's conceptualization by elaborating on the framework for the study. It explains the conceptual framework and the hypothetical relationships postulated among the constructs grouped into different categories and levels because of the multilevel and multi-dimensional nature of the study.

The goal-framing theory guides the conceptual framework as the theoretical underpinning for studying international tourists' sustainable behavior. It shows the multilevel nature of the study and the relationships among the variables based on the theory. Irrespective of the frameworks used in early research, most studies are geared toward examining behaviors from the socio-psychological and sociodemographic perspectives on the intention to act or behave. They also

examine social or group level factors separately from the individual factors (Milfont & Markowitz, 2016). This study, however, develops a conceptual framework that examines different level factors together for a coherent understanding of the behavior of international leisure tourists. The proposed framework for the study is made up of four parts. These are the independent variables, moderating, mediating, and dependent variables. The independent variables of this study portray the different levels of influential factors that contribute to goal-framing and the behavior of a tourist. In this study, the independent variables are grouped into three distinct levels. They are factors at the country level, factors at the social or group level, and factors at the individual level. The goal-framing assumes that every goal is determined by a specific preference structure of a set of predictive factors towards action based on the goal's criteria, where actions are not measurable by shared standards for all overarching goals. In this case, the approach is consistent and integrative (Etienne, 2011). Figure 2.6 shows the conceptual framework of this study.

Sustainability-oriented behavior or otherwise the unsustainable behavior among travelers can be the product of a focal goal. A goal frame can influence behavior in a positive or negative direction. The hedonic goal can make an individual exhibit harmful behavior towards the environment or society for personal pleasure. In contrast, this same goal can trigger a perception of well-being related to maintaining the serenity of the environment (Westin, Nordlund, Jansson, & Nilsson, 2020). The gain goal frame can trigger saving resources and avoiding trouble in the same vein. In contrast, the normative goal will trigger doing the right thing. Nevertheless, it can cause an individual to be more concerned about their status to the detriment of the environment and society.

Given this complexity, the predictors of behavior at different levels and behavior priming by goals will be studied together for a holistic understanding of the behavior of travelers. Therefore, this study will investigate the goal frames in predicting and shaping sustainable behavior among travelers, as shown in the conceptual framework (Figure 2.6). The theoretical constructs of the model are discussed in the following paragraphs.

Antecedents of tourist behavior   **Goal framing**   **Performance**

Government action

Info & Recommendation via MT

H6

GDP

H5

Social Capital

H7

Social Pressure

H3

Contextual level

H4

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Individual level

COVID-19 anxiety

Conscientiousness

H1

Goal orientation

H8

Sustainable behavior

H2

Self-efficacy

H9

Behavioral intentions
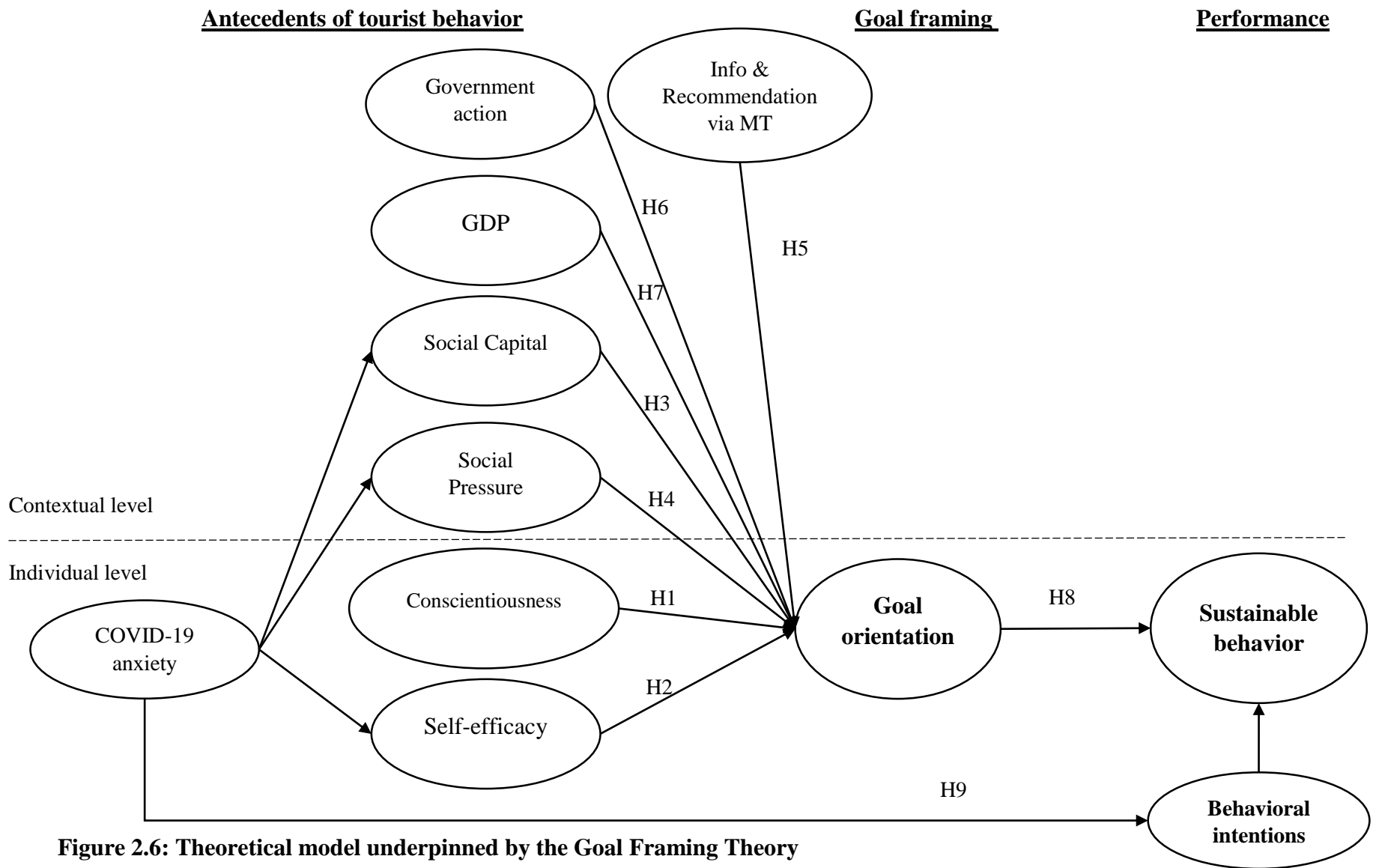
Figure 2.6: Theoretical model underpinned by the Goal Framing Theory

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2.13.1 Individual-level factors and tourists' sustainable behavior

At an individual level, the behavior is influenced by cognitive ability and personal characteristics (Chng, White, Abraham, & Skippon, 2019; Chung et al., 2017; Wang et al., 2019), otherwise known as the socio-psychological factors. Specific indicators can characterize these socio-psychological factors (Milfont & Markowitz, 2016). Research in psychology studies suggests that the decision to travel, leading to the consumption of travel-related products and services and sustainable behavior, is first initiated by the internal recognition of the need to travel (Rojas-de-Gracia & Alarcón-Urbistondo, 2019). This need to travel is strongly influenced by individual factors that include, but are not limited to, the sociodemographic factors, personal values that reflect the innermost desires of an individual, environmental concern, knowledge, and awareness of the consequences of unsustainable behavior as well as the attitudes, and personal-level traits of the individual (Ajzen, 2002; Fishbein & Ajzen, 1975; Lin, Wang, Wu, & Gong, 2020; Soutter, Bates, & Mõttus, 2020; Tassiello & Tillotson, 2020). Individuals are inconsistent in their behavior at different points (Steg & Vlek, 2009) as their intention to behave. Their actual behavior is asserted by previous researchers to be associated with attitudes and personal-level traits (Ajzen, 1991; Dash et al., 2019; Kaspi-Baruch, 2019; Pearce, 2011; Soutter et al., 2020; Wang et al., 2018) toward a behavior at a given period. Nonetheless, this inconsistent behavior is influenced by certain personal or individual factors. Thus, a tourist will not engage in behavior without the influence of his or her characteristics, beliefs, and personal values. This disposition is because an individual's goals and motivations to act and behave sustainably are partly driven by his or her socio-demographic factors, including education level, income, and post-materialist values (Milfont & Markowitz, 2016; Quaglione et al., 2019). In addition to that, the values, personal beliefs, and

personal-level traits (Kaspi-Baruch, 2019; Klöckner, 2013; Wang et al., 2019; Yuriev et al., 2020) and perceived behavioral control and self-efficacy (Albert Bandura, 2000; Kornilaki, Thomas, & Font, 2019; Wang et al., 2019) influence goals and behaviors. In this study, attention will be given to a few of the less researched variables and relationships, such as the relationships that personal-level traits and self-efficacy have with tourists' sustainable behavior.

2.13.1.1 *Individual-level traits*

The goal framing theory acknowledges that individual characteristics, including personal-level traits, are instrumental in forming and executing behavioral actions through self-satisfaction, altruism, or resource protection and enhancement for future benefits. Individuals are different from one another, and they behave differently. These differences in behavior are ascribed to personal-level traits (Kim, Hon, & Lee, 2010; Van Daal, Donche, De Maeyer, Donche, & De Maeyer, 2014). A personal-level trait indicates the exhibition of characteristics observed frequently about an individual over a long period, built on stable and internally driven motives (Miller & Speirs Neumeister, 2017; Van Daal et al., 2014). Personal-level traits differentiate individuals regarding goals, achievements, and disposition (Kaspi-Baruch, 2019). With these, the American Psychological Association defines the concept of personal-level traits as the individual differences concerning the characteristic patterns of thinking, feelings, and behaving (American Psychological Association, 2019).

Over the past two decades, the five dimensions of personal-level traits have been considered by researchers (Jani, 2014; Kvasova, 2015; Salgado, 2002; Soutter, Bates, & Mõttus,

2020) as the most widely used basic theory of the concept of personal-level traits for the investigation of tourist behavior. The Big Five dimensions of personal-level traits comprise five independent traits (Dash et al., 2019; Kaspi-Baruch, 2019) that provide an evocative and generalizable classification of individual differences (Wang & Erdheim, 2007). The categorization comprises conscientiousness, extraversion, openness to experience, neuroticism, and agreeableness. According to early researchers such as Barrick and Mount (1991) and Eysenck (1947), as cited in Wang and Erdheim (2007), the personal-level traits dimensions of the Big five represent disparities in behaviors among humans. Dweck and Leggett (1988) opine that the goal orientation preferences of individuals are closely related to personal-level traits exhibited through their characteristics. Holistic personal-level traits from McCabe, Van Yperen, Elliot, and Verbraak (2013) can explain goal pursuit and achievement to understand the baseline in the goal pursuit and behavior process (Elliot & Thrash, 2010).

Conscientiousness. Research has found that the dispositional attitude of an individual regarding conscientiousness plays an integral part in sustainable behavior (Eastman, Modi, & Gordon-Wilson, 2020). Conscientiousness is the personal-level trait in which an individual is more likely to be self-disciplined, responsible, preserving, exhibit orderliness, organized, hardworking, and motivated by achievement (Kaspi‑Baruch, 2019; Verma, Kumar, & Chandra, 2017; M. Wang & Erdheim, 2007; Wihler, Meurs, Momm, John, & Blickle, 2017). People with high conscientiousness tend to follow the rules and control themselves. Such persons are goal-oriented, reliable, organized (Kim & Kochanska, 2019), good planners, careful, detailed, and responsible (Barrick & Mount, 1991; Wang & Erdheim, 2007), and are expected to channel their activities through goals to achieve a behavioral target. The tourism literature shows that tourists who have a

high level of conscientiousness are linked with sustainability and most often are linked to environmental conservation (Verma et al., 2017). Aside from being more likely to achieve goals, persons with a high level of conscientiousness are noted to follow societal norms of where they find themselves and are seen as meeting societal standards and doing the right thing. These characteristics transcend personal goals and achievements to the well-being of others at the cost of the individual and ensuring future availability and satisfaction. This transcendence means that their goal orientation can change from self-satisfaction (hedonic goal) to conforming to societal or group norms (normative goal) or protecting resources and avoiding trouble (gain goal). Therefore, the realization of altruistic behavior related to sustainability is likely to come from conscientious tourists. From psychology, an individual's orderliness, self-discipline, and goal-oriented nature can significantly predict behavior. However, extreme levels of conscientiousness may affect altruism and personal resource protection (Wihler et al., 2017). It will further affect sustainable behavior and give rise to self-critical perfectionism (Dunkley, Blankstein, Zuroff, Lecce, & Hui, 2006; Wihler et al., 2017) and ultimately to high self-satisfaction tendencies, reducing the likelihood of exhibiting altruistic behavior for sustainability. Individuals with a high level of conscientiousness tend to be goal-driven. Various studies (e.g., Dedeoğlu, Okumus, Yi, & Jin, 2019; Kaspi-Baruch, 2019) have shown that conscientious people tend to be oriented toward goals, enabling them to achieve outcomes like creativity and destination involvement. It is, therefore, expected that an individual's conscientious disposition will positively influence goal frame orientation (hedonic, normative, and gain).

Openness to experiences. This trait refers to an individual's inherent qualities and character: tolerance for unfamiliar environments and situations, thoughtfulness, inquisitiveness,

the inclination to pursue an intellectually challenging task (Grice, 2005), and divergent thinking (Wang & Erdheim, 2007). This characteristic differentiates between tourists who seek adventure and those who do not take much risk for adventure; hence the classification is soft and hard adventure tourists (Jani, 2014). People high on openness to experience have diverse interests. They are usually curious about their environment and other people around them. Soutter, Bates, and Mõttus (2020) assert that openness to experience correlates with pro-environmental attitudes and behavior among the five personal-level traits. In the same way, Brick and Lewis (2016) assert that openness to experience strongly predicts the environmental behavior of a person. The study by Van Daal et al. (2014) in Belgium revealed that openness is related to behavior. However, this result contradicts Kvasova's (2015) early finding that openness has no significant association with the ecological behavior of tourists who visit Cyprus. According to Van Daal et al. (2014), this dimension can influence the goal-orientation of an individual. Although goal-orientation and personal-level traits are context-specific (McCabe et al., 2013), several researchers have opined that openness to experience positively correlated with goal-orientation (e.g., Chen & Zhang, 2011; Fleisher, Woehr, Edwards, & Cullen, 2011). Meanwhile, other studies, including Steinmayr, Bipp, and Spinath (2011) and Wang & Erdheim (2007), assert that openness to experience relates to goal-orientation negatively.

Agreeableness. Individuals with high agreeableness traits are described as humane, caring, and optimistic. People with such tendencies are altruistic and emotionally supportive. At the same time, jealousy and vindictiveness tend to be common characteristics (Wang & Erdheim, 2007). Therefore, highly agreeable individuals are more likely to have the normative goal or the gain goal

frame as the focal goal due to their altruistic and generous nature and concern for others (Dedeoğlu, Okumus, Yi, & Jin, 2019).

On the other hand, individuals with low agreeableness may be less likely to care about others, resulting in a hedonic goal focal (Soutter et al., 2020). Research results on the relationship between agreeableness and personal-level goals have produced mixed results and conclusions. While the results of researchers such as Perugini and Banse (2008) and Freudenthaler, Spinath, and Neubauer (2008) assert that there is no significant relationship between agreeableness trait and goal orientation, others (e.g., Chen & Zhang, 2011; McCabe et al., 2013; Steinmayr et al., 2011) opine that a significant relationship exists between goal orientation and agreeableness. Among the studies that found a significant relationship, the latter studies assert that the relationship between the two is positive (Dedeoğlu et al., 2019; Soutter et al., 2020). Whether or not a significant relationship exists between agreeableness and goal orientation could be a matter of context.

Neuroticism/Emotionality. This trait is a trait of human characteristics that designates emotional control at any given point in time. According to Miller and Speirs Neumeister (2017), this type of personal-level trait refers to the behavioral characteristics that describe how an individual displays mood stability and emotional control and the level of negative affect towards another person, activity, or an action. An individual's predisposition to experience anxiety, unpleasant emotions, irritation, or even depression is related to environmental concerns (Gifford & Nilsson, 2014) and planning. This response means that a tourist who has a low level of emotional stability or is neurotic will have to set a plan or goal that will be focal to enjoying the tourism activities. It is also essential to state that individuals who are highly neurotic worry about a variety

of things (make them less emotionally stable), including the environment (Gifford & Nilsson, 2014), society, and the future possibility of accessing resources.

Some studies claim that neuroticism and pro-environmental behavior strongly correlate (Chiang, Fang, Kaplan, & Ng, 2019). The negative emotions exhibited by people who are high on neurotic behaviors are not harmful to all aspects of life. Some studies show that such behaviors create an atmosphere that induces energy-saving behaviors (Milfont & Sibley, 2012), environmental awareness (Hirsh, 2010), and future environmental conditions (Castiglioni, Lozza, & Bonanomi, 2019; Liem & Martin, 2015). However, Chiang et al.s' (2019) study on emotional stability and pro-environmental behavior in Taiwan revealed results contrary to the claim of early studies (e.g., Castiglioni et al., 2019; Milfont & Sibley, 2012) – that is, that no positive relationship exists between the sustainable behavior and neuroticism. Instead, as an indirect relationship, the neurotic trait of individual influences sustainable behavior by interpreting one's accountability for an event (Chiang et al., 2019), which has an expected end, a goal. Hence, the stable emotion of a tourist will influence goal orientation at a given point in time to achieve a behavioral action. High neurotic behavior may activate the gain goal or, to a lesser extent, the normative goal, leading to sustainable behavior. At the same time, a stable emotional condition is likely to trigger a hedonic goal, with less tendency for a tourist to act sustainably.

Extraversion. This personal-level trait measures how an individual is outgoing, confident, and lively. People who are high on extraversion are extroverts. Such personalities are sociable and, thus, tend to gain from social attachments (Milfont & Sibley, 2012). The extent of confidence and outgoing character has no significant relationship with goal orientation, as noted by researchers, including Pickett et al. (2019), Steinmayr et al. (2011), and Chen and Zhang (2011). This result

differs from other researchers (Bipp, Steinmayr, & Spinath, 2008; Lodewyk, 2018; McCabe et al., 2013; Payne, Youngcourt, & Beaubien, 2007), who argue that extraversion has a significant relationship with goal orientation. According to McCabe et al. (2013), Extraversion relates inversely with performance-avoidance goal orientation and mastery avoidance goal orientation. When a person is an extrovert (that is high on extraversion), he or she is more likely to be dominant in a social setting. Such personalities seek excitement in activities and stimulation to pleasure themselves (Presenza, Abbate, Meleddu, & Sheehan, 2019; Wang & Erdheim, 2007). This situation shows that extraversion personal-level trait is more likely to have a positive relationship with goal orientation associated with self-satisfaction (hedonic goal), compared with social conformity (normative goal) and resource preservation and improvement (gain goal).

Given the above, an individual's personal-level traits will influence the goal orientation that will be focal at a given point in time. The goal framing theory acknowledges that the characteristics of an individual can make one of the goal-frames focal at any given time. The five personality traits point out pertinent behavioral issues that need consideration in examining the behavioral actions of individual tourists in a destination. All five traits are necessary for determining how people behave at any given time.

However, this study utilizes the conscientiousness trait based on two main reasons. First, conscientiousness is characterized by goal-oriented behavior that goes beyond self-seeking goals to socially accepted norms. Among the traits, it is the one that relates directly to goal achievement. As the study is underpinned by a socio-psychological theory (Goal framing theory) that posits that behavior is goal-driven, the conscientiousness trait will better fit the theory for behavior assessment through goal frame orientations. Second, the psychology literature indicates that the

conscientiousness trait is a strong indicator of sustainable behavior. It strongly influences sustainable behaviors such as altruism (Kaspi‑Baruch, 2019; Wihler et al., 2017). Based on the above discussion, it can be noted that agreeableness, openness to experience, extraversion, and emotionality are good predictors of individual behavior. However, conscientiousness best fit the current study. Therefore, it is expected that the personal-level traits of a tourist will positively relate to his or her goal orientation.

H$_1$: Conscientiousness of a tourist is positively related to the sustainable behavior of tourists

2.13.1.2   *Self-efficacy*

Self-efficacy is an essential factor determining the performance of sustainable behavior (Kornilaki et al., 2019). The literature refers to assessing an individual's competencies to arrange into a particular structure and carry out a series of actions to accomplish a designated target and fulfill a goal or need (Bandura, 1986). Thus, the confidence that a tourist may have in acting sustainably or performing sustainable actions is measured as the level of self-efficacy. Research shows that the higher the confidence in oneself to perform a task, the more willing to prevail and gain behavioral control over the given situation (Kornilaki et al., 2019). Once the control is gained, the individual will work towards a set target or goal to behave differently. To attain the goal, one must also determine how much effort is needed to perform the task. According to Bandura (2000, 2001), the level of self-efficacy motivates the individual to adopt a particular behavior at a given time, which will be through a given goal frame. Therefore, self-efficacy is positively related to the

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performance of a behavior. Through the goal framing theory lens, a tourist will do a self-assessment to determine how much effort is needed to attain self-satisfaction goals, social conformity goals, and resource enhancement and maximization goals at a destination. Tourists with high self-efficacy are likely to set more goals beyond self-satisfaction to have more tranquility within themselves to advance towards a more selfless, challenging, and socially acceptable goal that leads to sustainability (Bandura, 1986; Taylor & Wilson, 2019). Self-efficacy has a relationship with sustainable behavior as altruism (Shahzalal & Font, 2018) which may go through the normative goal frame. In other words, self-efficacy relates to sustainable behavior. The more a tourist thinks he or she can perform sustainable behavior, the more likely he or she is to perform sustainable behavior. As the goal framing theory posits, the willingness and cause of action will go through a proximal predictor or the aim of the intended behavior that will either be to satisfy oneself, conform social group, or improve on the available resources for a better future.

H_2: Self-efficacy is positively related to the sustainable behavior of tourists.

2.13.2 Contextual factors and tourists' sustainable behavior

On the contextual level, an individual is influenced not by his or her cognition, efficacy, or personal-level traits only but by the pressures from his or her social group (i.e., family, friends, and society) and the influence of country or state-level factors including affluence. These influences or pressure may result from the interactions and connectedness (Andrews et al., 2019) or the unwritten rules that sustain harmony in the social group that he or she may be within at a

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given time. The link between country or state-level factors of a destination and their influence on the sustainable behavior of individuals has been highlighted in cross-national studies in different fields of study (Heiskanen & Matschoss, 2017; Milfont & Markowitz, 2016; VanHeuvelen & Summers, 2019). Such factors include the laws and policies, the national affluence, availability of infrastructure, and their maintenance and development. As evident in the Goal-framing theory, contextual factors are critical in explaining sustainable behavior among tourists. Social Capital.

Social capital refers to the level of behavioral inclinations formed due to interacting with other people of similar or different backgrounds. Researchers have defined it in many ways. Some explain it to mean the altruistic tendencies of an individual formed through the interaction with other members of a group or society (Mahfud, Triyono, Sudira, & Mulyani, 2020). While earlier researchers also defined it as the extent to which people are connected and the amount of interaction and quality of social relations in a given population (Jingyan Liu et al., 2014). Although this concept is essential for behavior formation, incorporating the value derived through social interaction -social capital- in the tourist behavior discourse is still incipient. Social capital is developed or formed in tourism through interaction with other tourists, residents, and service providers in the tourism environment, such as the destination or attraction. Individuals who derive high values from social interactions are less selfish and are willing to be more altruistic, collaborative, and dependable (Hasan, Hoi, Wu, & Zhang, 2017). When trustworthy social relationships exist among people within a group or society, their ability to manage resources sustainably improves and thus positively affects their act of sustainable behavior. Specifically, social capital positively impacts pro-environmental behavior and can equally impact social and economic sustainable behaviors (Jingyan Liu et al., 2014). Thus, the connections develop

intensified shared relationships that foster corporation and stimulate behavioral norms that create a sense of community and collaboration to benefit a group (Bachrach, Mullins, & Rapp, 2017). It leads to the following hypothesis:

H₃: Social capital is positively related to the sustainable behavior of tourists.

2.13.2.1   *Social pressure*

In addition, (to the value generated from interactions with society or group members), the perceived pressure to behave or not to behave in a certain way (Ajzen, 1991) also influences the willingness or otherwise to perform a behavior. This perceived pressure has been confirmed by several studies to positively influence the intention to act or behave in a certain way. For example, a study by Verma and Chandra (2018) revealed that other people's viewpoints influenced the intention of young Indians to visit green hotels. Such individuals may include close relatives, friends, associates, colleagues, and supervisors. Similarly, Liu et al. (2020) found that subjective norm is a key driver that significantly and positively affects tourism behavioral intentions in the coastal tourism context. When such perceived pressure is present, the individual under this pressure may develop the aim of explicitly acting in the way expected at the cost of acting to satisfy him or herself. It shows that if a tourist believes that people who are important to him or her are not in favor of a particular behavior, they are not likely to perform this activity.

On the other hand, if the people close to him or her favor particular behavior, it motivates them to act to meet the expectations (Liu et al., 2020). In effect, people are more inclined to turn

to some groups and individuals for their judgments, validation, and standards towards specific behavioral actions. Such groups or influential individuals maintain a form of influence in the choice of action (Sun, Law, & Schuckert, 2020). Thus, it is expected that:

H₄: Social pressure is positively related to the sustainable behavior of tourists.

2.13.2.2   *Information and recommendations through mobile technology use*

Technology plays a critical role in the activities and experiences of tourists. It has become a tool that is relied upon by contemporary tourists. Technology has become ingrained in people due to the ease of use and the small size and weight coupled with utility and ubiquity. It has made tourists a part of the technologically savvy group (Dayour et al., 2019).

Today, social networking and social media have made mobile technology almost indispensable. It blurs the boundaries and distances between home environment and destination and between individuals through its instantaneous accessibility to remote and far away areas. This advancement has enhanced the influence of mobile technology use, the information, and recommendation derived on the purpose of individuals' participation, of which tourists are not exempt (Jeno et al., 2019). Mobile technologies (e.g., smartphones, tablets, smartwatches, and notebook computers) are used for everyday activities like alarms, watching movies, communicating, booking flights, trains, or the amusement park (Shaw & Kesharwani, 2019).

Studies have shown that smartphones or mobile technology use tend to influence individual characteristics, social norms, and behavior (Hawi & Samaha, 2017; Shaw & Kesharwani, 2019) (Yu, Lin, & Liao, 2017). The quality of digital information (Levy, Kol, & Nebenzahl, 2017) and the internet experience of tourists (Grand-Gruewel et al., 2017) generally influence their aim of acting, whether in search of travel information (Sun, Law, & Schuckert, 2020) or engaging in an activity. Studies by Hawi and Samaha (2017) show that mobile technology increases the perceived level of ability an individual has towards the performance of an action or behavior. The perceived increase can influence the goal orientation for performing a behavior even to addiction (Shaw & Kesharwani, 2019).

The use of mobile technology that enhances the flow of information and the ease of access to information about sustainability regulatory policies of a country or destination can augment the choice of a goal frame. It is noted to increase the strength of avoiding trouble and gaining future access to resources by ensuring compliance with regulations (Harstad, Lancia, & Russo, 2019). This study, therefore, predicts a positive effect of mobile technology use on the sustainable behavior of tourists.

H5: Information and recommendations via mobile technology use are positively related to tourists' sustainable behavior.

2.13.2.3   *Government action through stainability regulatory policy*

When a country implements regulations to improve its citizens' lives and sustainable behavior, it influences the behavior of the citizens and travelers to the country. Responses to these

regulations can be automatic behaviors or purposeful actions to comply or not to comply (Elliot & Church, 1997a) as a resultant effect of ignorance or misinterpretation of the regulatory guidelines, incapacity, self-interest, incompetence, fear of sanctions, and moral obligations (Hutter, 2001). Policy or regulation is a significant driver for behavioral change or adopting a peculiar solution, particularly the sustainable environmental behavior of residents and visitors (Heiskanen & Matschoss, 2017). Criminology literature shows that compliance and sustainable behavior can be attained just by having the presence of formal policing and checking people who behave wrongly at any time (Jackson et al., 2012). Similarly, studies (e.g., Hicks, Dietmar, & Eugster, 2005; Wang, Guo, & Wang, 2016) report that government policy, laws, and regulations play a critical role in influencing individuals' sustainable behaviors in China and Vietnam. When regulations are promulgated and well communicated to individuals, it helps to increase the awareness of individual action, their environment, and the consequences of their actions.

Furthermore, the Organization for Economic Co-operation and Development (OECD) (2010) reported that many countries, in recent years, have adopted regulatory policies that significantly promote economic and social well-being. Such policies prepare individuals to reduce unsustainable behavior and increase sustainable behavior (Wang et al., 2016) by reorienting their goals or goal frames.

In the same way, Yu, He, Li, Huang, and Zhu (2014) and Nguyen, Hung, Lee, and Nguyen (2018) demonstrate that laws, policies, and regulations in a given area have a positive effect on the inclination of individuals to act sustainably by following the law or regulation to avoid trouble or conforming to societal norms and recognition. For instance, in China, the policies concerning environmental issues have gradually shifted toward sustainability over the past two decades. China

adopted a low-carbon economy that help to enhance the opportunity for future generation to benefit from the current resources and social development of citizens. In addition, attention to environmental education, including the use of signage and information campaigns such as the "green living campaign" in 2019, encourages Shanghai residents to live sustainably (i.e., reduce waste and save water, among other targets). Moreso, countries including China, the UK, and the USA have adopted environmental protection through law enforcement. China enacted the 14th Five-year plan of China encourages the attainment of the SDGs (United Nations Development Program, 2021). UK, and the the USA showed similar attention to sustainability These actions in the origin of tourists are noted to change an individual's goals towards avoiding problems, bringing self-satisfaction, or gaining recognition from groups and society and ensuring waste. So, it is hypothesized that:

H6: Government action is positively related to the sustainable behavior of tourists.

2.13.2.4   *Affluence of origin*

In addition to the laws and regulations, national affluence and post-materialistic change influence environmental concerns and sustainable behavior (VanHeuvelen & Summers, 2019). Researchers, including Gelissen (2007), Milfont and Markowitz (2016), and VanHeuvelen and Summers (2019), support the assertion that a country's affluence has an association with the people's concern about the environment, making them act sustainably. Similarly, the standard of living and the level of endorsement of values related to post-materialism (Milfont & Markowitz,

2016) are the noted country-level factors that encourage sustainable behavior. At this level, the country-level factors are likely to influence the trust that individuals have in others. Affluence measured by the Gross Domestic Product per capita based on the purchasing power parity (GDP per capita PPP) becomes a significant influencer on the goals and decision to purchase environmentally labeled products through a specific goal frame orientation. With this type of GDP, the differences between countries, regions, provinces, or states are removed to enable an unbiased comparison of different areas and countries. It is, therefore, expected that tourists from affluent nations would behave sustainably. While there is support for the argument that citizens of affluent countries are more sustainability inclined, there is also evidence that opposes this view. Jorgenson, Longhofer, Grant, Sie, and Giedraitis (2017) submit that a negative relationship exists between environmental concerns-behavior and country-level affluence. Given this logic, the study offers the following hypothesis:

H7: GDP per capita PPP of tourist origin is positively related to the sustainable behavior of tourists.

2.13.3 Goal orientation and sustainable behavior

2.13.3.1   *Goal orientation*

It is essential to acknowledge that measuring the goal-behavior gap is crucial for understanding tourists and their engagement in activities and interactions. Over the years, researchers in social psychology have identified that goal orientation is a proximal predictor of

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behavior (Chen, Elliot, & Sheldon, 2019; Elliot & Church, 1997). It accentuates diverse forms of sustainable behavior (Kornilaki et al., 2019), including environmental engagement (Garay et al., 2019).

Goal orientation is the reason, main aim, or purpose an individual holds for a particular task, activity, or behavior (Domurath et al., 2020; Dweck & Leggett, 1988; Kaspi-Baruch, 2019; Leenknecht et al., 2019). To Payne, Youngcourt, and Beaubien (2007), goal orientation is the inherent qualities of a person's character of goal preferences in achieving a goal within specific situations. It is goal orientation in a situation-specific and stable condition (Pickett et al., 2019) that can be activated by situational factors (Button, Mathieu, & Zajac, 1996). The literature on personal-level traits and behavior points out that personal-level traits play a role in the sustainable behavior of a tourist. An individual's goals may depict conditions for behavior performance (Kaspi-Baruch, 2019). These conditions may produce either sustainable or unsustainable behavior. Domurath, Coviello, Patzelt, and Ganal (2020) posited that an individual's goal orientation could influence the actions and preferences and is thus depicted as a situation-specific preference (Pickett et al., 2019). Tourists with an activated hedonic goal will behave to satisfy their desires without paying attention to how such behavior impacts the environment or the economy of the destination.

On the other hand, when the normative goal frame is focal, the well-being of others becomes the highlight. Also, when the gain goal is focal, the future benefits of oneself and others from current resources become that aim of behavior. The goal orientation determines or directly predicts the behavior and goal choice strategies to pursue the focal goal (Alexander & van Knippenberg, 2014) to achieve a desired behavioral outcome. It is also noted to be directly and positively related to sustainable behavior (Gifford & Nilsson, 2014). In educational psychology,

goal orientation directs achievement and performance success while avoiding undesired feedback or outcome (Kaspi-Baruch, 2019). Research in various fields (e.g., social psychology and tourism studies) has shown that tourist personal-level traits can influence goals. In contrast, the educational psychology, tourist behavior, and marketing literature reveal that goal orientation can influence the sustainable behavior of consumers, including tourists.

Furthermore, an individual's connectedness encourages sustainable behavior to ensure resource availability for others and future generations. Such behaviors will be achieved through a goal frame that is intentionally or unintentionally activated. In a learning management setting, Kim and Koo (2016) assert that subjective norms can indirectly affect the re-attendance action of forum attendees through learning goal orientation. Explicit publication of regulatory policies and establishing local connections can reorient goal frames. Therefore, the relationship between factors and sustainable behavior can be mediated by the reoriented goal frames (Wang et al., 2016). Likewise, the national affluence of a tourist's country of origin or destination may determine the likelihood of behaving sustainably (Jorgenson et al., 2017) by priming the main aim of behavioral actions.

Various studies have shown that goals can predict responsive behaviors where social capital sources are present. For instance, Tobin, Chant, Psych, and Clay (2020) argue that different goals predict different behaviors, and the outcome can either benefit the individual or negatively affect him or her. The increasing connectedness, information sharing, and trust make individuals feel more comfortable and confident in achieving the group's goals, society, or organization (Andrews et al., 2019). A greater level of connectedness and social interaction means a greater likelihood of goal development and behavioral actions that reflects the goal framing theory.

Subjective norms significantly affect desire, an emotional element in decision-making that affects behavior (Choi & Park, 2017). An empirical study on goal-directed behavior of duty-free shop users showed that subjective norms positively affect the desire to use the duty-free shop based on a goal. Similarly, subjective norms positively predicted tourists' desire (which is driven by goals) to attend a mud festival (Song et al., 2012). The contextual-level factors predict the sustainable behavior of individuals through various goal frames (Andrews et al., 2019; Sun, Lee, et al., 2020). Consequently, the above submission suggests a mediating role of the goal orientation and proposes that:

H_8: Goal orientation mediates the relationship between the predictive factors and the sustainable behavior of tourists.

2.13.4 COVID-19 pandemic Anxiety about Travel and future behavior intentions

COVID-19 has generally affected tourism greatly. According to Marek (2021), this effect has pushed tourists to change their travel behavior (e.g., toward transportation). Although the effect on sustainable behavior has not been estimated yet, it has encouraged preventive health behavior related to sustainable behavior. Sustainable practices such as keeping the environment clean have been encouraged recently (Ahorsu et al., 2020; Sung, Hu, & King, 2021). The perceived behavior expected post-COVID-19 is expected to be centered on health and safety and the well-being of tourists and hosts. This expected change shows that there is likely to be an increase in altruism which may lead to social sustainability.

The pandemic anxiety is likely to influence social interactions negatively. At the same time, a positive influence may be realized in terms of responses to regulatory policies, affecting the goal for traveling, behavioral intentions, and selective behavior practices. Therefore, future tourist behavior can be sensitive to anxiety caused by the COVID-19 pandemic. People appreciate the decline in harmful emissions and less water pollution worldwide. However, due to global restrictions during the pandemic, nostalgia has increased, leading to the likelihood of revenge tourism when the pandemic subsides (Joyce Wang & Xia, 2021). Revenge tourism may induce hedonism with little attention to sustainable practice. This study, therefore, predicts a negative effect of COVID-19 pandemic anxiety on future sustainable behavior (behavioral intentions).

H9: COVID-19 pandemic anxiety about travel is negatively related to behavioral intentions.

Table 2.5: Summary of hypotheses

H1:	Conscientiousness is positively related to the sustainable behavior of tourists.
H2:	Self-efficacy is positively related to the sustainable behavior of tourists.
H3:	Social capital is positively related to the sustainable behavior of tourists.
H4:	Social pressure is positively related to the sustainable behavior of tourists.
H5:	Information and recommendations via the use of mobile technology are positively related to the sustainable behavior of tourists.
H6:	Government action is positively related to the sustainable behavior of tourists.

Table 2.5 Continued

H7:	GDP per capita PPP of tourist origin is positively related to the sustainable behavior of tourists.
H8:	Goal orientation mediates the relationship between the predictive factors and the sustainable behavior of tourists.
H9:	COVID-19 pandemic anxiety about travel negatively affects tourists' future behavioral intentions.

2.14 Summary of chapter

This chapter has presented a review of relevant literature on tourists' sustainable behavior. The review covered the conceptual understanding of sustainability by elaborating on the pillars or dimensions of sustainability, sustainable tourism, sustainable tourist behavior, and the thematic areas of sustainable tourism literature. The chapter also discussed an essential aspect of the possible factors that can influence the sustainable behavior of tourists and the theoretical approaches to the study of tourist behavior. It further presented a review of empirical studies on sustainable tourist behavior and identified gaps for further research. Additionally, it elaborated on the theoretical framework underpinning this study and the various hypotheses developed to form the proposed conceptual framework. The literature review has shown that the precarious nature of tourist behavior needs to be measured with a framework that considers factors from different levels (individual, social, and country levels). The goal orientation of tourists to behave sustainably to satisfy themselves (hedonic goal), conform to societal norms, and generally do what is right (normative goal) or enhance resources and avoid trouble (gain goal) can be influenced by different

and combined factors. It is expected that goal orientation will mediate the relationships between the predictive factors at different levels and the desired sustainable behavior. The next chapter presents the methodology of the study.

CHAPTER 3: METHODOLOGY

3.1 Introduction

This chapter discusses the methodology used for the study, including the research approach, target population and sample, unit of inquiry, data collection, data management, and analysis. The thesis examines the hierarchical effects of contextual and individual factors on sustainable behavior and the intervening effect of goal frames on the multilevel predictors-sustainable behavior relationship in tourism, as Lightbown and Spada (2019) described. This chapter begins with an insight into the research design that guides the study toward answering the research questions and achieving the objectives set for the study. The chapter continues with the data and population for the study. It justifies the chosen tourists generating regions (origin/source markets). In addition to these, other topics are discussed. They include instrument development, pilot test, and data analysis. The chapter closes with a summary of the chapter.

3.2 Research design

The research design is fundamental in every research methodology. It guides the research toward achieving the intended objectives, as Collis and Hussey (2014) opined. The research design presents a plan or blueprint for the study (Kumar, 2005) by outlining the specific steps and processes used to achieve the study's objectives. Although the research design is a masterplan (Sarantakos, 2013) for the study, it does not work as a one-size-fits-all approach for all studies; hence the need for every research to have its unique research design (Bryman, 2016; Collis & Hussey, 2014; Myers, Well, & Lorch, Jr., 2010; Sarantakos, 2013). It has been noted that the

dominant research design in the hospitality and tourism field allows for conclusions related to the associations that exist among various constructs (Viglia & Dolnicar, 2020). However, correlations cannot determine constructs that form drivers of sustainable behavior among tourists. Such proof of cause-and-effect is required to determine the causal effects of contextual and individual predictors of the sustainable behavior of international leisure tourists (Dolnicar et al., 2019b; Kallbekken & Sælen, 2013). Hence, the research design employed is the descriptive design adopting the multilevel model analysis. Multilevel modeling is less common in tourism studies than in marketing, psychology, and the physical sciences. It is suitable for investigations that utilize more than one independent variable. Thus, this helps in investigating the effects that factors at different levels have on the sustainable behavior of tourists. It helps determine the effects of different independent factors and the combined effects (Shadish, Cook, & Campbell, 2002) of the factors on sustainable behavior.

The study began with identifying constructs through a thorough and systematic literature review of studies on sustainable tourist behavior over the past twenty years (2000-2020). The instrument's development and pretesting followed the review (establishing the validity and clarity of questions and instructions used in the instrument). It informed necessary changes in the instrument as required. After the instrument was corrected, it was translated into Chinese (Mandarin). Using an online data panel of Dynata, the instrument was pilot tested to check for validity and internal consistency of the constructs used. Finally, the data were collected from respondents in three countries (China, the United States of America, and the United Kingdom). Details of the processes can be found in the subsequent sections of this chapter.

Steps	Methods

Identifying constructs	• Systematic Literature Review

Instrument development	• Questionnaire construction

Pretest and pilot test of instrument -Specification of domains -Determining the dimentionality of constructs	• Pre-test by 2 Professors and 30 PhD students • Pilot tested on 102 respondents from target countries.

Sampling and data collection
Sample 1
Samlpe 2
Sample 3
	• Instrument translation
	• Online data collection
	  ○ China (10 Provinces)
	  ○ USA (10 States)
	  ○ UK (10 Counties)

Data analysis	• Descriptive statistics • Confirmatory Factor Analysis • Correlation Analysis • Multiple Regression • Multilevel analysis • Multilevel Mediation Analysis

Figure 3.1: Layout of Research methodology

3.3 Data and survey population

This study aimed to examine the drivers of tourists' sustainable behavior. Data were obtained from an online panel from China, the United States of America, and the United King to achieve this objective. The selected source markets are top tourism generating countries and spenders among the top ten tourist generating countries globally. China, USA, and UK generated high outbound/international travel and tourism expenditures of US$ 262.1 billion, US$ 184.2 billion, and UD$ 90.2 billion, respectively, in 2019 (Statista, 2020b). Also, expenditure by Chinese tourists recorded about a 12.8% increase in outbound tourists from 2009 to 2019, far greater than the average global increase of about 5.1% (The Economist, 2021). USA and UK generated a high number of outbound tourists who traveled worldwide. Respondents from the selected source markets were permanent residents of the United States of America, China, and the United Kingdom. They were drawn from thirty different provinces, states, or counties. Again, each individual was required to have made international leisure travel within the past five years. The respondents, who have undertaken at least one outbound leisure trip over the past five years, were randomly drawn from an online population of the selected countries or source markets. In addition to this, the Gross Domestic Product (GDP) per capita based on the purchasing power parity (PPP), also known as the PPP GDP, was obtained from the World Development Indicators database of the World Bank for this study. The index retrieved was with the base period of 2017 using the weighted average aggregation method (World Bank, 2021).

3.4 Development and Pre-test of instrument

A web-based survey was conducted on the population to collect data from tourists from the three selected source markets. A survey questionnaire was used to obtain the data from the three source markets. The questionnaire consisted of three main parts explained in the chapter's Measures section (3.5).

Before the data were collected, a pre-test of the instrument was conducted (from October 2 to November 23, 2021) to ensure that all the measuring scales used were appropriate and that respondents clearly understood the instructions and questions posed in the instrument. Two professors, two Ph.D. graduates, and three Ph.D. students reviewed the instrument (Appendix 1. *Survey Questionnaire* (ENGLISH VERSION). They were asked to assess the instrument by responding to the questions, marking the instrument's clarity and understanding, and freely giving detailed comments on the instrument (instructions and the questions). Several modifications were made based on the feedback from the pretest. A one-on-one interview was conducted with the respondents to clarify what the questions were intended for, gain further understanding of their comments, and modify the instrument as appropriate. The discussion involved understanding each item and its contribution to the study's objectives. After this, the instrument was reworded to correctly represent the information required and sent back to the respondents for validation. This rigorous process was employed to ensure clarity. The instrument was easy to understand and relatable and concise by uncovering common problems like ambiguity, repetition, and redundant questions. It informed necessary changes in the instrument before the final instrument was administered to the selected respondents of the three major tourism source markets.

3.5 Conceptualization and operationalization of Measures

The four-part questionnaire measured the following constructs: multilevel predictors, goal frames, mobile technology use, COVID-19 travel anxiety, and sustainable behavior. The first part of the questionnaire had questions on the predictors or the multilevel factors. The measuring constructs were grouped under the various dimensions in the study, namely country factors, social factors, and individual factors. The goal framing orientation scales were the mediators, while the sustainable behavior constructs measured the dependent variable. The Pandemic Anxiety Travel Scale (on COVID-19) and mobile technology were used as antecedents to the independent variables. Respondents were asked questions to measure tourists' past and future sustainable behavior, previous travel experiences, and future behavioral intentions. The constructs used in this study are explained below.

3.5.1 Individual factors

The constructs were measured on a 7-point Likert scale ranging from 1(representing strongly disagree) to 7 (representing strongly agree).

Self-efficacy. The study adapted items from Jimenez, Camarero, San-José, and San-Martín's (2020) 5-item scale, which had a Cronbach's alpha of 0.91, the 3-item scale of Han et al. (2016), and Chen-Hsuan Cheng et al.'s (2018) 4-item scale. Participants reported their competence in arranging and carrying out sustainable behavioral actions. Six items were used including "I am very knowledgeable in sustainable behavior"; "For me, it is challenging to behave in a way to preserve the environment;" I can reduce environmental impact by participating in green tourism";

"I have the responsibility to convince those who are damaging the natural environment"; and "I have the responsibility to convince those who are disrespecting the values and norms of the host community."

Conscientiousness. This personal-level trait was measured with six items from scales adapted from Dedeoğlu, Okumus, Yi, and Jin (2019) (2 items and Cronbach's alpha = 0.71) and the HEXACO measures put forward by Ashton and Lee (2009). The items used in this study include: "I plan and organize things to avoid scrambling at the last minute," "I often push myself to try and achieve my goal," "I see myself as disciplined," and "When people tell me that I am wrong, my first reaction is to argue with them."

3.5.2 Social factors

The social-level factors were measured on a 7-point Likert scale. The scale for the constructs ranged from 1(representing strongly disagree) to 7 (representing strongly agree).

Social pressures. The measurement of this construct was based on a scale with 4-items and a Cronbach's alpha of 0.935 (Ajzen, 1991; C. Wang et al., 2019, 2018). The items used in measuring this construct include: "Most of the people who are important to me think I should protect the environment when I travel"; "People whose opinion I value would want me to abide by the destination norms and values," and "The people I am familiar with would buy local goods from the local shops in the destination."

Social capital. This construct was measured with two scales (Jingyan Liu et al., 2014): the cognitive, social capital (3-items, Cronbach's alpha = 0.70) and the structural social capital (3-

items, Cronbach's alpha= 0.78). Together, six items were used to measure this construct. Items used in the cognitive social capital include: "I have harmonious relationships with residents of destinations I visited" and "During my tour, people were honest and reliable." Items for the structural social capital include "I often volunteer when I am on tour" and "I join community works on the days the local communities have community works."

3.5.3 Country factors

National affluence. At the country level, the affluence of the country of origin was determined by using the standard measure of Gross Domestic Product per capita based on purchasing power parity (GDP per capita PPP) from the International Monetary Fund (IMF), Office for National Statistics (UK), National Bureau of Statistics of China, and the Bureau of Economic Analysis (USA). The IMF report in 2019 stated that the USA recorded a GDP of US$ 21,427.68 and a year-on-year percentage change of 2.334. China followed closely with a GDP of US$ 27.306.98 and a year-on-year percentage change of 6.11 (IMF, 2020). As mentioned in the previous chapter, the national affluence measured by the GDP per capita based on purchasing power parity and the growth trends were appropriate in determining the country-level factors-sustainable behavior relationship. The GDP PPP of the selected provinces in China ranged from US$ 5759 to US$ 19396 while that of the selected state in the USA ranged from US$ 44145 to 75258. The GDP PPP of the selected counties in the United Kingdom also ranged from US$ 35733 to US$ 47745.

3.5.4 Goal framing orientation

Goal frame orientation was measured by three-goal frames adapted from Chakraborty, Singh, and Roy's (2017), and Westin, Nordlund, Jansson, and Nilsson's (2020) goal frame scales. These goal frames have already been tested in previous studies.

Hedonic goal frame. This construct was measured using a 7-items scale with a reliability index (Cronbach's alpha) of 0.921 and a 3-item scale with a reliability index of 0.81. The items in this scale include the following: "Green and clean destinations boost my energy and make me feel healthy on tour," "It is exciting to participate in sustainable activities," and "It is important to enjoy life's pleasures."

Gain goal frame. The items used in measuring the gain goal frame were based on the 7-item scale put forward by Chakraborty, Singh, and Roy (2017). This scale has a Cronbach's alpha of 0.941. The 6-item scale by Tang, Chen, and Yuan (2019) was used. The items include "Green consumption helps lower living costs in destinations," "Buying from the local community will help me save money," and "Abiding by the destination values and rules will keep me out of trouble."

Normative goal frame. The normative goal frame was measured with items based on a 3-item scale with Cronbach's alpha of 0.845 by Tang et al. (2019) and a 4-item scale by Chakraborty et al. (2017). The items include the following: "Green environment culture improves the quality of life of the locals," "I feel morally obliged to act sustainably," "It is important to treat everybody equally," and "Tourists have to save the eco-system by preserving the natural environment of destinations."

3.5.5 Sustainable behavior

Measuring sustainable behavior is essential in this study. The construct was a combination of environmentally sustainable behavior, socially sustainable behavior, and economically sustainable behavior. It was based on the scale developed by Gericke et al. (2019). Gericke et al.'s (2019) scale comprise 9 items with a reliability index of 0.72. Environmental behavior comprises three items: "I always separate waste food before putting out the rubbish when I have the chance" and "I have changed my lifestyle to reduce waste." Social behavior items include: "I show the same respect to both men and women," and economically sustainable behavior, including "I avoid buying goods from companies with a bad reputation for looking after employees and the environment," Future intentions will be based on Nguyen et al.'s (2018) four-item scale.

3.5.6 Mobile technology use

The measurement of mobile technology use was derived from previous studies. As there is an observed relationship between the information derived from mobile technologies and unexpected behavior (including purchasing), recommender systems can influence the goals of a tourist. The study adapted the continued use of technology to measure this construct, a 6-item scale by Chung, Koo, and Lee (2017) with a reliability index of 0.909. The items in this construct include: "I continuously use the destination activity recommender service," "The recommender service continuously helped me during my trip to find meaningful activities at destinations," and "The recommendation service continuously fulfilled my expectations."

3.5.7 COVID-19 Pandemic Anxiety Scale

The pandemic has prompted changes in the behavior of tourists that requires holistic and robust attributes measurement. This study used the Pandemic Anxiety Travel Scale (PATS) to investigate the changes in behavior or the role that crisis may play in the behavioral actions of tourists. A significant scale developed to measure the effect of COVID-19 includes the Fear of COVID-19 Scale by Ahorsu et al. (2020). The COVID-19 anxiety scale (Chandu, Pachava, Vadapalli, & Marella, 2020) and the Pandemic anxiety Travel Scale [PATS] (Zenker et al., 2021). The PATS, also known as the COVID-19 Anxiety Travel Scale developed by Zenker et al. (2021), is adapted by this study to determine the effect that COVID-19 has on the sustainable behavior of tourists. The five-item scale of PATS is chosen because it measures context-specific behavior change induced by the COVID-19 pandemic in the tourism context. Though it measures self-reported data rather than actual behavior, as recommended by (Viglia & Dolnicar, 2020), the PATS has the potential to generate an exciting explanation of the antecedents and resultant effects of anxiety that emanates from a pandemic. It can explain tourists' behavioral changes (Zenker & Kock, 2020) and their possible future actions. The scale comprises 5-items that determine the level of anxiety brought about by the COVID-19 pandemic.

Table 3.1: Constructs and scale items considered

Variable	Item	Reference
Self-efficacy	1. I am very knowledgeable in sustainable behavior.	Jimenez, Camarero,
	2. For me, it is challenging to behave in a way to preserve the environment.	San-José, and San-
	3. I can reduce environmental impact by participating in green tourism.	Martín (2020);
	4. I have the responsibility to convince those who are damaging the natural environment.	Han et al. (2016);
	5. I have the responsibility to convince those who are disrespecting the values of the host community.	Chen-Hsuan Cheng et al. (2018)
	6. I feel confident in behaving sustainably when I travel for leisure.	
Conscientiousness	7. I plan and organize things to avoid scrambling at the last minute.	Dedeoğlu et al.,
	8. I often push myself to try and achieve my goal.	(2019);
	9. I see myself as disciplined.	Ashton and Lee
	10. When people tell me that I am wrong, my first reaction is to argue with them.	(2009)
	11. When working, I sometimes have difficulties due to being disorganized. *	
	12. I do only a minimum amount of work to get by.*	

Table 3.1 Continued

Social pressures	13. Most of the people who are important to me protect the environment when traveling, so I do the same.	Ajzen (1991); C. Wang, et al.
	14. People whose opinions I value want me to abide by the destination norms.	(2019);
	15. The people I am familiar with buying local goods from the local shops in the destination.	W. Wang, et al.
	16. Protecting the environment is essential to the group I belong to.	(2018)
Social Capital	17. I have harmonious relationships with residents of the destinations I visited. [c]	Liu et al. (2014)
	18. During my tour, people were honest and reliable. [c]	
	19. There were no conflicts with the locals during my visit. [c]	
	20. I often volunteer when I am on tour. [s]	
	21. I join community work on the local communities' days have community work. [s]	
	22. I join a group of other tourists that help local communities. [s]	
Hedonic goal frame	23. Clean destinations boost my energy and make me feel healthy on tour.	Chakraborty et al (2017);
	24. It is exciting to participate in sustainable activities.	
	25. It is important to enjoy life's pleasures.	Tang et al. (2019)
	26. It is important to feel happy when on a leisure tour.	

Table 3.1 Continued

Normative goal frame	27. Green environment culture improves the quality of life of the locals	Chakraborty et al. (2017);
	28. I feel morally obliged to act sustainably.	Tang et al. (2019)
	29. It is important to treat everybody equally.	
	30. Tourists have to save the ecosystem by preserving the natural environment of destinations.	
	31. Adopting a sustainable lifestyle and consumption during vacation travel is important.	
Gain goal frame	32. Green consumption helps lower living cost in destinations.	
	33. Buying from the local community will help me save money.	Chakraborty et al. (2017);
	34. Abiding by the destination rules will keep me out of trouble.	Tang et al. (2019)
	35. I avoid destroying the environment to avoid fines.	
Sustainable behavior	36. I separate food waste before putting out the rubbish at the destination.	Gericke et al. (2019)
	37. I recycle as much as I can during my tour.	
	38. I have changed my lifestyle to reduce waste.	
	39. When I interact with the locals, I treat them respectfully.	

Table 3.1 Continued

	40. I show the same respect to both men and women.	
	41. I support a social group or an aid organization.	
	42. I buy local goods to help poor people.	
	43. During my trip, I often do things that help people.	
	44. I avoid buying goods from companies with a bad reputation for looking after employees and the environment	
Behavior intention	45. I am willing to buy locally produced goods.	Nguyen et al. (2018)
	46. I intend to reduce waste as much as possible.	
	47. I intend to interact with the local people respectfully	
	48. I intend to respect the local culture	
Mobile Technology use	49. I continuously use the destination activity recommender service.	Chung, Koo, and Lee (2017)
	50. The recommendation service continuously fulfilled my expectations.	
	51. The recommender service continuously helped me find meaningful activities at destinations during my trip.	
	52. I often use mobile apps	

Table 3.1 Continued

	53. I consider myself a frequent user of mobile devices.	
	54. I am confident in using mobile devices, such as smartphones, notebooks, and iPad.	
Government Action / Policy	55. Provide sufficient information to encourage eco-tourism and other sustainable activities in the destination.	Nguyen et al. (2018)
	56. Information campaign (e.g., green passport campaign) clearly explains the benefits of sustainable consumption.	Hicks et al. (2005) Heiskanen & Matschoss (2017)
	57. Clear Signage to inform tourists about unacceptable acts.	
	58. Visible law enforcement agents at attractions and touristic areas.	
Pandemic Anxiety Travel scale	59. Provision of sufficient waste separation bins to facilitate recycling.	Zenker, Braun and
	60. Provision of clear guidelines on responsible behavior at tourism centers.	Gyimóthy (2021)
	61. I am afraid to risk my life when I travel because of COVID-19.	
	62. When watching the news about COVID-19, I become nervous or anxious concerning travel.	
	63. I do not feel safe traveling due to COVID-19.	

Table 3.1 Continued

Travel Desire	64. I want to travel for tourism in a sustainable way soon.	Jin et al. (2020)
	65. I wish to travel as soon as the pandemic is over.	
	66. I am eager to travel for leisure shortly.	
	67. My wish to travel for tourism shortly can be described desirably.	

* Denotes it is a Reverse statement; [c] cognitive social capital; [s] Structural social capital

3.6 Translation and validation of survey questionnaire

After the instrument was corrected, it was translated into Chinese (Mandarin). The translation aimed to develop a questionnaire conceptually equivalent to the English version for easy use among the Chinese respondents. A decentered approach was employed to ensure that the translated version had the same meaning as the original instrument (Yang, Chang, Hsu, & Zeitzer, 2021). This approach was necessary to ensure quality data from all the source markets. Two independent doctoral bilingual students translated the questionnaire from English to Mandarin Chinese to ensure the validity of the process. The instrument was later back-translated into English by two other bilingual academics and a professional bilingual translator to ensure consistency. They had no opportunity to see the original English version. This process ensured that the English version of the instrument was highly comparable to the Mandarin version. The instrument (Chinese and English versions) was also pre-tested to ensure clarity before the pilot test.

3.7 Pilot test

After the revision and the translation of the instrument were done, a pilot study was used to test the constructs and ensure that they were generalizable. The pilot test of the study aimed to uncover problems of instrument design, data collection methodology, validity, and reliability of the various constructs used in the study. For this test, an online panel of 171 respondents was used. The instrument was designed and prepared on the Qualtrics platform, while the online respondents were generated via Dynata. The respondents were asked three screening questions to ensure that they were eligible for the study. The questions were whether: (1) respondents have traveled for tourism outside their country of residence within the past five years. (2) respondents were above

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the age of 17. (3) respondents agree to participate in the research voluntarily. The selection of the sample was based on these screening questions. Candidates who passed the screening questions were selected for the pilot study. Among the selected responses, 64 were from China, 51 USA, and 53 were from the UK.

3.7.1 Pilot test results

3.7.1.1 *Screening of responses to construct items*

Data from the pilot test were assessed to determine whether it is of good quality to inform additional tests. Again, the data were tested to determine the quality of the items for the main study. An Exploratory Factor Analysis (EFA) was applied to identify the factors or dimensions that measure tourists' behavior. Descriptive statistics were employed to assess the demographic characteristics of respondents. At the same time, the normality test was conducted using skewness and kurtosis.

The data set was tested for normality, missing values, and outliers. These checks are essential for the validity and reliability of the constructs used (Kline, 2016). The existence of missing values and outliers may affect the normality of data and the results. The data were analyzed using descriptive analysis and box plots in SPSS to detect missing values, outliers, and data normality. Respondents who provided suspicious and inconsistent responses to questions were removed from the data before the analysis—for instance; respondents answered all questions in less than 4 minutes. Also, respondents who failed the check questions and provided the same responses for many questions (e.g., providing value 7 throughout) were removed from the data set.

The analysis detected no missing responses. There were no missing responses in the data set because the online survey created on Qualtrics required respondents to answer all questions.

Table 3.2: Descriptive analysis of responses from the pilot test

Item	Mean	SD	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	SE	Statistic	SE
[SE_1] I am very knowledgeable in sustainable behavior.	5.47	1.316	-1.038	0.19	1.275	0.37
[SE_2] It is challenging to behave to preserve the environment.	3.84	1.839	0.167	0.19	-1.158	0.37
[SE_3] I can reduce environmental impact by participating in green tourism.	5.56	1.203	-0.843	0.19	0.784	0.37
[SE_4] I am responsible for convincing those damaging the natural environment.	5.16	1.544	-0.850	0.19	0.320	0.37
[SE_5] I have the responsibility to convince those who are disrespecting the values of the host community.	5.15	1.558	-0.776	0.19	0.290	0.37
[SE_6] I feel confident that I can behave sustainably when traveling for leisure.	5.49	1.243	-0.928	0.19	0.921	0.37
[Cons_1] I plan and organize things to avoid scrambling at the last minute.	5.72	1.145	-1.493	0.19	3.473	0.37
[Cons_2] I often push myself to try and achieve my goal.	5.57	1.188	-1.045	0.19	1.871	0.37
[Cons_3] I see myself as disciplined.	5.80	0.943	-0.358	0.19	-0.392	0.37
[Cons_4] When people tell me that I am wrong, my first reaction is to argue with them.	4.46	1.624	-0.169	0.19	-0.852	0.37
[Cons_5] When working, I sometimes have difficulties due to being disorganized.	3.75	2.006	0.143	0.19	-1.277	0.37
[Cons_6] I do only a minimum amount of work to get by.	3.77	1.992	0.070	0.19	-1.248	0.37

Table 3.2 Continued

[SN_1] People who are important to me think I should protect the environment when I travel.	5.23	1.477	-0.877	0.19	0.615	0.37
[SN_2] People whose opinions I value want me to abide by the destination norms.	5.44	1.208	-0.958	0.19	1.599	0.37
[SN_3] The people close to me would buy local goods from the local shops in the destination.	5.54	1.164	-0.523	0.19	0.353	0.37
[SN_4] Protecting the environment is important to my group.	5.44	1.390	-1.062	0.19	1.244	0.37
[SC_1] I have friendly relationships with residents of the destinations I visited.	5.55	1.204	-0.814	0.19	0.535	0.37
[SC_2] During my tour, people were honest and reliable.	5.84	0.974	-0.707	0.19	0.406	0.37
[SC_3] There were no conflicts with the locals during my visit.	6.02	0.964	-0.965	0.19	1.121	0.37
[SC_4] I engaged in unpaid assistance to help locals on my previous trips.	4.60	1.836	-0.402	0.19	-0.833	0.37
[SC_5] I join community works/communal labor when the local communities have community works.	4.42	1.985	-0.380	0.19	-1.100	0.37
[SC_6] I join a group of other tourists that help local communities during my travel.	4.40	1.954	-0.385	0.19	-1.043	0.37
[HGF_1] Clean destinations boost my energy and make me feel healthy on tour.	5.88	1.067	-1.291	0.19	3.523	0.37
[HGF_2] It is exciting to participate in sustainable activities.	5.35	1.477	-0.924	0.19	0.512	0.37
[HGF_3] It is important to enjoy life's pleasures.	6.02	0.901	-0.828	0.19	1.197	0.37
[HGF_4] It is important to feel happy when on a leisure tour.	6.22	0.837	-1.036	0.19	0.994	0.37

Table 3.2 Continued

[NGF_1] Environment protection culture improves the locals' quality of life.	5.73	1.122	-1.032	0.19	1.526	0.37
[NGF_2] I feel morally obliged to act sustainably.	5.48	1.218	-1.295	0.19	2.330	0.37
[NGF_3] It is important to treat everybody equally.	6.00	0.920	-0.596	0.19	-0.302	0.37
[NGF_4] Tourists have to save the ecosystem by preserving the natural environment of destinations.	5.64	1.167	-1.146	0.19	2.258	0.37
[NGF_5] Adopting a sustainable lifestyle and consumption during vacation travel is important.	5.41	1.379	-1.164	0.19	1.652	0.37
[GGF_1] Green consumption (e.g., energy-saving & recycling) helps lower living costs in destinations.	5.38	1.511	-1.206	0.19	1.217	0.37
[GGF_2] Buying from the local community will help me save money.	5.33	1.320	-0.542	0.19	-0.138	0.37
[GGF_3] Abiding by the destination rules will keep me out of trouble.	5.80	1.005	-0.598	0.19	-0.382	0.37
[GGF_4] I avoid destroying the environment to avoid fines.	5.50	1.386	-1.243	0.19	1.727	0.37
[SB_1] On my last trip, I always sorted food waste before putting out the trash.	5.02	1.855	-0.848	0.19	-0.330	0.37
[SB_2] I recycle as much as I can during my tour.	5.52	1.432	-1.178	0.19	1.093	0.37
[SB_3] I have changed my lifestyle to reduce waste.	4.70	1.844	-0.603	0.19	-0.713	0.37
[SB_4] When I interacted with the locals, I always treated them with respect.	6.01	1.090	-1.154	0.19	1.650	0.37
[SB_5] I show the same respect to both men and women.	6.16	1.022	-1.574	0.19	3.336	0.37
[SB_6] I support a social group or an aid organization.	4.60	1.921	-0.494	0.19	-0.889	0.37

Table 3.2 Continued

[SB_7] I buy local goods to help poor people.	5.81	1.052	-0.754	0.19	0.095	0.37
[SB_8] I often do things that help people during my trip.	5.05	1.456	-0.659	0.19	0.110	0.37
[SB_9] I avoid buying goods from companies with a bad reputation for looking after employees and the environment	4.73	1.758	-0.594	0.19	-0.598	0.37
[BI_1] I am willing to buy locally produced goods.	6.15	0.933	-1.583	0.19	4.940	0.37
[BI_2] I intend to reduce waste as much as possible.	5.82	1.008	-0.896	0.19	0.710	0.37
[BI_3] I intend to interact with the local people respectfully	6.07	0.968	-1.088	0.19	1.352	0.37
[BI_4] I intend to respect the local culture	6.23	0.870	-1.125	0.19	0.987	0.37
[BI_5] I will separate food waste before putting	5.49	1.424	-1.102	0.19	0.951	0.37
[BI_6] I intend to recycle as much as possible during the tour.	5.85	1.090	-1.264	0.19	2.634	0.37
[MTU_1] I use a travel recommendation system (E.g., Trip Advisor and Booking.com) to make travel choices.	5.35	1.448	-1.150	0.19	1.374	0.37
[MTU_2] The recommendation service continuously met my expectations.	5.21	1.275	-0.867	0.19	1.087	0.37
[MTU_3] The recommendation service continuously helped me find meaningful activities at destinations during my trip.	5.22	1.281	-0.719	0.19	1.064	0.37
[MTU_4] I often use mobile apps for travel advice.	5.14	1.653	-1.041	0.19	0.337	0.37
[MTU_5] I consider myself a frequent user of mobile devices.	5.47	1.492	-1.345	0.19	1.636	0.37
[MTU_6] I am confident in using mobile devices such as smartphones, notebooks, and iPads.	5.84	1.124	-1.495	0.19	3.857	0.37
[PAS_1] COVID-19 makes me worry about my usual traveling and vacationing methods.	5.19	1.762	-1.189	0.19	0.581	0.37

Table 3.2 Continued

[PAS_2] It makes me uncomfortable to think about COVID-19 while planning my vacation.	4.91	1.767	-0.783	0.19	-0.197	0.37
[PAS_3] I am afraid to risk my life when I travel because of COVID-19.	4.56	1.806	-0.643	0.19	-0.532	0.37
[PAS_4] When watching the news about COVID-19, I become nervous or anxious concerning travel.	4.70	1.749	-0.843	0.19	-0.190	0.37
[PAS_5] I do not feel safe traveling due to COVID-19.	4.40	1.954	-0.443	0.19	-0.960	0.37
[POL_1] Provide sufficient information to encourage eco-tourism and other sustainable activities in the destination.	3.67	1.206	-0.680	0.19	-0.366	0.37
[POL_2] Information campaign (e.g., green passport campaign) clearly explains the benefits of sustainable consumption.	3.55	1.281	-0.599	0.19	-0.606	0.37
[POL_3] Clear Signage to inform tourists about unacceptable acts.	3.70	1.213	-0.748	0.19	-0.279	0.37
[POL_4] Visible law enforcement agents are visible at attractions and touristic areas.	3.84	1.150	-0.845	0.19	-0.067	0.37
[POL_5] There is the provision of sufficient waste separation bins to facilitate recycling.	3.78	1.151	-0.810	0.19	-0.025	0.37
[POL_6] Provision of clear guidelines on responsible behavior at tourism centers.	3.77	1.149	-0.769	0.19	-0.105	0.37
[DIS_1] I want to travel for tourism sustainably way soon.	5.64	1.112	-0.817	0.19	1.110	0.37
[DIS_2] I wish to travel as soon as the pandemic is over.	6.00	1.062	-0.985	0.19	0.685	0.37
[DIS_3] I am eager to travel for leisure shortly.	5.96	1.100	-1.163	0.19	1.894	0.37
[DIS_4] My wish to travel for tourism shortly can be described desirably.	5.88	1.065	-1.087	0.19	1.610	0.37

Note: N= 171; SD= Standard Deviation; SE= Standard Error

The normality test was conducted with the SPSS software using the Skewness and Kurtosis statistics. The normality test results are presented in Table 3.2, while the demographic distribution is presented in Table 3.3 and the EFA in Table 3.4. The normality test suggests that the data has a normal distribution based on the criteria of Brown (2015) and Kline (2016) that absolute figures of ±3 for skewness and kurtosis depict data normality.

3.7.1.2 *Demographic characteristics result from the pilot study*

Table 3.3 displays the demographic characteristics of the respondents involved in the pilot study. The responses were based on gender, age, nationality, marital status, education, employment, and the income of the respondents. Table 3.3 shows that a little over half of the respondents (55.6%) were female. Relatively, the country of origin of the respondents were evenly distributed (China=38.7%, UK= 34.2%, and USA= 27.1%). More than three-quarters (76.6%) of the respondents were married.

Furthermore, the average age of the respondents was 45 years old, with the minimum being 24 and the maximum age of 66 years old. About half of the respondents (50.3%) hold bachelor's degrees, while only about 4% have attained doctorate degrees at the data collection. In general, a quarter of the respondents (25%) have households that earn US$120000 and over before tax. Only about 5.8% of the respondents were earning less than US$ 20000 as household income before tax.

Table 3.3: Demographic profile of respondents

Demographic Variable	Category	Frequency	Percentage
Gender	Male	76	44.4
	Female	95	55.6
Country of origin	China	64	38.7
	United States of America	51	27.1
	United Kingdom	53	34.2
Marital status	Married	131	76.2
	Widowed	2	1.2
	Divorced	9	5.2
	Separated	1	0.6
	Never married	29	16.9
Educational level	High school and below	16	9.4
	Post-secondary (e.g Diploma)	24	14.0
	Bachelor's Degree	86	50.3
	Professional/Master's Degree	38	22.2
	Doctorate Degree	7	4.1
Annual household income	Less than 20,000	10	5.8
(US$ before tax)	20,000 - 39,999	22	12.9
	40,000 - 59,999	28	16.4
	60,000 - 79,999	29	16.4
	80,000 – 99,999	25	14.6
	100,000 - 119,999	15	8.8
	120,000 and above	43	25.1

Note: N=171; Average age = 45 years; minimum = 24years; Maximum=66 years

3.7.1.3 *Exploratory factor analysis of respondents in the pilot study*

The exploratory factor analysis was employed to determine the underlying dimensions of sustainable behavior of international leisure tourists. A Principal Component Analysis (PCA) with varimax rotation was conducted based on behavior predictor items. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for the data set was 0.920. In addition, Bartlett's Test of Sphericity (χ^2 [465] = 6173.105, p= 0.000) shows that the data is appropriate for an Exploratory Factor Analysis (Tabachnick & Fidell, 2019). An eight-factor solution was extracted, explaining 74.75% of the total variance. The reliability of the extracted constructs calculated using Cronbach's alpha coefficient ranged from 0.606 to 0.927. The Cronbach's alpha coefficients met the required threshold of 0.6, proposed by Nunnally (1978). The EFA result is shown in Table 3.4.

Table 3.4: Exploratory Factor Analysis results

Factors and their Items	Communalities	Factor loading
Factor 1: Government Action		
(*% of variance Explained =16.318; Cronbach's alpha = 0.927*)		
Provision of clear guidelines on responsible behavior at tourism centers.	0.809	0.830
There is the provision of sufficient waste separation bins to facilitate recycling.	0.707	0.791
Information campaign (e.g., green passport campaign) clearly explains the benefits of sustainable consumption.	0.762	0.790
Clear Signage to inform tourists about unacceptable acts.	0.765	0.772
Provide sufficient information to encourage eco-tourism and other sustainable activities in the destination.	0.772	0.765
Visible law enforcement agents are visible at attractions and touristic areas.	0.678	0.742

Table 3.4 Continued

Factor 2: Social Pressure		
(% of variance Explained =12.902; Cronbach's alpha = 0.867)		
People whose opinions I value want me to abide by the destination norms.	0.665	0.737
People who are important to me think I should protect the environment when I travel.	0.765	0.708
The people close to me would buy local goods from the local shops in the destination.	0.663	0.707
I feel confident that I can behave sustainably when traveling for leisure.	0.631	0.680
I can reduce environmental impact by participating in green tourism.	0.581	0.675
Protecting the environment is important to my group.	0.680	0.650
I am very knowledgeable in sustainable behavior.	0.518	0.504
Factor 3: Pandemic Anxiety		
(% of variance Explained =12.882; Cronbach's alpha = 0.924)		
When watching the news about COVID-19, I become nervous or anxious concerning travel.	0.848	0.884
I am afraid to risk my life when I travel because of COVID-19.	0.826	0.869
COVID-19 makes me worry a lot about my usual traveling and vacationing methods.	0.761	0.855
I do not feel safe traveling due to COVID-19.	0.799	0.825
It makes me uncomfortable to think about COVID-19 while planning my vacation.	0.767	0.821
Factor 4: Conscientiousness		
(% of variance Explained =8.640; Cronbach's alpha = 0.841)		
I do only a minimum amount of work to get by.	0.771	0.827
When working, I sometimes have difficulties due to being disorganized.	0.791	0.824

Table 3.4 Continued

When people tell me that I am wrong, my first reaction is to argue with them.	0.683	0.812
Factor 5: Travel Desire		
(% of variance Explained =7.948; Cronbach's alpha = 0.841)		
I am eager to travel for leisure shortly.	0.787	0.851
My wish to travel for tourism shortly can be described desirably.	0.766	0.836
I wish to travel as soon as the pandemic is over.	0.752	0.831
Factor 6: Social Capital		
(% of variance Explained =7.217; Cronbach's alpha = 0.899)		
I join community work/communal labor when the local communities have community work.	0.851	0.723
I join a group of other tourists that help local communities during my travel.	0.835	0.698
I engaged in unpaid assistance to help locals on my previous trips.	0.718	0.568
Factor 7: Self-efficacy		
(% of variance Explained =4.642; Cronbach's alpha = 0.838)		
I am responsible for convincing those who are damaging the natural environment.	0.800	0.688
I have the responsibility to convince those who are disrespecting the values of the host community.	0.788	0.618
Factor 8: Use of mobile technology		
(% of variance Explained =4.195; Cronbach's alpha = 0.606)		
I often use mobile apps for travel advice.	0.736	0.733
The recommendation service continuously helped me find meaningful activities at destinations during my trip.	0.718	0.601

Note: Kaiser-Meyer-Olkin Mearsure = 0.920; bartlett's Test of Sphericity = 6173.105 (p= 0.000)

Total variance explained = 74.75%

3.7.1.4 *Revising the instrument for the main study*

      After conducting the pilot study, problems with the research instrument design and the data collection method were adequately identified and addressed before the main study survey was conducted. Based on the results from the pilot study, 12 questions were removed from the items. These items are shown in Table 3.5.

Table 3.5: Items removed after the pilot test

	Item
1	[SE_1] I am very knowledgeable in sustainable behavior.
2	[Cons_1] I plan and organize things to avoid scrambling at the last minute.
3	[Cons_2] I often push myself to try and achieve my goal.
4	[Cons_3] I see myself as disciplined.
5	[SC_1] I have friendly relationships with residents of the destinations I visited.
6	[SC_2] During my tour, people were honest and reliable.
7	[SC_3] There were no conflicts with the locals during my visit.
8	[MTU_5] I consider myself a frequent user of mobile devices.
9	[MTU_6] I am confident in using mobile devices such as smartphones, notebooks, and iPads.
10	[DIS_1] I want to travel for tourism sustainably way soon.
11	[MTU_1] I use a travel recommendation system (E.g., Trip Advisor and Booking.com) to make travel choices.
12	[MTU_2] The recommendation service continuously met my expectations.

3.8 Sample size

In multilevel modeling, the sample size is a crucial thing to consider. Several researchers have suggestions about the appropriate sample size when conducting multilevel analysis. Studies by Theall et al. (2011) revealed that using many groups provides better fixed and random effects, and small group sizes do not affect the results. Raudenbush (2008) advises that using many groups is advantageous for the researcher. However, a simple model with few random components should be considered in multilevel modeling. Also, Bell et al. (2014) suggested that a sample of 50 groups with 20 members each is ideal for estimating accurate multilevel coefficients and standard errors.

Nevertheless, Kreft (1996) suggested the 30/30 rule of thumb. The rule f thumb states that there should be at least 30 groups with 30 individual respondents in each group for a more accurate standard error estimation. Many other researchers, including Hox et al. (2017), support that the 30/30 rule is applicable. It is, however, challenged by its likelihood of not producing high power for the OLS model (Bell et al., 2014). This study was constrained by time and budget. Hence, it adopted Kreft's (1996) rule of thumb as the base. The sample size at level two was 34 (states/provinces/counties). By the rule, the sample at the individual level should be 1020. Therefore, 1020 responses were collected from 34 provinces/states/counties across the three source markets.

3.9 Data collection

The final instrument used for this study was designed using the Qualtrics platform. However, Dynata was employed to carry out the data collection. Dynata is a distinguished data company that collects data for market research for multinational companies such as Nestle, Starbucks, Spotify, and Amazon, among other companies. Dynata has over 67 million verified consumer and

professional-based panels. Due to the outbreak of the Coronavirus disease and strict travel restrictions, face-to-face data collection in the various countries was not possible.

Online data collection was the best option. Scholars have also argued that using online platforms for data collection is appropriate for collecting data from hard-to-reach respondents (Archibald, Ambagtsheer, Casey, & Lawless, 2019; Singh & Thurman, 2019). The data were collected using the final questionnaire. The English version of the questionnaires was distributed to the USA and the UK respondents. At the same time, a Chinese version was distributed to respondents from Mainland China. However, data on state GDP in PPP were obtained from the World Economic Forum and the World Bank as secondary data.

3.10 Data analysis

The study adopted the quantitative approach to inquiry and used two statistical software (i.e., SPSS and Mplus). Several statistical procedures were followed to attain answers to the research questions. Descriptive statistics were through SPSS to determine the means, standard deviation of the construct, and normality of the data. After determining the normality of the data, a Common Method Bias (CMB) test was conducted to detect the problem of bias in the data. A two-step procedure for eliminating bias, suggested by Podsakoff et al. (2012), was used to ensure that the data were not biased. First, a procedural method was applied, where thorough reviews of the items in the instrument were done with the help of two professors, 13 doctoral students, and a bilingual linguist. Second, the statistical procedure was also used. A single-factor exploratory factor analysis (EFA) test was used to determine bias that can encourage false inflation of observed relationships. A single-factor confirmatory factor was also used to cross-validate the single-factor EFA.

After the CMB test, confirmatory factor analysis was conducted to evaluate the constructs. The discriminant validity of the scales was tested in addition to confirming the constructs by using Mplus. Then a correlation analysis was conducted to determine the relationships among the various constructs. In addition, a One-Way analysis of variance was conducted to determine statistical differences in constructs among respondents from the three global source markets. As the respondents are nested in societies, multilevel analysis is necessary. More complex analyses, cluster-level data aggregation, Multilevel Modeling, and Multilevel mediation analyses were used to achieve the research objectives. The MPlus software was used to conduct data cluster aggregation to move variables conceptualized as contextual variables to the state level. The aggregation method was justified by the intraclass correlation coefficient (ICC), design effect, and reliability of the aggregated variables.

After the CFA and cluster-level aggregation, the multilevel data analysis technique was used to analyze the data to generate multilevel models of the individual-level predictors and group-level predictors for interpretation and discussion. The study used travel desire and sociodemographic characteristics (age, gender, income, marital status, and education) as the control variables.

A multilevel regression modeling was conducted to determine the level of sustainability in tourists' behavior and further determined the predictive power of the predictors in influencing tourists' sustainable behavior during travel. Moreover, the mediating effect of goal orientations on the relationship between multilevel predictors and sustainable behavior was required to be investigated. Thus, a mediated model was tested with the help of MPlus software, first considering the individual-level factors, then the contextual factors. The multilevel mediation analysis measures the relationships in levels such that the models have a 2-1-1 mediation model. In this model, the

equation contains predictors at level 2, a mediator at level 1, and the outcome variable at level 1. For example, social pressure is a Level-2 predictor, the hedonic goal is a Level-1 mediator, and sustainable behavior is a Level-1 outcome variable. Multilevel mediation models with level-1 predictors were also analyzed with a 1-1-1 mediation model equation. In this model, the equation contains predictors at level 1, a mediator at level 1, and the outcome variable at level 1. For example, self-efficacy is a Level-1 predictor, the hedonic goal is a Level-1 mediator, and sustainable behavior is a Level-1 outcome variable. The analyses are illustrated in the figures below.

Model (1) Mediator$_{ij}$ unresolved 2-1-1 mediation

Model (2) Mediator$_{ij}$ within-group (M$_{ij}$ - $\overline{M}_{ij}$) and between $\overline{M}_{ij}$ 2-1-1 mediation
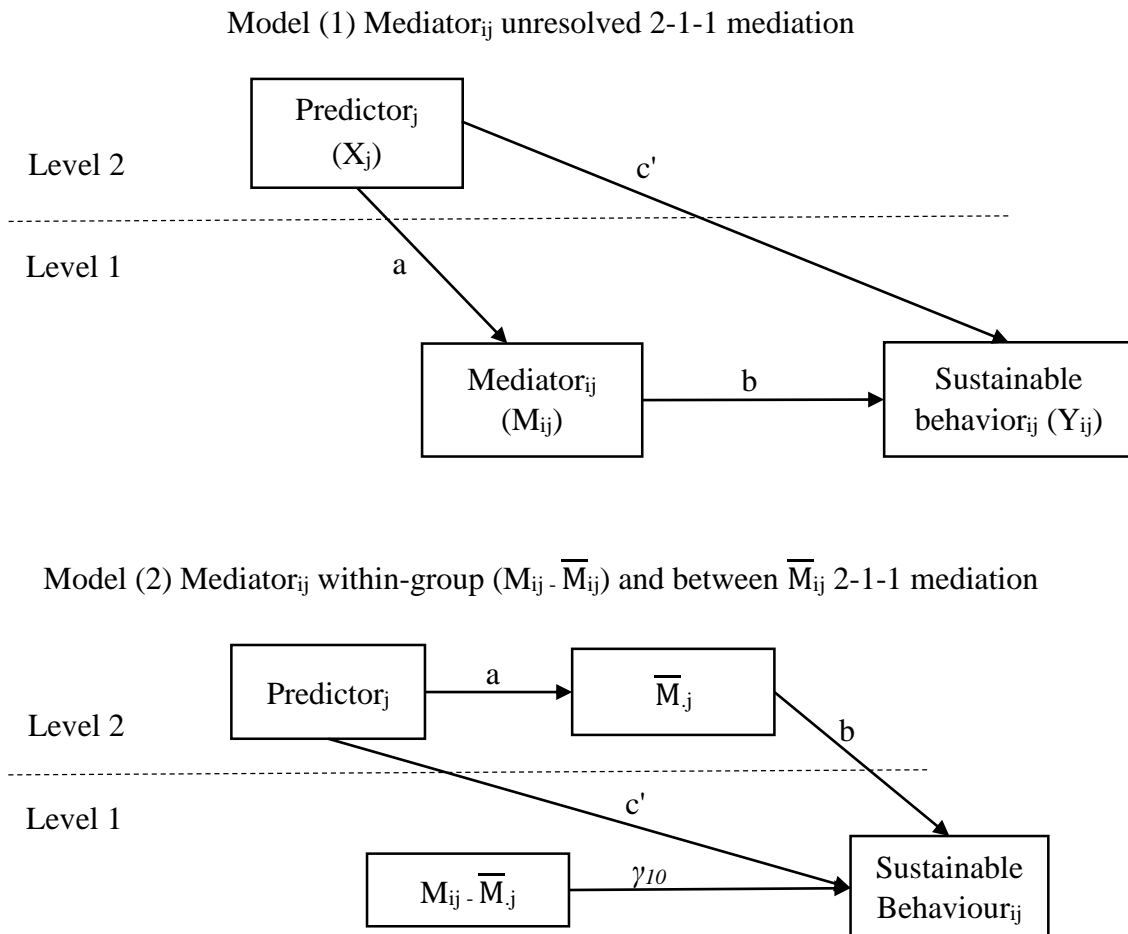
Figure 3.2: 2-1-1 Multilevel mediation model development

The equations for the multilevel model are as follows:

$$\text{Level 1: } Y_{ij} = \beta_{0j} + \varepsilon_{ij} \tag{1}$$

$$\text{Level 2: } \beta_{0j} = \gamma_{00} + \mu_{0j} \tag{2}$$

$$\text{Combined model: } Y_{ij} = \gamma_{00} + \mu_{0j} + \varepsilon_{ij} \tag{3}$$

Where i and j are the individual-level and the contextual-level units, respectively

β_{0j} refers to the intercept from the predictor j, and ε_{ij} and u_{0j} are the residuals of the first and second levels, respectively.

The coefficients, parameters, and random variables will be used for the first set of equations.

The equations for the multilevel mediation model 1 are as follows:

$$\text{Level 1: } M_{ij} = \beta_{M0j} + \varepsilon_{ij(M)} \tag{1a}$$

$$\text{Level 2: } \beta_{0j} = \gamma_{00(M)} + aX_j + \mu_{0j(M)} \tag{1b}$$

β_{0j} refers to the intercept from the predictor j, and ε_{ij} and u_{0b} are the residuals of the first and second levels, respectively.

γ_{00} represents the intercept for M_{ij}.

The coefficient a represents the parameter (X_j) effect on the M_{ij}, μ_{0j}, and ε_{ij} (the μ_0 and ε_{ij} are the residuals for level-2 and level-1, respectively).

The equations for the multilevel mediation model 2 are as follows:

$$\text{Level 1: } Y_{ij} = \beta_{Y0j} + \beta_{Y1j} (M_{ij} - \overline{M}_{.j}) + \varepsilon_{ij(Y)} \qquad (2a)$$

$$\text{Level 2: } \beta_{Y0j} = \gamma_{00(Y)} + c'X_j + b\overline{M}_{.j} + \mu_{0j(Y)} \qquad (2b)$$

$$\text{Level 2: } \beta_{Y1j} = \gamma_{10} + \mu_{1j} \qquad (2c)$$

In the last set of equations, the coefficient b denotes the effect of M_{ij} on the outcome Y_{ij} at only the cluster level (Level-2).

γ_{10} indicates the effect of M_{ij} on the outcome Y_{ij} at only the individual level (Level-1).

The effect of X_j can only be observed at level-2. Therefore, the mediation effect of M_{ij} (Goal orientation) on the relationship between X_j (Predictor) and Y_{ij} (Sustainable behavior) can only be performed at level-2. The mediation effect (ab) was obtained in Mplus by following the recommendation of Preacher et al. (2011) and Preacher et al. (2010).

Concerning the 1-1-1 mediating model, the equations conceptualized by Bauer et al. (2006), based on the representation of Kenny et al. (2003), were adopted for this study.
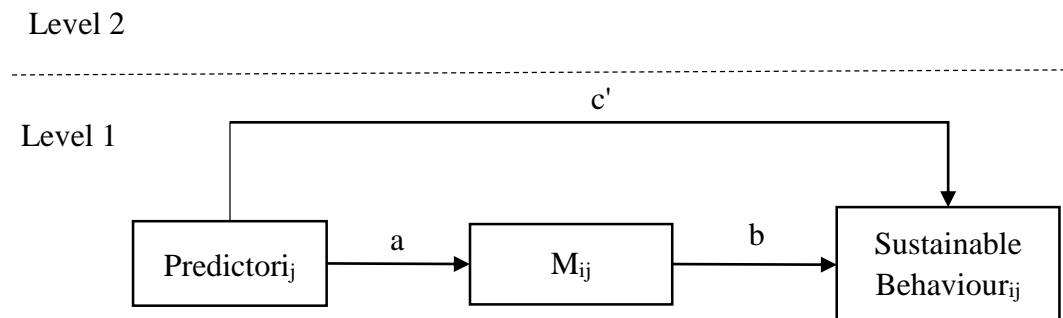
Figure 3.3: 1-1-1 Multilevel mediation model development

The equations for the 1-1-1 multilevel mediation model are as follows:

$$Y_{ij} = d_{Yj} + b_j M_{ij} + c'_j X_{ij} + \varepsilon_{Yij} \qquad (1)$$

$$M_{ij} = d_{Mj} + a_j X_{ij} + \varepsilon_{Mij}$$

The 1-1-1 model is also known as the lower-level mediation model.

In the equations, the d_{Mj} denotes the effect of X on M, named a_j.

d_{Yj} is the effect of M on Y, named b_j

the direct effect of the predictor (X_{ij}) on sustainable behavior (Y_{ij}) is named c'_{ij}

3.11 Summary of chapter

This chapter has presented the methodological procedures used in this study. It discussed the research design, the data used, and the survey population. In addition to that, the method of screening, instrument design, pilot test, data collection procedure, and the data analysis techniques were discussed. The conceptualization and operationalization of the measures or constructs used in this thesis were also explained.

The study uses a multilevel technique to model the relationships and interactions among the constructs from data collected from three top tourist-generation markets. It further explained the mediation techniques used in this study. Finally, The multilevel mediation analysis is technically different from the traditional one.

CHAPTER 4: RESULTS OF ANALYSIS

4.1 Introduction

This chapter presents the analysis and findings of the survey. It describes the sample's demographic and travel characteristics, including age and gender and length of stay at a destination. It also presents the normality test of measurement items. In addition, the chapter confirms the factors used in the study through Confirmatory Factor Analysis (CFA). Further, the multilevel model of the relationships between the variables is analyzed and presented in tables. The multilevel models measured the influence of the independent variables, from different levels, on the overall sustainable behavior of tourists. This chapter presents the interpretation of the unconditional cell means model, the fixed-effect, random coefficient regression, and the full models.

4.2 Sample Characteristics

4.2.1 Demographic characteristics

The demographic profile of the respondents included in the main survey is presented in Table 4.1. Seven demographic characteristics were considered in this section. They are the gender of respondents, age, marital status, educational level, income, country of origin, and employment status. The descriptive analysis shows that about half (50.2%) of the respondents were male. Respondents aged 26 to 35 formed the largest group of 27.1%, followed by respondents aged 36 to 45 (23.7%) and 46 to 55 (21.4%). Respondents over 65 years formed the smallest group of only about 0.5%, while young respondents (18-25 years) formed the second smallest group (12.1%). More than half (67.9%) were married, while the rest (32.1%) were not married. Concerning the highest education

attained, over a quarter (35%) have achieved a Master's or Professional degree, while only about 17% have post-secondary certificates. Almost three-quarters of respondents (73.3%) had full-time employment, and about 10% had a part-time job.

Table 4.1: Demographic characteristics of respondents (N=1020)

Characteristic	Category	Frequency	Percentage (%)
Gender	Male	512	50.2
	Female	504	49.4
	Non-binary/Third gender	4	0.4
Age	18-25 years old	123	12.1
	26-35 years old	276	27.1
	36-45 years old	242	23.7
	46-55 years old	218	21.4
	56-65 years old	156	16.3
	Over 65 years old	5	0.6
Marital Status	Married	693	67.9
	Widowed	8	0.8
	Divorced	58	5.7
	Separated	15	1.5
	Never married	246	24.1
Educational level	High school graduate or less	120	11.8
	Post-Secondary (e.g., Diploma)	173	17.0
	Bachelor's Degree	306	30.0
	Master/Professional Degree	357	35.0
	Doctorate Degree	64	6.3
Employment Status	Employed full-time	748	73.3
	Employed part-time	99	9.7
	Unemployed (looking for a job)	22	2.2
	Unemployed (not looking for a job)	24	2.4
	Retired	78	7.6
	Student	36	3.5
	Disabled	13	1.3
Annual household Income(Before Tax)	Less than US$ 20,000	91	8.9
	US$ 20,000 – 39,999	242	23.7
	US$ 40,000 – 59,999	204	20.0
	US$ 60,000 – 79,999	127	12.5
	US$ 80,000 – 99,99	121	11.9
	US$ 100,000 – 199,999	112	11.0
	More than US$ 120,000	123	12.1
Country of origin	China	360	35.3
	United Kingdom	300	29.4
	United States of America	360	35.3

Note. Age (Minimum=18, Maximum=66, Average= 41years)

About 8% were retired, while only about 1.3% were disabled and could not work. Among the categories of annual household income, almost a quarter (23.7%) earn between US$20,000 and 39,999 before tax (equivalent to Pound Sterling and Renminbi). About 35.3% of respondents, each from China and the USA, and 29.4% of respondents from the UK participated in this study.

Further investigation revealed that more female respondents (38.5%) came from the United States of America than the United Kingdom (29.8%) and China (31.7%), as shown in Table 4.2. Americans dominated the young tourist category (18-25 years), while respondents from the UK elderly categories (55-65 years and over 65 years, 51.9% and 60% respectively). Respondents with higher education were mainly Chinese (about 51% of respondents with a Master's/ Professional degree and 49% of respondents with a Doctorate). On the other hand, respondents with high school certificates or post-secondary diplomas were mainly from the UK (62% and 43%, respectively). A more significant proportion of respondents with full-time jobs originated from China (41.6%). Similarly, half (50%) of student respondents came from China. While none of the disabled respondents originated from China, more than half were Americans (69.2%). However, the retired category was dominated by respondents from the UK. For the income of respondents, the Americans earned higher than respondents from China and the UK. About 51.8% of respondents who made US$ 100,000 – 199,999 were Americans. In the same way, 63.4% of respondents with an annual household income of more than US$ 120,000 were from the USA.

Table 4.2: Demographic characteristics by country of origin

Characteristic	Category	n	UK (%)	USA (%)	China (%)
Gender	Male	512	29.1	32.2	38.7
	Female	504	29.8	38.5	31.7
	Non-binary/Third gender	4	25.0	25.0	50.0
Age	18-25 years old	123	26.8	42.3	30.9
	26-35 years old	276	19.9	33.0	47.1
	36-45 years old	242	22.7	34.7	42.6
	46-55 years old	218	33.5	34.4	32.1
	56-65 years old	156	51.9	35.9	12.2
	Over 65 years old	5	60.0	40.0	0.0
Marital Status	Married	693	25.3	33.3	41.4
	Widowed	8	25.0	62.5	12.5
	Divorced	58	41.4	55.2	3.4
	Separated	15	40.0	40.0	20.0
	Never married	246	37.8	35.0	27.2
Educational level	High school graduate or less	120	61.7	36.7	1.7
	Post-Secondary (e.g., Diploma)	173	43.4	36.4	20.2
	Bachelor's Degree	306	25.5	38.2	36.3
	Master/Professional Degree	357	16.8	32.5	50.7
	Doctorate Degree	64	20.3	31.3	48.8
Employment Status	Employed full-time	748	23.5	34.9	41.6
	Employed part-time	99	51.5	39.4	9.1
	Unemployed (looking for a job)	22	50.0	45.5	4.5
	Unemployed (not looking for a job)	24	58.3	41.7	0.0
	Retired	78	43.6	29.5	26.9
	Student	36	27.8	22.2	50.0
	Disabled	13	30.8	69.2	0.0
Annual household Income (Before Tax)	Less than US$ 20,000	91	14.8	37.4	20.9
	US$ 20,000 – 39,999	242	31.4	22.7	45.9
	US$ 40,000 – 59,999	204	28.4	24.0	47.5
	US$ 60,000 – 79,999	127	29.9	36.2	33.9
	US$ 80,000 – 99,99	121	28.9	33.1	38.0
	US$ 100,000 – 199,999	112	17.9	51.8	30.4
	More than US$ 120,000	123	28.5	63.4	8.1

4.2.2 Travel characteristics

Seven attributes were investigated to explore leisure tourists' travel characteristics and preferences. These attributes include the length of stay, travel party, and the preferred attractions visited on leisure trips. On average, leisure tourists stay in destinations for 11 nights. Over half of the respondents (57.8%) spend from seven to twenty-nine nights in a destination, while over a quarter (39.4%) spend less than seven nights in destinations they visit. As the nights spent in destinations increase over thirty nights, the number of tourists decreases (i.e., 30-89 nights, 2.1%; 90 nights and over, 0.6%). Over three-quarters of respondents (78.8%) organized their trips and preferred traveling with their families (55.5%). Less than a quarter (21.7%) liked traveling alone, while just about 0.3% traveled with friends and other travelers they did not know. More than a quarter of respondents (29.2%) were first-time international leisure travelers. The most visited attractions were natural attractions (71.9%), followed by cultural attractions (65.1%), and entertainment attractions (42.5%). As shown in Table 4.3, over half of the respondents (66.4%) are likely to travel to destinations they have been before or familiar destinations for their next international leisure trip.

Results from Table 4.4 revealed that Chinese tourists usually have short stays in their destinations (less than a week, 46.5%), while Americans engage in extended stays (30-89 nights= 47.6%; 90 nights and over =57.1%). Also, more Americans organized their trips by themselves (35%) than the Chinese and tourists from the UK. On the other hand, almost half (43.1%) of those who relied on others (including corporate organizations, travel agents, and tour operators) were Chinese. It is not surprising that the Chinese dominated the categories of travelers who traveled with friends

and family (44.4%) and other unknown persons (48.6%). The Americans also dominated the category that traveled with friends and unknown persons (64%).

Table 4.3: Travel characteristics of respondents (N=1020)

Characteristic	Category	Frequency	Percentage (%)
Length of stay	Less than a week	402	39.4
	7 - 29 nights	590	57.8
	30- 89 nights	21	2.1
	90 nights and over	7	0.7
Trip organization	Self-organized trip	804	78.8
	Packaged tour	216	21.2
Travel party *	Travel alone	221	21.7
	Family only	566	55.5
	Friends only	152	14.9
	Unknown people only	74	7.3
	Family+Friends	45	4.4
	Family+Unknown people	25	2.5
	Friends+Unknown people	3	0.3
	Family+Friends+Unknown	3	0.3
Types of attractions visited *	Natural attractions	733	71.9
	Cultural attractions	664	65.1
	Entertainment attractions	434	42.5
	Outdoor recreational attraction	436	42.7
	Other attractions	119	11.7
Traveler status	First-time international tourist	298	29.2
	Repeat tourists	722	70.8
Revisit intention	Definitely yes	320	31.4
	Probably yes	357	35.0
	Might or Might not	216	21.2
	Probably not	91	8.9
	Definitely not	36	3.5
COVID-19 vaccine	Fully vaccinated	899	88.1
	Partially vaccinated	36	3.5
	Not yet vaccinated	36	3.5
	Will not take the vaccine	49	4.8

Note. Length of stay (Mnimum=0 nights, Maximum= 364nights, Average=11nights)
   *Total is more than 100% due to multiple responses

Tourists from the UK were dominant (36.6%) in the category who travel with their families Table 4.4. American tourists preferred visiting natural attractions (37.7%), entertainment (38.7%), and outdoor recreational attractions (43.6%). In contrast, Chinese tourists were inclined to visit cultural attractions (38.4%). In comparison, tourists from the UK dominated the visit to other attractions (46.2%).

It is evident from Table 4.4 that there were more new international leisure travelers from China (41.9%) than from the UK (19.8%) and the USA (38.3%). Chinese respondents are more optimistic about revisiting known destinations (49.3%) than the other source markets. Meanwhile, the Americans are more pessimistic (58.2%), and respondents from the UK are ambivalent about revisiting destinations that they have been before after the COVID-19 pandemic. This decision is reflected in the vaccination status of the respondents at the time of data collection. As more Chinese reported to be fully vaccinated (38.7%), compared with the other two source markets, respondents from the UK dominated the respondents who were partially vaccinated (44.4%). Nevertheless, the Americans dominated among tourists who were not yet vaccinated (66.7%) and tourists who have decided not to take the vaccine (79.6%).

Table 4.4: Travel characteristics by country of origin

Characteristic	Category	n	UK (%)	USA (%)	China (%)
Length of stay	Less than a week	402	19.7	33.8	46.5
	7 - 29 nights	590	35.6	35.6	28.8
	30- 89 nights	21	38.1	47.6	14.3
	90 nights and over	7	42.9	57.1	0.0
Trip organization	Self-organized trip	804	31.8	35.0	33.2
	Packaged tour	216	20.4	36..6	43.1
Travel party	Travel alone	221	19.0	38.9	42.1
	Family	566	36.6	33.7	29.7
	Friends	152	25.7	27.0	47.4
	Unknown people	74	4.1	47.3	48.6
	Family+Friends	45	17.8	37.8	44.4
	Family+Unknown people	25	4.0	64.0	32.0
	Friends+Unknown people	3	0.0	66.7	33.3
	Family+Friends+Unknown	3	0.0	100.0	0.0
Types of attractions Visited	Natural attractions	733	26.6	37.7	35.7
	Cultural attractions	664	24.7	36.9	38.4
	Entertainment attractions	434	28.1	38.7	33.2
	Outdoor recreational attraction	436	19.0	43.6	37.4
	Other attractions	119	46.2	44.5	9.2
Traveler status	First-time	298	19.8	38.3	41.9
	Repeat tourists	722	33.4	34.1	32.5
Revisit intention	Definitely yes	320	32.5	33.4	34.1
	Probably yes	357	19.3	31.4	49.3
	Might or Might not	216	40.7	31.9	27.3
	Probably not	91	28.6	58.2	13.2
	Definitely not	36	36.1	52.8	11.1
COVID-19 Vaccine	Fully vaccinated	899	29.5	31.8	38.7
	Partially vaccinated	36	44.4	30.6	25.0
	Not yet vaccinated	36	25.0	66.7	8.3
	Will not take the vaccine	49	20.4	79.6	0.0

*Total is more than 1020 due to multiple responses

4.3 Normality test of items

Table 4.5 presents the descriptive statistics and the normality test of the measurement items used in this study. A total of 1020 responses were obtained for analysis. Before further analysis, a data normality test was performed. Skewness and kurtosis were used as proposed by (Hair, Black, Babin, Anderson, & Tatham, 1998) to measure the symmetric distribution of a data set.

According to Mishra, Pandey, Singh, Gupta, Sahu, and Keshri (2019), an absolute score of ±1 indicates normal data. Other researchers opine that ±3 for skewness (T. A. Brown, 2015; Kline, 2016), while ±8 (Kline, 2016) and ±10 (T. A. Brown, 2015) are acceptable for kurtosis, and that such data set is normally distributed. The absolute values of skewness range from 0.001 to 1.384, while absolute values of kurtosis range from 0.01 to 2.857 (Table 4.5). Based on Brown (2015) and Kline (2016), the data set has a normal distribution according to the cut-off points.

Table 4.5: Descriptive Statistics and normality test of items of independent variables

Item	Variable name	Area of Concern	Descriptives		Skewness		Kurtosis	
			Mean	S.D	Statistic	S.E	Statistic	S.E
Item 1	SE_1	Self-Efficacy	5.14	1.434	-1.031	.08	0.996	.15
Item 2	SE_3	Self-Efficacy	5.47	1.241	-1.100	.08	1.847	.15
Item 3	SE_4	Self-Efficacy	5.12	1.391	-0.812	.08	0.618	.15
Item 4	SE_5	Self-Efficacy	5.20	1.397	-0.843	.08	0.632	.15
Item 5	SE_6	Self-Efficacy	5.50	1.247	-1.040	.08	1.465	.15
Item 9	CONS_4	Conscientiousness	4.15	1.718	-0.030	.08	-0.966	.15
Item 10	CONS_5	Conscientiousness	3.82	1.898	0.017	.08	-1.234	.15
Item 11	CONS_6	Conscientiousness	3.86	1.928	0.001	.08	-1.227	.15
Item 12	SN_1	Social pressures	5.22	1.349	-0.845	.08	0.678	.15
Item 13	SN_2	Social pressures	5.53	1.146	-0.633	.08	0.289	.15

Table 4.5 continued

Item 14	SN_3	Social pressures	5.46	1.177	-0.761	.08	0.598	.15
Item 15	SN_4	Social pressures	5.61	1.237	-1.040	.08	1.342	.15
Item 19	SC_4	Social Capital	4.86	1.642	-0.682	.08	-0.262	.15
Item 20	SC_5	Social Capital	4.53	1.753	-0.451	.08	-0.763	.15
Item 21	SC_6	Social Capital	4.56	1.824	-0.442	.08	-0.890	.15
Item 22	POL_1	Policy Perception	3.62	1.196	-0.604	.08	-0.446	.15
Item 23	POL_2	Policy Perception	3.48	1.305	-0.523	.08	-0.766	.15
Item 24	POL_3	Policy Perception	3.71	1.186	-0.704	.08	-0.328	.15
Item 25	POL_4	Policy Perception	3.77	1.150	-0.750	.08	-0.232	.15
Item 26	POL_5	Policy Perception	3.74	1.151	-0.719	.08	-0.217	.15
Item 27	POL_6	Policy Perception	3.76	1.162	-0.717	.08	-0.260	.15
Item 28	HGF_1	Hedonic Goal	5.37	1.238	-0.860	.08	1.006	.15
Item 29	HGF_2	Hedonic Goal	5.30	1.193	-0.597	.08	0.480	.15
Item 30	HGF_3	Hedonic Goal	5.05	1.401	-0.766	.08	0.398	.15
Item 31	HGF_4	Hedonic Goal	5.36	1.276	-0.890	.08	1.021	.15
Item 32	HGF_5	Hedonic Goal	5.47	1.259	-1.041	.08	1.353	.15
Item 33	HGF_6	Hedonic Goal	5.58	1.212	-1.124	.08	1.788	.15
Item 34	NGF_1	Normative Goal	5.59	1.186	-1.245	.08	2.464	.15
Item 35	NGF_2	Normative Goal	5.60	1.217	-1.154	.08	1.912	.15
Item 36	NGF_3	Normative Goal	5.97	1.115	-1.315	.08	2.310	.15
Item 37	NGF_5	Normative Goal	5.57	1.173	-0.910	.08	1.234	.15
Item 38	NGF_6	Normative Goal	5.47	1.219	-1.038	.08	1.589	.15
Item 39	GGF_1	Gain Goal	5.65	1.120	-1.072	.08	1.948	.15
Item 40	GGF_2	Gain Goal	5.44	1.266	-0.880	.08	0.916	.15
Item 41	GGF_3	Gain Goal	5.21	1.313	-0.604	.08	0.184	.15
Item 42	GGF_4	Gain Goal	5.21	1.293	-0.673	.08	0.526	.15
Item 43	GGF_5	Gain Goal	5.26	1.357	-0.796	.08	0.516	.15
Item 44	GGF_6	Gain Goal	5.73	1.084	-0.808	.08	0.729	.15

Table 4.5 continued

Item 45	BI_1	Behavior Intention	5.80	1.078	-1.082	.08	1.845	.15
Item 46	BI_2	Behavior Intention	5.77	1.157	-1.158	.08	1.918	.15
Item 47	BI_3	Behavior Intention	5.96	1.094	-1.120	.08	1.201	.15
Item 48	BI_4	Behavior Intention	6.09	1.044	-1.274	.08	1.751	.15
Item 49	BI_5	Behavior Intention	5.60	1.262	-1.133	.08	1.639	.15
Item 50	BI_6	Behavior Intention	5.82	1.203	-1.407	.08	2.815	.15
Item 51	SB_1	Sustainable behavior	5.03	1.554	-0.881	.08	0.237	.15
Item 52	SB_2	Sustainable behavior	5.49	1.373	-1.252	.08	1.625	.15
Item 53	SB_3	Sustainable behavior	4.95	1.543	-0.745	.08	-0.010	.15
Item 54	SB_4	Sustainable behavior	6.03	1.070	-1.281	.08	1.855	.15
Item 55	SB_5	Sustainable behavior	6.07	1.093	-1.384	.08	2.364	.15
Item 56	SB_6	Sustainable behavior	4.73	1.664	-0.600	.08	-0.366	.15
Item 57	SB_7	Sustainable behavior	5.75	1.071	-0.983	.08	1.537	.15
Item 58	SB_8	Sustainable behavior	5.22	1.290	-0.575	.08	0.140	.15
Item 59	SB_9	Sustainable behavior	4.89	1.630	-0.762	.08	-0.024	.15
Item 62	MTU_3	Mobile Technology Use	5.19	1.275	-0.661	.08	0.594	.15
Item 63	MTU_4	Mobile Technology Use	5.28	1.479	-0.982	.08	0.666	.15
Item 66	PAS_1	Pandemic Anxiety	2.72	1.577	1.172	.08	0.879	.15
Item 67	PAS_2	Pandemic Anxiety	2.88	1.619	0.964	.08	0.276	.15
Item 68	PAS_3	Pandemic Anxiety	3.23	1.783	0.671	.08	-0.479	.15
Item 69	PAS_4	Pandemic Anxiety	3.17	1.696	0.713	.08	-0.264	.15
Item 70	PAS_5	Pandemic Anxiety	3.16	1.853	0.713	.08	-0.552	.15
Item 72	Dis 2	Travel Desire	5.92	1.144	-1.076	.08	1.076	.15
Item 73	Dis 3	Travel Desire	5.89	1.144	-1.132	.08	1.400	.15
Item 74	Dis 4	Travel Desire	5.88	1.126	-1.101	.08	1.251	.15

Note: N = 1020

4.4 Common method bias

Common Method Bias (CMB) is one of the main issues that affect the rigorousness of research related to desirable behavior (Crowne & Marlowe, 1964; Jordan & Troth, 2020). This study used the same method to collect all data on the independent variables, mediation, and dependent variables. Therefore, it may suffer from false inflation of observed relationships resulting in measurement error, as pointed out by (Podsakoff & Organ, 1986). Eliminating the effect of the CMB in this multilevel study, the suggested techniques proposed by Podsakoff, Mackenzie, & Podsakoff (2012) were adopted.

First, the individual level predictors were obtained from tourists with recent leisure travel experience. In contrast, the state-level predictor (GDP) was primarily obtained from the government and other organizations such as the World Bank. Data were also sourced from different countries to increase validity and cross-cultural applicability. Measurement items were reviewed to remove ambiguous and double-barreled statements and make them precise, simple to understand, and concise. In addition to the procedural remedies, Harman's single-factor test was applied as the statistical technique to address the problem of common method variance. A Single-factor exploratory factor analysis was explored. Further, confirmatory factor analysis was conducted to determine the existence and effect of CMB in the data. The analyses revealed that the single factor model explained only 37.7% of the total variance. Since the variance explained by the single-factor is less than 50%, CMB is not a problem (Aulakh & Gencturk, 2000; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Further, single-factor confirmatory factor analysis showed that the model was a poor fit for the data. Based on the goodness-of-fit indices, the normed $\chi^2 = 12.399$ ($\chi^2 = 16428.947$; df $= 1325$; $p=0.000$) CFI$= 0.598$, TLI $= 0.582$, RMSEA $= 0.106$, and SRMR $= 0.102$. Using Aulakh

and Gencturk's (2000), Harman's (1976), and Podsakoff et al.'s (2003, 2012) benchmark, the results show no evidence of common method bias in the data.

4.5 Confirming the measurement model

This section presents the Confirmatory Factor Analysis (CFA) results. In order to test for the hypothesized relationships, the constructs in the study need to be tested and validated. It is, therefore, essential to determine the validity and test the theoretical support of the measurement scale. Given this, the model was tested for robustness and confirmed how well the model fits the data collected using the Confirmatory Factor Analysis (CFA). Further, discriminant validity, composite reliability, and the average variance extracted were tested using Mplus version 8.3.

Standard criteria for examining goodness-of-fit indices, including Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Squared Residual (SRMR), were used to measure the model in the CFA. The value that compares the model of interest in the study to the null model (CFI) should not be less than 0.9 (Bentler & Bonett, 1980). Similarly, the value that compares the hypothesized and the null models' normed chi-square values (TLI) should be 0.9 or greater (Bentler & Bonett, 1980). Further, to have a good fit of the hypothesized model where the model has a close fit to the population, the value of the RMSEA should not be greater than 0.08 (Hair, 2010; Hu & Bentler, 1999). Moreover, Hu and Bentler (1999) posit that the value used to evaluate the degree of variations between the model correlation matrix and the observed correlation matrix (SRMR) should not be greater than 0.08. In addition to that, the recommended value of ≥0.6 for composite reliability (CR) (Hair, Hult, Ringle, & Sarstedt, 2017), the Average Variance Extracted (AVE) value of ≥0.5 (Fornell & Larcker,

1981; Hair, 2010), standardized factor loading of ≥0.5 (Hair, 2010), and Cronbach's alpha of ≥0.6 was used. Also, the model's discriminant validity and convergent validity were assessed. The AVE for each factor is expected to be greater in value than the inter-factor correlation (r), as suggested by (Fornell & Larcker, 1981).

4.5.1 CFA results of the covariance matrix

Table 4.6 shows that the goodness-of-fit was supported as all the model fit indices were acceptable. The CFI was 0.909, TLI = 0.901, RMSEA = 0.049, SRMR = 0.064 and the normed χ^2= 3.436 (p>0.001). All standardized factor loadings were statistically significant and ranged from 0.531 to 0.900, which indicates that the standardized factor loadings met the cut-off point of 0.5.

In the same way, the CR of each construct was above Hair et al.'s (2017) recommended 0.6 cut-off point. The Cronbach's alpha values of the constructs were all above 0.6 (from 0.672 to 0.923), depicting the internal consistency of the construct items.

Furthermore, Table 4.7 shows the mean, standard deviation, the inter construct correlations coefficients, and AVE's square root. The square root of the AVE of each factor exceeded the inter-factor correlation coefficient values. The greater value of the square root of the AVE indicates support that the model attained discriminant validity (Fornell & Larcker, 1981). The table shows that pandemic anxiety negatively influences sustainable behavior and future sustainable behavioral intentions.

Table 4.6: Confirmatory factor analysis result

Construct	Item	Estimate	SE	p-value	λ	α	CR	AVE
Self-efficacy (SE)	Item 1		-	-	0.665			
	Item 2	0.959	.048	***	0.736			
	Item 3	1.043	.054	***	0.715	0.852	0.84	0.52
	Item 4	1.075	.054	***	0.734			
	Item 5	0.986	.048	***	0.754			
Conscientiousness (CONS)	Item 9	-	-	-	0.661			
	Item 10	1.391	.064	***	0.832	0.826	0.83	0.62
	Item 11	1.439	.067	***	0.848			
Social Capital (SC)	Item 19	-	-	-	0.801			
	Item 20	1.200	.036	***	0.900	0.897	0.90	0.75
	Item 21	1.239	.038	***	0.893			
Pandemic Anxiety (PAS)	Item 66	-	-	-	0.801			
	Item 67	1.055	.035	***	0.823			
	Item 68	1.263	.038	***	0.896	0.926	0.93	0.72
	Item 69	1.160	.036	***	0.864			
	Item 70	1.237	.040	***	0.844			
Government Action (GA)	Item 22	-	-	-	0.854			
	Item 23	1.084	.031	***	0.848			
	Item 24	0.950	.029	***	0.819	0.923	0.92	0.67
	Item 25	0.855	.030	***	0.760			
	Item 26	0.877	.029	***	0.779			
	Item 27	0.954	.028	***	0.839			
Social Pressure (SP)	Item 12	-	-	-	0.783			
	Item 13	0.757	.033	***	0.698	0.818	0.82	0.53
	Item 14	0.726	.035	***	0.652			
	Item 15	0.897	.035	***	0.767			
Information and Recommendation (I & R)	Item 62	-	-	-	0.744	0.672	0.68	0.51
	Item 63	1.073	.057	***	0.688			
Travel Desire (TD)	Item 72	-	-	-	0.781			
	Item 73	1.058	.040	***	0.826	0.853	0.85	0.66
	Item 74	1.048	.040	***	0.830			
	Item 28	-	-	-	0.800			
	Item 29	0.949	.033	***	0.788			
	Item 30	1.063	.040	***	0.752			

Table 4.6 continued

Hedonic Goal	Item 31	1.057	.035	***	0.820	0.923	0.92	0.63
(HG)	Item 32	1.048	.035	***	0.824			
	Item 33	0.984	.034	***	0.804			
	Item 38	0.968	.034	***	0.786			
	Item 34	-	-	-	0.780			
	Item 35	1.074	.038	***	0.816			
Normative Goal	Item 36	1.749	.037	***	0.621	0.862	0.86	0.52
(NG)	Item 37	0.937	.037	***	0.739			
	Item 44	0.716	.036	***	0.611			
	Item 39	0.870	.036	***	0.718			
	Item 40	-	-	-	0.751			
Gain Goal	Item 41	0.912	.044	***	0.660	0.833	0.83	0.56
(GG)	Item 42	1.063	.043	***	0.782			
	Item 43	1.119	.045	***	0.784			
	Item 51	-	-	-	0.650			
	Item 52	0.722	.038	***	0.531			
Sustainable Behavior	Item 53	1.216	.055	***	0.796	0.864	0.87	0.52
(SB)	Item 57	1.204	.060	***	0.731			
	Item 58	0.919	.046	***	0.720			
	Item 59	1.333	.060	***	0.826			
	Item 45	-	-	-	0.732			
	Item 46	1.004	.049	***	0.685			
Behavioral intention	Item 47	1.026	.046	***	0.740	0.834	0.83	0.50
(BI)	Item 48	0.994	.044	***	0.751			
	Item 49	0.912	.051	***	0.599			

$\chi^2(1571)= 5398.497$ ($p>0.000$), CFI = 0.909, TLI = 0.901, RMSEA = 0.049, SRMR = 0.064

Note: λ = Standardized Factor loading,
  S.E = Standard Error,
  CR = Composite Reliability,
  α = Cronbach's alpha,
  AVE = Average Variance Extracted,
  *** = $p<0.000$ (two-tailed)

Table 4.7: Mean, standard deviation, and correlation matrix

Factor	1	2	3	4	5	6	7	8	9	10	11	12	13
1. SE	**0.721**												
2. CONS	.245**	**0.787**											
3. SC	.528**	-.489**	**0.866**										
4. PAS	-.273**	.314**	-.341**	**0.849**									
5. GA	.502**	.376**	.645**	-.381**	**0.818**								
6. SP	.582**	.074*	.334**	-.220**	.333**	**0.728**							
7. I&R	.464**	.232**	.472**	-.287**	.487**	.395**	**0.714**						
8. TD	.333**	.033	.144**	-.036	.187**	.453**	.403**	**0.812**					
9. HG	.646**	.255**	.614**	-.387**	.599**	.581**	.575**	.387**	**0.794**				
10. NG	.573**	.016	.289**	-.334**	.376**	.600**	.468**	.500**	.747**	**0.721**			
11. GG	.559**	.271**	.549**	-.373**	.554**	.514**	.585**	.368**	.768**	.662**	**0.748**		
12. SB	.609**	.388**	.742**	-.398**	.678**	.457**	.548**	.264**	.752**	.510**	.700**	**0.721**	
13. BI	.450**	.111**	.144**	-.214**	.209**	.589**	.379**	.580**	.587**	.706**	.523**	.387**	**0.707**
Mean	5.288	4.055	4.651	3.035	3.679	5.497	5.239	5.897	5.370	5.688	5.282	5.050	5.888
S.D	1.066	1.593	1.585	1.500	1.014	1.021	1.198	1.000	1.040	0.885	1.067	1.168	0.866

Note. 1. Diagonal (bold)= Square root of AVE, Off-diagonal = Inter-factor correlation

2. SE= Self-efficacy, CONS= Conscientiousness, SC= Social Capital, PAS= Pandemic Anxiety, GA= Government Action, SP= Social Pressure, I&R= Information, and Recommendation via Mobile Technology use, TD= Travel Desire, HG= Hedonic Goal, NG= Normative Goal, GG= Gain Goal, SB= Sustainable Behavior, SD = Standard Deviation

3. * Correlation Coefficient is significant at 0.001 (two-tailed)

4.5.2 Confirmed constructs by country of origin

An ANOVA analysis was conducted to determine differences in agreement on factors among respondents from different source markets. The ANOVA results revealed significant differences among countries concerning all the factors (Table 4.8). The most considerable difference was noted in Government actions and policies (F= 198.889, $p < 0.000$). A minor difference was observed in Normative goals (F= 5.091, $p < 0.000$) between the UK and China and UK and America. Interestingly, no significant difference in normative goals existed between Chinese and Americans. Therefore, the willingness to be altruistic and act in ways that conform to the social norms of a tourist's group and the destination visited were not different among Chinese and American tourists.

Moreover, pandemic anxiety noted marked differences (F= 40.869, $p < 0.000$). Specifically between the Chinese and Americans. Differences also existed between the Chinese and tourists of the UK, but not between UK tourists and American tourists. The result on pandemic anxiety shows that the Chinese seem to be more affected (Mean = 5.51) by the anxiety caused by the Corona Virus pandemic. In contrast, UK and USA tourists were less anxious (mean = 4.75; mean = 4.60 respectively).

Concerning sustainable behavior, Chinese tourists reported more sustainable actions and behaviors (mean = 5.59) than American tourists (mean = 4.88) and UK tourists (mean = 4.60). In addition, social pressure was noted to be higher among Chinese tourists (mean = 5.73) and significantly different compared with UK tourists (mean = 5.10) and American tourists (5.48). This result is not surprising as China is more collective than the western world (F = 73.734, P < 0.000).

Table 4.8: Factors by country of origin

Factor	UK	USA	China	F	Sig
	Mean (S.D)	Mean (S.D)	Mean (S.D)		
1. Self-Efficacy	4.907[bc]	5.156[ac]	5.667[ab]	44.642	0.000
	(1.066)	(1.135)	(0.856)		
2. Conscientiousness	4.372[bc]	4.645[ac]	3.200[ab]	98.222	0.000
	(1.456)	(1.591)	(1.321)		
3. Social Capital	3.686[bc]	4.589[ac]	5.517[ab]	138.345	0.000
	(1.636)	(1.566)	(0.958)		
4. Pandemic Anxiety	4.752[c]	4.596[c]	5.513[ab]	40.869	0.000
	(1.478)	(1.735)	(1.041)		
5. Government Action	3.068[bc]	3.500[ac]	4.368[ab]	198.889	0.000
	(0.964)	(1.026)	(0.516)		
6. Social Pressure	5.100[bc]	5.481[ac]	5.730[ab]	35.592	0.000
	(1.086)	(1.016)	(0.762)		
7. Information & Recommendation	4.837[bc]	5.238[ac]	5.575[ab]	33.016	0.000
	(1.376)	(1.219)	(0.874)		
8. Travel Desire	5.674[bc]	6.061[a]	5.919[a]	12.637	0.000
	(1.190)	(0.990)	(0.783)		
9. Hedonic Goal	4.967[bc]	5.373[ac]	5.703[ab]	44.450	0.000
	(1.136)	(1.116)	(0.711)		
10. Normative Goal	5.552[bc]	5.750[a]	5.740[a]	5.091	0.006
	(0.970)	(0.959)	(0.705)		
11. Gain Goal	4.969[bc]	5.244[ac]	5.558[ab]	28.640	0.000
	(1.131)	(1.179)	(0.776)		
12. Sustainable Behavior	4.603[bc]	4.881[ac]	5.592[ab]	73.734	0.000
	(1.189)	(1.284)	(0.746)		
13. Behavior intention	5.845	5.986[c]	5.826[b]	3.632	0.027
	(1.000)	(0.904)	(0.680)		

Note.   Sample UK = 300, USA= 360, China= 360

[a] U.K, [b] USA, [c] China;   [abc] denotes which country is significantly different from the other

4.6 Data aggregation

Four variables in the data collected were conceptualized at the state/province/county level (Level -2). These variables, namely social capital, government policies and action, social pressures, and information /recommendations, were collected from the individual tourists. Therefore, it is imperative to aggregate them to the state level. Before doing so, a test of the viability of the level-2 variables was conducted to have a statistical justification. By estimating the between-group variation of the constructs with the intraclass correlation (ICC, also known as ICC_1), the construct reliability (λ_j, also known as the ICC_2), and the design effect at the state/province/county level.

4.6.1 Estimating between-group level variation of constructs

Estimating the percentage of systematic between-group variation for the latent variables in the model indicates the need for multilevel data analysis. An intraclass correlation coefficient (ICC) ρ_1 determines variation attributable to group membership. It suggests the appropriateness of multilevel analysis (Hon & Gamor, 2021; Peugh, 2010). There are different approaches to calculating the ICC. Examples include the interrater agreement index (r_{wg}) by James, Demaree, and Wolf (1993), the Within and Between analysis (WABA I) by Dansereau, Alutto, and Yammarino (1984), and Muthén's ICC by Muthén (1994).

This study adopts Muthén's ICC. This ICC assumes more about the group-level effect than the other ICCs. While Muthén's ICC takes random-level effects of higher groups, WABA and r_{wg} assume fixed effects. Again, Muthén's ICC is incorporated into Mplus. Larger values of ICC denote a more significant between-level percentage of variation (Dyer, Hanges, & Hall, 2005). On a

continuum of 0 to 1, Dyer et al. (2005) and Muthén (1994) opined that ICCs less than 0.05 might not be practically good to support multilevel modeling.

In addition, several researchers opine that ICC values ranging from 0.05 to 0.20 are common in social research that uses cross-sectional data (E.g., Hox, Moerbeek, & Van de Schoot, 2017; Muthén, 1994; Peugh, 2010). The ICC of 0.05 and above shows substantial variability between groups to model in the validation process with between-level latent factors. It suggests a lack of independence in the data, supporting the need for multilevel analysis over single-level analysis.

A One-way ANOVA revealed statistically significant mean differences between the states/provinces of tourists regarding Social capital (F [33, 986] = 12.93), Government action (F [33, 986] = 18.44), Social Pressure (F [33, 986] = 3.78), and mobile technology use for information and recommendation (F [33, 986] = 3.67). The 'two-level basic' function in Mplus was used to compute the ICC values of the latent variables. The ICC estimates from Table 4.9 show that all four variables conceptualized as level -2 variables recorded ICC values of >0.05 (Social capital = 0.28, Government Action = 0.36, Social Pressure = 0.09, and for information and recommendation via mobile technology use= 0.08).

The ICC shows that a considerable percentage of variation among the measurement items is explained by differences between states, provinces, or counties where leisure tourists originate. The ICC of 0.05 and above showed substantial variability between groups to model in the validation process with between-level latent factors (Dyer et al., 2005; Muthén, 1994). It suggests a lack of independence in the data, justifying aggregation and the need for multilevel analysis over single-level analysis (Liao & Chuang, 2004).

4.6.2 Estimating reliability of aggregate variables

After proving the suitability for aggregation of the four variables, the group means index's reliability was assessed using the reliability formulae by Snijders and Bosker (2012).

$$\lambda_j = \frac{n_j\,\rho}{1+\left(n_j-1\right)\rho}$$

Where n_j is the group size and ρ is the ICC calculated.

Table 4.9 shows that all the reliability coefficients of the four variables (Social capital = 0.921, Government action = 0.945, Social Pressure = 0.750, for information and recommendation via mobile technoogy= 0.733) were above the recommended threshold of 0.6 (Hon & Gamor, 2021; Klein & Kozlowski, 2000; Liao & Chuang, 2004). It is, therefore, concluded that aggregation is justified.

Table 4.9: Intraclass correlations coefficients and reliability of aggregated variables

Factor	ρ	λ_j
1. Social Capital	0.280	0.921
2. Government Action	0.363	0.945
3. Social Pressure	0.091	0.750
4. Information & Recommendations via mobile technology use	0.084	0.733

Note. ρ is the ICC
     λ_j is the reliability of the group mean index

4.7 The Multilevel model

The study hypothesis predicted a significant relationship between individual and contextual-level variables with sustainable behavior. Sustainable behavior would be associated with the individual variables (including independent variables: conscientiousness, self-efficacy, social connectedness, information and recommendations via mobile technology use, and government actions). The random coefficient technique was used to analyze the data. This technique was helpful in this study because of predictors at the lower and higher levels of analysis (Enders & Tofighi, 2007). In constructing the multilevel model, individual-level variables and group-level variables were used. Self-efficacy, conscientiousness, travel anxiety, and mobile technology represented independent variables in the model. However, the group-level variables were GDP, social pressure, social capital, and government actions. In addition to the individual-level and group-level variables, control variables (age, sex, educational level, marital status, employment status, travel desire, household income of respondents, mobile technology use, pandemic anxiety) were considered in the modeling. Nevertheless, then, sex, educational level, employment status, and travel desire were not significant and were, therefore, removed from the models presented in Table 4.10.

The preliminary assumptions were tested, and the model was constructed using Mplus syntax (Appendix 5. Sample Mplus Syntax for Multilevel Models (MLM)), which uses the robust maximum likelihood estimation (MLR) to fit a model. A 'Two-level basic' analysis shows that the between-level variance for the overall sustainable behavior during leisure travel is significantly different from 0, as shown by the ICC of 0.158. The ICC shows that the contextual factors account for about 16% of the total variance of sustainable behavior. Therefore, if the non-independence of the nested data structure is ignored, it could lead to biased estimate results of the analysis. It could then inflate the Type-1 error. A significantly different ICC from zero is good for multilevel analysis.

Nonetheless, it does not, in essence, indicate the need for conducting multilevel analysis (Peugh, 2010). The design effect was further performed to compute how much the violation of the independence assumption affects the standard errors. The design effect was calculated using:

$$Design\ Effect = 1 + (n_c - 1)ICC$$

According to Muthén (1994) and Peugh (2010), a design effect estimate of more than 2.0 indicates the need for conducting multilevel analysis. Given that $\rho = 0.165$ and the cluster size (n_c) is 30, the design effect for sustainable behavior was 5.785 (≥ 2.0), showing that multilevel modeling is necessary for this study. Figure 4.1 presents an error bar graph showing the average sustainable behavior score across all 34 provinces/counties/states in the study.
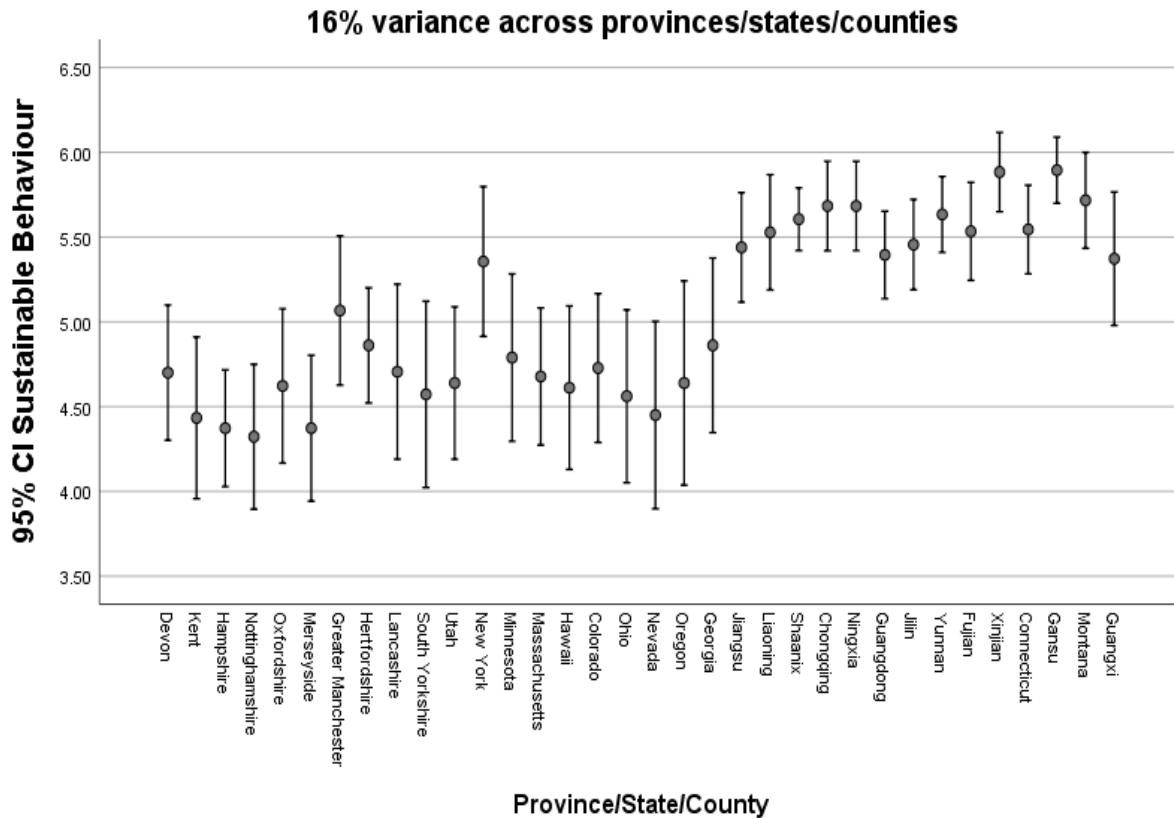
Figure 4.1: Average sustainable behavior across provinces

4.7.1 Unconditional cell means

The Unconditional Cell Means model, otherwise known as the null or empty model, is necessary to determine residual variance at level 2 (Hon & Gamor, 2021; Sommet & Morselli, 2017). There must be significant within-level and between-level variances in the outcome variable by estimating an intercept-only model, with no predictors from either level 1 or level 2. This model is also known as the unconditional cell means model. Similar to the One-Way Analysis of Variance (ANOVA), the dependent variable is the variable to be in focus. In this study, sustainable behavior is the variable of interest. Hence, the outcome variable. The intercept-only model can be expressed as mixed effects of Level 1 and Level 2 equations.

Level 1 $\qquad$ Sustainable Behavior$_{ij} = \beta_{0j} + \varepsilon_{ij}$ $\qquad\qquad$ (1)

Level 2 $\qquad$ $\beta_{0j} = \gamma_{00} + \mu_{0j}$ $\qquad\qquad\qquad\qquad$ (2)

In the Leve1 1 model, *Sustainable Behavior* is broken down into a random intercept and the individual deviation of a score of the random intercept.

Sustainable Behavior$_{ij}$ indicates a tourist's (i) behavior score who originates from a province or state (j).

β_{0j} is the random intercept that indicates the cluster means.

r_{ij} is the individual deviation of a score in the group means.

In the Level 2 model (the state or province-level), β_{0j} is broken down into the overall sustainable behavior mean across all states /provinces/counties (fixed effect), known as the grand mean.

γ_{00} is the fixed effect indicating the overall mean of sustainable behavior across provinces.

μ_{0j} indicates the mean deviation of a cluster means from the grand mean.

Combined effect model: Sustainable Behavior$_{ij} = \gamma_{00} + \mu_{0j} + r_{ij}$ (3)

For the combined effect model to be upheld, a significant variation in the sustainable behavior across states/provinces/counties (between-group variance) must be obtained in the Intraclass Correlation (ICC). The null model was constructed to examine whether sustainable behavior among tourists had a significant variance between groups. The results revealed a non-zero mean for sustainable behavior ($\gamma_{00} = 5.05$, p<.001) that the between-group variance was significantly different from zero ($\tau^2 = 0.22$, p<.001). Similarly, the within-group variance was significantly different from zero ($\sigma^2 = 1.15$, p<.001). These significant results show a group-level effect on tourists' sustainable behavior. Furthermore, a between-group variance of about 16% was observed in Table 4.10 ($\rho_{IC} = 0.158$).

4.7.2 Random Coefficient Regression Model

The random coefficient regression model was tested after confirming significant between-group and within-group variances in the sustainable behavior of tourists. The model was tested to determine the influence of predictor variables on the dependent variable at the individual level. The study hypothesized that individual-level predictors would have a significant impact on the sustainable behavior of tourists. The average effect of individual-level variables, including self-efficacy, was assessed using the group-mean/cluster-mean centering method. The group-mean centering expresses different average predictor estimates for states/provinces as they likely have

different sustainable behavior outputs. In addition, the group-mean centering offers unbiased estimates of the relationship between the individual-level predictors and sustainable behavior (Enders & Tofighi, 2007; Peugh, 2010; Snijders & Bosker, 2012). The random coefficient regression model was estimated using the following equations:

Level 1   Sustainable Behavior$_{ij}$ $_=$ β_{0j} + β_{1j} (Predictor) + e_{ij} (4)

Level 2 $\beta_{0j} = \gamma_{00} + \mu_{0j}$ (5)

In the model, γ_{10} and γ_{20} parameters provide results for testing hypotheses three and four. In this model, no level 2 predictors are specified.

Table 4.10 reveals a non-zero mean score for sustainable behavior ($\gamma_{00} = 5.429$, p<.01) in the Level 1 fixed effects model. In addition, self-efficacy and conscientiousness, returned non-zero significant average slopes ($\gamma_{10} = 0.489$, p<.01), ($\gamma_{20} = 0.139$, p<.01), while the control variables had negative coefficients ($\gamma_{30} = -0.046$, p<.05; $\gamma_{40} = -0.096$, p<.01; $\gamma_{50} = -0.018$, p<.01) except the desire to travel ($\gamma_{60} = 0.148$, p<.01). The slopes indicate that when all variables are held constant, every increase in self-efficacy causes an average of 0.489 increase in sustainable behavior. Similarly, an increase in the level of conscientiousness causes an average rise of 0.139. An increase in the tourists' desire to travel results in a 0.148 increase in sustainable behavior.

On the other hand, sustainable behavior decreases by 0.046 when the household income before tax increases by US$ 20,000 (equivalent to Pound Sterling and Chinese Yuan). Similarly, every unit increase in the age of the tourists decreases their sustainable behavior by an average of 0.018. The variance estimates of the model were also significant across tourists ($\sigma^2 = 0.724$, p< 0.001) and across provinces or states ($\tau^2 = 0.194$, p< 0.01).

A residual term ($\beta_{1j} = \gamma_{10} + \mu_{1j}$) was added to the model to estimate the variance of the residuals to give a random effect. Results in column 6 show similar results with a slight decrease in the regression coefficients for the intercept ($\gamma_{00} = 5.419$, p<.01) and self-efficacy ($\gamma_{10} = 0.487$, p<.01). More so, a decrease in the coefficient of conscientiousness ($\gamma_{20} = 0.138$, p<.01) was observed. Reduced variances emerged for the within-group ($\sigma^2 = 0.692$, p< 0.01) and across province variance ($\tau^2 = 0.196$, p< 0.01) (Table 4.10). The slope variance ($\tau_{11} = 0.034$) shows a small but significant variation in the slope at a 0.01 significance level. This outcome means that 95% of provinces or states have average sustainable behavior scores between 4.551 and 6.287 (i.e., $5.419 \pm 1.96[\sqrt{0.196}]$) and a self-efficacy - sustainable behavior slope between 0.126 and 0.848 (i.e., $0.487 \pm 1.96[\sqrt{0.034}]$).

4.7.3 Means as Outcomes Model

The previous section's random coefficient regression model revealed that the intercept has a significant variance across the provinces/states. Level 2 variables were tested in the means-as-outcomes model. The level two predictors were grand mean centered because level 2 predictor-to-sustainable behavior outcome does not give practical meaning when it is zero. The fourth column of Table 4.10 shows a significant non-zero grand-mean estimate of sustainable behavior ($\gamma_{00} = 5.050$, p<0.01) in provinces with average level 2 predictors. GDP of states/ provinces ($\gamma_{01} = -0.116$, p<0.01) demonstrated a significant but negative direct effect on sustainable behavior. It shows that the average sustainable behavior of tourists (5.050) decreases by 0.116 when the GDP of the state increases. However, it was noted that social capital ($\gamma_{02} = 0.271$, p<0.01), social pressure ($\gamma_{03} = 0.396$, p<0.01), and government action ($\gamma_{04} = 0.183$, p<0.01), increase sustainable behavior by 0.271, 0.396,

and 0.183 with every unit increase respectively. In this model, information and recommendation via mobile technology use did not significantly affect sustainable behavior ($\gamma_{05} = 0.100$, p<0.01).

Table 4.10: MLM results for predictors of sustainable behavior

Level	Model Parameters	Unconditional Cell Means	Means-as-Outcomes	Level 1 Fixed Effect	Level 1 Random Effect	Full Model
	Mean function (fixed effects)					
	Intercept (γ_{00})	5.050 (.09)***	5.050 (.02)***	5.429 (.10)***	5.419 (.09)***	5.471 (.09)***
Level 1						
	Self-Efficacy (γ_{10})	-	-	0.489 (.06)***	0.487 (.05)***	0.457 (.15)***
	Conscientiousness (γ_{20})	-	-	0.139 (.02)***	0.138 (.02)***	0.140 (.02)**
	Household Income (γ_{30})	-	-	-0.046 (.02)**	-0.045 (.02)**	-0.039 (.02)***
	Marital status (γ_{40})	-	-	-0.096 (.02)***	-0.094 (.02)***	-0.082 (.02)***
	Age (γ_{50})	-	-	-0.018 (.00)***	-0.017 (.00)***	-0.017 (.00)***
	Travel Desire (γ_{60})	-	-	0.148 (.04)***	0.143 (.04)***	0.149 (.04)***
Level 2						
	GDP (PPP) (γ_{01})	-	-0.116 (.04)***	-	-	-0.124 (.04)***
	Social capital (γ_{02})	-	0.271 (.07)***	-	-	0.246 (.08)***
	Social Pressure (γ_{03})	-	0.396 (.13)***	-	-	0.428 (.15)***
	Government Action (γ_{04})	-	0.183 (.07)**	-	-	0.159 (.07)**
	Information and recommendation (γ_{05})	-	-0.100 (.15)	-	-	-0.107 (15)
	Variance component					
	Residual (σ^2)	1.147 (.11)***	1.128 (.11)***	0.724 (.07)***	0.692 (.06)***	0.687 (.06)***
	Intercept (τ^2)	0.216 (.03)***	0.001 (.04)	0.194 (.03)***	0.196 (.03)***	0.001 (.01)
	Slope (τ_{11})				0.034 (.01)***	0.016 (.01)**
	Covariance (τ_{01})				-0.050 (.01)***	0.000 (.01)
	Model Summary					
	ICC (ρ_{IC})	0.158 (16%)	0.173 (17.3%)	0.146 (14.6%)	0.146 (14.6%)	0.158 (15.8%)
	AIC	3105.338	3033.723	2658.680	2638.735	2571.634
	BIC	3120.121	30.47.735	2703.028	2692.939	2675.112
	PVR (Residual)	-	0.017	-	0.397	0.401
	PVR (Intercept)	-	0.995	-	0.093	0.995
	PVR (Slope variance)	-	-	-	-	0.529
	Parameters	3	8	9	11	16
	Deviance	3099.338	3017.548	2640.680	2616.736	2529.634
	χ^2		304.827***	255.577***	482.602***	569.704***

Note:Values are unstandardized coefficients; Standard errors in parentheses; Level 1 N = 1020; Level 2 N= 34; *** = $p<0.01$ (two-tailed), ** = $p<0.05$ (two-tailed)

4.7.4 Multilevel Model

In the full model, the grand mean of sustainable behavior increases to 5.471 when all predictors are considered in a multilevel model. When all predictors are held constant, self-efficacy exhibits a significant positive relationship ($\gamma_{10} = 0.457$, $p<.01$) with sustainable behavior. In the same way, conscientiousness has a significant positive relationship with an increase in its effect ($\gamma_{20} = 0.140$, $p<.01$). Interestingly, control variables negatively affect sustainable behavior except the desire to travel. Unmarried tourists were identified as less sustainable ($\gamma_{40} = -0.082$, $p<.01$) than married tourists. In addition, as age increases by an average of a year, sustainable behavior decreases by 0.017, showing that older tourists are generally less sustainable than younger tourists. Furthermore, a US\$ 20000 increase in the annual household income of tourists causes a decrease in their sustainable behavior by 0.039. However, an increase in travel desire after the COVID-19 pandemic increases the sense of sustainable behavior by 0.149.

At level 2, GDP exhibits a negative but significant relationship ($\gamma_{01} = -0.124$, $p<.01$) with the sustainable behavior of tourists (Table 4.10). They showed that tourists from states/provinces with high GDP are less sustainable in their actions while on tours. Considering social capital, when all predictors are held constant, tourists' average sustainable behavior score increases by 0.246. Furthermore, an increase in social pressure increases sustainable behavior by 0.428. Actions by the government (i.e., including laws and policies, presence of law enforcement, and green campaigns, signage, and infrastructure) also positively affect tourists' sustainable behavior by 0.159 with every increase. However, information and recommendation from recommendation apps and digital communities did not significantly affect tourists' sustainable behavior ($\gamma_{05} = -0.107$, $p>0.05$).

This section shows that sustainable behavior decreases as the state GDP increases. However, the sustainable behavior among tourists increases when social capital, social pressure to behave sustainably, and government actions increase. Thus, tourists from rich states, provinces, or counties may behave unsustainably. However, interactions with locals, information on local settings, government policies on sustainable behavior and visible law enforcement, and pressure from close relations or other tourists can encourage individuals to behave sustainably on tours.

4.7.5 Multilevel Goodness of fit and effect size

Global and local effect size tests were performed to determine the model fit and quantify the variance in sustainable behavior explained by all the predictors in the model. The ICC of the random coefficient regression model depicts that approximately 15% of tourists' sustainable behavior variance in level 1 is due to between-province variation. The ICC shows that level 1 factors differed by province, state, or county. The variance in sustainable behavior due to the between-province variations increased in the means-as-outcomes model (17%). The full multilevel model also noticed an increase in the variation effect (16%). This finding better accounts for the total variance in the multilevel model (Table 4.10). Therefore, the mixed model is suitable for explaining the total variance of sustainable behavior of international leisure tourists.

The proportion reduction in variance (PVR) statistic was computed for the residual, intercept, and slope variances to determine the increase in the exactitude of predicting sustainable behavior among tourists. The random coefficient model reduced residual variance by about 39.7%. The variance was reduced by 40.1% (i.e., [1.147-0.692]/1.147) in the full model when the level 2 predictors were added to the null model. While the intercept variance

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was reduced by 9.3% (i.e., [0.216-0.196]/0.216) in the random coefficient model, the intercept variance, however, was reduced by more than three-quarters (99.5%). It shows that the level-2 variables accounted for a lot of the variance of the sustainable behavior of tourists. Moreover, the multilevel model reduced the slope variance by 52.9% (i.e., [0.034-0.016]/0.034).

Further, a likelihood ratio test was conducted to determine whether the full model fits the data for the study better than the unconditional cell means and random coefficient models. The deviance statistic (-2Log Likelihood) showed a reduction in deviance from the unconditional cell means model, random coefficient model, and the full model, as shown in Table 4.10. The Chi-square statistic showed a statistically significant difference between the unconditional cell means model, the random coefficient regression (χ^2 [11] = 482.602, p< 0.01), and the full model (χ^2 [5] = 569.704, p< 0.01). The chi-square statistic of the random coefficient model was lower than the full model, determining that the full model was significantly superior to the unconditional and random coefficient models. In addition, the random models that allowed effects to vary across provinces were noted to be significantly better than the fixed models. In addition, the AIC and BIC of the full model were lower than all other models signifying a better model. Overall, the Goodness-of-fit and effect size tests show that the full multilevel model fits well with the data. It also depicts a better predictive model than other models that do not consider the hierarchical nature of drivers (i.e., using a single-level approach).

4.8 The role of goal orientation

Goal orientation among leisure tourists was hypothesized to impact sustainable behavior. The goal orientation of tourists can mediate the relationship between multilevel factors and sustainable behavior. The goal orientation is made up of three subgoals. These subgoals were used for determining the role that goal orientation plays in the sustainable behavior of tourists. Before conducting the mediation analysis, a multiple regression analysis was conducted to determine the effect of the goal orientations on sustainable behavior. Based on the nature of the goals, it is necessary to conduct a multicollinearity test to ensure that the no two goals are collinear. Such that one goal can be perfectly predicted through another goal. In that case, the statistical independence of the goals is undermined. The goals were regressed on sustainable behavior to determine their effect on the desirable behavior.

4.8.1 Relationship between goals and sustainable behavior

Table 4.11 shows that the regression analysis results with goals explained about 61.5% of the variance in sustainable behavior (Adjuster r^2= 0.615). The ANOVA test revealed that the model significantly predicts the sustainable behavior of international leisure tourists (F= 543.452, P= 0.000). In the model, no collinearity issues were found in the goals because all the Variance Inflation Factors (VIFs) are less than 5, and the tolerance values are above 3. Table 4.11 revealed an eigenvalue of 3.961 with a condition index of 1.000.

Besley, Kuh, and Welsch (1980) posit that a multicollinearity problem occurs when the VIF is five or above and a tolerance value of less than 0.2. Senaviratna and Cooray (2019) and Thompson et al. (2017) also point out that a VIF value of 10 or higher indicates a multicollinearity problem. They also suggest using multiple tests (Eigenvalue $\geq$1 and Condition index <15).

Table 4.11: Effect of goal orientation on sustainable behavior

Variable	β	t-value	95% Confidence interval		Collinearity statistics	
			Lower	Upper	Tolerance	VIF
Constant	0.679*	4.549	0.386	0.972		
Hedonic goal	0.708*	18.010	0.631	0.785	0.309	3.241
Normative goal	-0.242*	-6.135	-0.319	-0.165	0.424	2.361
Gain goal	0.369*	10.845	0.302	0.435	0.392	2.550

F = 543.452; * p<0.000
r^2= 0.616
Adjusted r^2= 0.615
Eigenvalue = 3.961
Condition index= 1.000

The above results, therefore, show that there is no multicollinearity problem. When all the goals are held constant, the model shows that tourists' sustainable behavior is at an average of 0.679. An increase in normative goals will decrease sustainable behavior by 0.242 (β = -0.242, p= 0.000) with all other goals held constant. However, when other goals are held constant, an increase in the hedonic goal of tourists increases their sustainable behavior by 0.708 (β = 0.708, p = 0.000). An increase in gain goal increases the sustainable behavior by 0.369 (β = 0.369).

4.8.2 The mediating role of goal orientation

The study hypothesized that predictor variables would affect the sustainable behavior of international tourists through a goal orientation. A 1-1-1 mediation analysis was performed for the individual-level predictors. In contrast, a 2-1-1 mediation analysis was performed for the level 2 predictor variables. The mediation analysis was conducted using the Mplus syntax based on Preacher, Zhang, and Zyphur (2011) and Preacher, Zyphur, & Zhang (2010).

Table 4.12: The mediating role of goal orientations

	Hypothesized Path	Direct effect	Mediating effect		Total effect	%
		(c')	β	95% CI	(c)	β/c
	Level 1 (1-1-1 Mediation Model)					
H8-1a	SE →Hedonic→SB	0.208***	0.399	0.334, 0.464	0.606***	0.657
H8-1b	SE →Normative→SB	0.430***	0.167	0.118, 0.216	0.597***	0.280
H8-1c	SE →Gain→SB	0.311***	0.290	0.226, 0.354	0.601***	0.483
H8-2a	CONS→Hedonic→SB	0.137***	0.089	0.041, 0.137	0.226***	0.394
H8-2b	CONS →Normative→SB	0.231***	-0.011	-0.059, 0.037	0.221***	0.050
H8-2c	CONS →Gain→SB	0.120***	0.100	0.062, 0.138	0.220***	0.455
	Level 2 (2-1-1 Mediation Model)					
H8-3a	GDP →Hedonic→SB	-0.245***	-0.138	-0.244, -0.033	-0.384***	0.359
H8-3b	GDP →Normative→SB	-0.391***	0.007	-0.051, 0.066	-0.384***	0.018
H8-3c	GDP →Gain→SB	-0.255	-0.129	-0.215, -0.042	-0.384***	0.336
H8-4a	SC →Hedonic→SB	0.223***	0.317	0.277, 0.358	0.541***	0.586
H8-4b	SC →Normative→SB	0.470***	0.071	0.026, 0.116	0.541***	0.131
H8-4c	SC →Gain→SB	0.301***	0.240	0.199, 0.281	0.541***	0.444
H8-5a	SP →Hedonic→SB	0.459***	0.788	0.703, 0.874	1.247***	0.632
H8-5b	SP →Normative→SB	1.000***	0.247	0.157, 0.337	1.247***	0.198
H8-5c	SP →Gain→SB	0.656***	0.591	0.513, 0.669	1.247***	0.474
H8-6a	GA→Hedonic→SB	0.333***	0.417	0.348, 0.485	0.750***	0.556
H8-6b	GA→Normative→SB	0.664***	0.086	0.026, 0.145	0.750***	0.115
H8-6c	GA→Gain→SB	0.433***	0.317	0.260, 0.374	0.750***	0.423

Note: Dependent variable is Sustainable behavior (SB)

β = indirect effect

% = Proportion of mediation by goal orientation (Hedonic, Normative, and Gain Goals)

*** = $p<0.01$ (two-tailed)

In the level 1 part of the results, the model in Table 4.12 shows that the total effect of self-efficacy on sustainable behavior was significant (β= 0.606. p<0.001). When the hedonic goal was included, an indirect effect of self-efficacy on the sustainable behavior of tourists through the hedonic goal was observed (β=0.399). The distribution of the product of coefficient at a 95% confidence interval did not include zero (0.334, 0.464). The results indicate that an increase in self-efficacy through the hedonic goal increases his or her sustainable behavior score, through a hedonic goal, by an average of 0.399 points. The indirect effect of self-efficacy on sustainable behavior through hedonic-goal shows a partial but suppressing effect of 65.7%, ranging from 0.334 to 0.464 points. The suppressive effect is because the indirect effect is larger than the direct effect (Jiang, Qin, Gao, & Gossage, 2022; MacKinnon, Lockwood, & Williams, 2004). Similarly, self-efficacy has a positive significant impact of sustainable behavior through normative goal (β= 0.0.167; CI = 0.118, 0.216), and gain goal (β= 0.290; CI = 0.226, 0.354). It indicates partial indirect effects of self-efficacy through normative and gain-goals of 28% and 48.3%, respectively.

Among the indirect effects of conscientiousness on sustainable behavior through the goal frames, gain goal had a more significant proportion (45.5%) of mediation effect on sustainable behavior (β= 0.100; CI = 0.062, 0.138). Conscientiousness has a significant positive effect (β = 0.089; CI = 0.041, 0.137) on sustainable behavior at 39.4% through hedonic goal. The mediating effect of normative goals, however, is not significant.

On level 2, the hedonic goal partially mediates the relationship between GDP and sustainable behavior (β= -0.138; CI = -0.244, -0033). The mediating effect is about 36% and in the same direction. The gain goal completely mediated the relationship between GDP and

sustainable behavior (β= -0.129; CI = -0.215, -0.042). On the other hand, the normative goal did not have any mediating effect on sustainable behavior (β= 0.007; CI = -0.051, 0.066).

Regarding social capital, the hedonic goal revealed a suppressive mediating effect of 58.7% on the relationship between social capital and sustainable behavior (β= 0.317; CI = 0.277, 0.358), as shown in Table 4.12. Normative goal (β= 0.071; CI = 0.026, 0.116) and the gain goal (β= 0.240; CI = 0.119, 0.281) partially mediate the relationship between social capital and sustainable behavior with a percentage of effect of 13.1% and 44.4% respectively.

Furthermore, social pressure-sustainable behavior relationship is mediated by the hedonic goal (β= 0.788; CI = 0.703, 0.874), normative goal (β= 0.247; CI = 0.157, 0.337), and the gain goal (β= 0.591; CI = 0.513, 0.669). The predictive power of social pressure is increased through the hedonic goal, which expresses about 63% of the effect. Normative and the gain goals also partially mediate the relationship between social pressure and sustainable behavior, expressing 19.8% and 47.4% of the mediating effect, respectively.

Similarly, Table 4.12 indicates that hedonic goal has a suppressive effect (β= 0.417; CI = 0.348, 0.485) on the direct effect of government action on sustainable behavior. Hedonic goal explains over half (55.5%) of the indirect effect of government action through the hedonic goal. The normative goal explained a more diminutive than a quarter (11.5%) of the partial mediation effect of government action on the sustainable behavior of tourists through the normative goal (β= 0.086; CI = 0.026, 0.145). The government action had a positive and significant indirect effect (β= 0.317; CI = 0.260, 0.374) on sustainable behavior through the gain goal. The gain goal explained almost half (42.3%) of the partial mediating effect when the gain- goal was introduced into the equation.

4.9 Pandemic anxiety (COVID-19) and future behavior intentions

A path regression analysis examined pandemic anxiety's effect on future behavioral intentions concerning sustainable behavior. The results revealed that pandemic anxiety negatively impacts potential tourists' behavioral intentions (β= -0.124; t= -7.011; p< 0.000). The pandemic anxiety significantly predicts behavioral intentions for future travel among potential tourists (F = 49.063; p<0.000) with an r^2 of 0.046. The result supports hypothesis 9 of the study, which states that *Pandemic (COVID-19) anxiety to travel is negatively related to behavioral intentions.*

In addition, the study found that pandemic anxiety negatively impacts self-efficacy (β= -0.183; t= -8.584; p< 0.000), social pressure (β= -0.056; t= -9.095; p< 0.000), and social capital (β= -0.169; t= -9.713; p< 0.000). However, the future sustainable behavioral intention has a positive effect on the sustainable behavior of tourists (β= 0.387; t= 13.393; p< 0.000). This finding shows that COVID-19 can potentially disrupt the sustainable behavioral pattern of tourists in the future. As governments work hard to eliminate the Coronavirus from their citizens, a fair amount of attention should be given to addressing the anxiety that COVID-19 has brought to individuals. Such intervention will help combat the aftermath of the pandemic that may be detrimental to achieving the Sustainable Development Goal set for 2030.

The final model (Figure 4.2), which displays the significant paths derived from the study, is shown in the figure below.
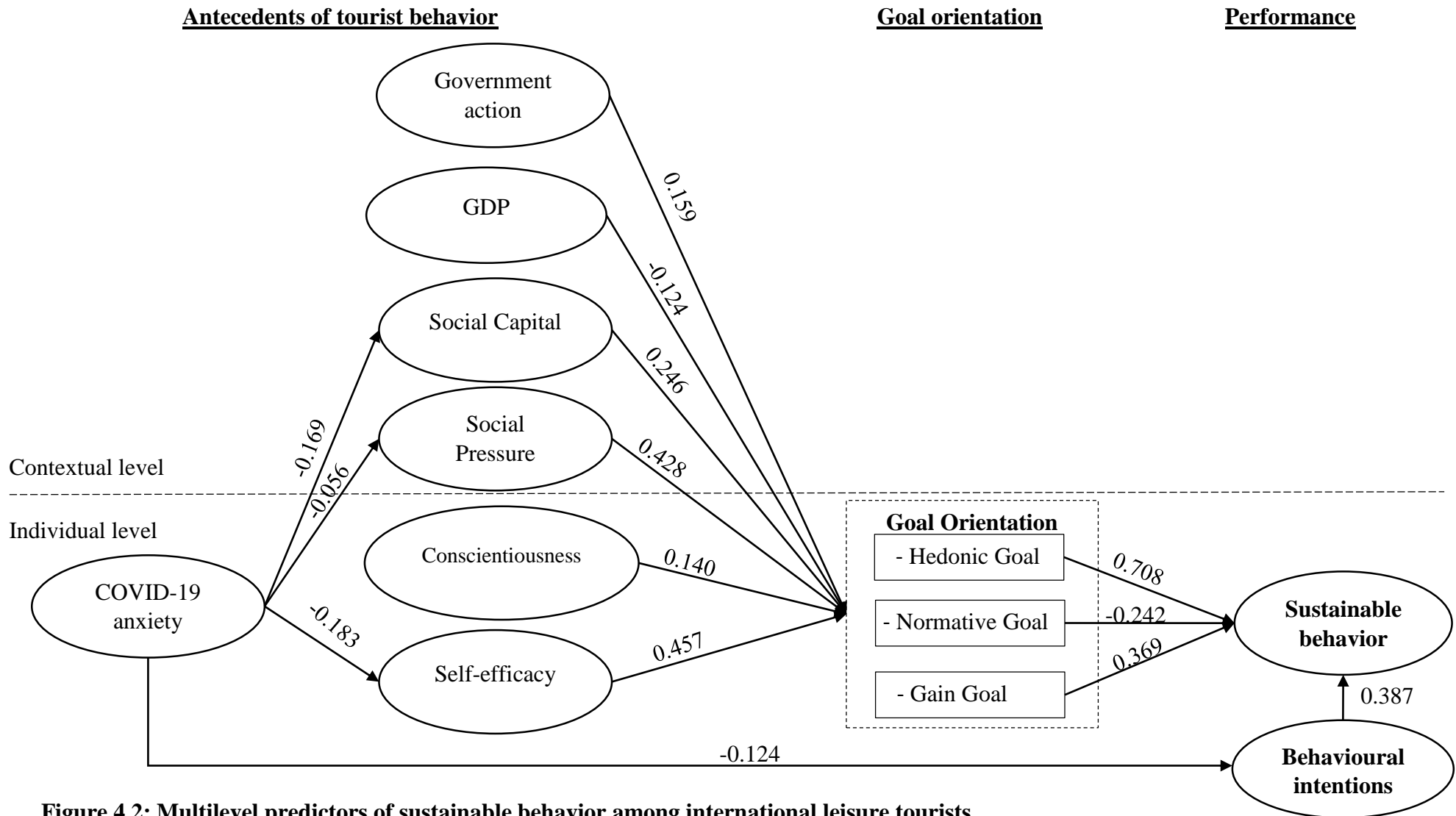
Figure 4.2: Multilevel predictors of sustainable behavior among international leisure tourists

Table 4.13: Summary of hypotheses results

	Hypotheses	Supported
H1:	Conscientiousness is positively related to the sustainable behavior of tourists.	Yes
H2:	Self-efficacy is positively related to the sustainable behavior of tourists.	Yes
H3:	Social capital is positively related to the sustainable behavior of tourists.	Yes
H4:	Social pressure is positively related to the sustainable behavior of tourists.	Yes
H5:	Information and recommendation via mobile technology use are positively related to the sustainable behavior of tourists.	No
H6:	Government action is positively related to the sustainable behavior of tourists.	Yes
H7:	Affluence (GDP per capita PPP) is positively related to the sustainable behavior of tourists.	No
H8-1a	Hedonic goal orientation mediates the relationship between self-efficacy and the sustainable behavior of tourists.	Yes
H8-1b	Normative goal orientation mediates the relationship between self-efficacy and the sustainable behavior of tourists.	Yes
H8-1c	Gain goal orientation mediates the relationship between self-efficacy and the sustainable behavior of tourists.	Yes
H8-2a	Hedonic goal orientation mediates the relationship between conscientiousness and the sustainable behavior of tourists.	Yes
H8-2b	Normative goal orientation mediates the relationship between conscientiousness and the sustainable behavior of tourists.	No

Table 4.13 Continued

H8-2c	Gain goal orientation mediates the relationship between conscientiousness and the sustainable behavior of tourists.	Yes
H8-3a	Hedonic goal orientation mediates the relationship between state/province affluence and the sustainable behavior of tourists.	Yes
H8-3b	Normative goal orientation mediates the relationship between state/province affluence and the sustainable behavior of tourists.	No
H8-3c	Gain goal orientation mediates the relationship between state/province affluence and the sustainable behavior of tourists.	Yes
H8-4a	SC →Hedonic goal orientation mediates the relationship between social capital and the sustainable behavior of tourists.	Yes
H8-4b	Normative goal orientation mediates the relationship between social capital and the sustainable behavior of tourists.	Yes
H8-4c	Gain goal orientation mediates the relationship between social capital and the sustainable behavior of tourists.	Yes
H8-5a	Hedonic goal orientation mediates the relationship between social pressure and the sustainable behavior of tourists.	Yes
H8-5b	Normative Hedonic goal orientation mediates the relationship between social pressure and the sustainable behavior of tourists.	Yes
H8-5c	Gain Hedonic goal orientation mediates the relationship between social pressure and the sustainable behavior of tourists.	Yes
H8-6a	Hedonic goal orientation mediates the relationship between government action and the sustainable behavior of tourists.	Yes

Table 4.13 Continued

H8-6b	Normative goal orientation mediates the relationship between government action and the sustainable behavior of tourists.	Yes
H8-6c	Gain goal orientation mediates the relationship between government action and the sustainable behavior of tourists.	Yes
H9	COVID-19 pandemic anxiety negatively relates to future sustainable behavioral intentions of tourists.	Yes

CHAPTER 5: DISCUSSION AND IMPLICATIONS

5.1 Introduction

This chapter discusses the key findings from the previous chapter in line with the research objectives. It begins with a discussion of the research model used for the study. It is then followed by discussing the findings related to the research objectives. This chapter discusses the level of sustainable behavior among international leisure tourists, how drivers influence their sustainable behavior, and whether the drivers are multilevel. Again, it presents the effect of goal orientation on sustainable behavior and the mediating effect of goal orientation on the predictor-sustainable behavior relationship. In addition, the influence of pandemic anxiety caused by COVID-19 on future sustainable behavioral intentions is discussed. The chapter positions the results of this study in the extant literature and further presents the theoretical implications for researchers and academic institutions in the study of sustainable behavior among tourists. Moreover, the practical implications of this study for managers of DMOs, tourism attractions and hospitality facility managers, and policymakers are discussed.

5.2 Model Assessment

The current study assessed factors that influence sustainable behavior among international leisure tourists from top tourism source markets. The study used different items generated from an extensive literature review to develop a framework that determines the effects of the predictors. Sustainable tourism behavior studies have limited theories and frameworks that assess the

multilevel nature of the predictor to reflect an accurate picture of how predictors influence tourists' behavior. Drawing on the Goal-Framing Theory, the study developed a multilevel framework that examines individual-level and contextual-level predictors of sustainable behavior among international leisure tourists.

The Confirmatory Factor Analysis (CFA) revealed that the data fits the model. In addition, the convergent and divergent validity tests and Cronbach's alpha coefficients of the constructs further supported the model to indicate that the data is suitable for further analysis. All the indicator indices of measurement were within the accepted range (Fornell & Larcker, 1981; Hair et al., 2017; L. T. Hu & Bentler, 1999). Therefore, the CFA confirmed that the thirteen-factor model was compatible with the data used.

Estimation of a between-group variation conducted on the sustainable behavior indicated that contextual factors influence the formation of sustainable behavior among international leisure tourists. Muthén's ICC showed that contextual or cluster-level factors accounted for about 16% of the total variance in sustainable behavior formation, with a design effect of 5.785. These indices met the threshold for the application of multilevel modeling as posited by Muthén (1994), Peugh (2010), and Preacher et al. (2010). It means that the individual-level factors do not exhaustively explain the sustainable behavior of tourists. The findings, therefore, indicate that the sustainable behavior of tourists is determined by an amalgam of multileveled factors, where essential relationships exist between the individual-level and the contextual-level factors.

Furthermore, the intraclass correlation coefficients (ICC) and the corresponding reliability coefficient of the cluster-level factors met the threshold for variable aggregation (Klein &

Kozlowski, 2000; Liao & Chuang, 2004; Muthén, 1994; Preacher et al., 2010). Social capital, government action, social pressure, and information and recommendation via mobile technology use were aggregated to the cluster level. As posited by Hon and Gamor (2021) and Peugh (2010), the ICCs supported multilevel modeling to assess the predictors of sustainable behavior.

The findings depict that the multilevel model accounted for a lot of the variance seen in the random coefficient model. Therefore, the mixed model better explains the total variance of sustainable behavior of tourists where the hierarchical or multilevel nature of drivers of sustainable behavior is considered. In line with the guidelines of Hox et al. (2017) and LaHuis et al. (2004), the multilevel model showed a better fit to the data than the fixed model (OLS) and the unconditional cell means model (null model). The deviance statistics (-2Log Likelihood) with various degrees of freedom showed that the mixed model explained a better prediction. In the same way, the Chi-square statistics and the proportional reduction in variance (PRV) indicated the superiority of the multilevel model over the OLS and random coefficient regression models in explaining the sustainable behavior among international leisure tourists. The level of sustainability among international tourists, the nature of predictive factors, and the specific effects of the multilevel predictors of sustainable behavior are discussed in the subsequent sections.

5.3 Research objective 1: Level of sustainable behavior among international leisure tourists

Sustainable behavior is the desired practice always expected at any place. However, as projected from the previous studies, tourists are generally not sustainable in their actions when they are away from home. The findings indicate an average level of sustainable behavior at 5.471,

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which indicates that leisure tourists are generally somewhat sustainable. This study confirms the assertion of Desmichel and Kocher (2019), Dolnicar et al. (2019), Mckercher (2010), and Nimri, Patiar, Kensbock, and Jin (2020) that tourists are generally not sustainable in their actions. The relatively low sustainable behavior could be due to the notion that tourists travel to relax and take a break from their usual life routines. Including sustainable actions to keep the environment clean and maintain social norms and culture may not be part of their goals or aim. In addition, the high price to pay for unsustainable actions at a destination is usually not felt in the tourist-originating region. Therefore, tourists do not feel compelled to act sustainably during leisure trips.

5.4 Research objective 2: The multilevel predictors of sustainable behavior among international leisure tourists

The study investigated the factors that influence the sustainable behavior of tourists. It examined whether the drivers of sustainable behavior of tourists were hierarchically structured and how they influence the behavior of tourists towards sustainability. Sustainable behavior was determined to have a between-level variance, indicating that individual and contextual factors influence it. This finding supports the assertion of early researchers such as Lindenberg and Steg (2007, 2013), Marquart-Pyatt (2012), Milfont and Markowitz (2016), and Juvan and Dolnicar (2017). They opined that multiple domain factors influence the behavior of an individual. Individuals are nested in a larger ecosystem with behavioral drivers from multiple levels. It shows that research works on sustainable behavior that focus on drivers or factors of sustainable behavior on a single level have not comprehensively analyzed the influence of these factors. Therefore, this

study establishes that tourists' behavior toward sustainable actions is influenced by various factors operating at different levels. From the results, the contextual factors account for over 15% of the total variance of sustainable behavior among international leisure tourists.

Previous psychology, economics, and sociology studies have acknowledged the importance of contextual factors in forming sustainable behavior (see Marquart-Pyatt, 2012, Milfont & Markowitz, 2016). Few studies in tourism have attempted synthesizing factors from different levels to assess drivers of behavior and intention to visit using single-level means of inquiry. These studies ignore the multilevel nature of the drivers. Therefore, the current study supports Han, Meng, and Kim's (2017) assertion that single-level theories are dominant in studies on factors of sustainable behavior in tourism. It underscores the importance of the contextual factors of tourists' sustainable behavior. Given that the sustainable behavior of tourists is formed through nested factors, this study demonstrates that contextual factors are essential elements in the sustainable actions of tourists.

5.4.1 Individual-level predictors

Previous literature has shown that individual-level factors (i.e., gender-female, age, marital status, household income, and higher education) positively influence the awareness of the consequences of unsustainable behavior and sustainable behavior (Brough et al., 2016; Juvan & Dolnicar, 2017; Luchs & Mooradian, 2012; Milfont & Markowitz, 2016; Pinna, 2020; Steg & Vlek, 2009). In contrast, this study indicates that age, marital status-unmarried, and household income negatively impact sustainable behavior among international leisure tourists. Furthermore, gender

and level of education have no significant influence on sustainable behavior among leisure tourists. These negatively related antecedents challenge DMOs, and facility managers regarding tourists' behavior and maintaining the quality of services, facilities, and interactions without interventions. On the other hand, the desire of an individual to travel for leisure activities positively influences sustainable behavior. Therefore, destinations that build high levels of desire among actual and potential tourism demand can improve the behavior of tourists with suitable interventions.

Understanding the drivers of sustainable behavior is one step toward triggering tourists to be sustainable. This study revealed that a tourist's tendency to be more disciplined, responsible, preserving, and motivated to achieve (Conscientiousness) is positively related to sustainable behavior ($\gamma_{20} = 0.140$, p<.01). Therefore, the more conscientious a tourist becomes, the higher the level of sustainability in their actions in destinations. This finding corroborates the view of Eastman et al. (2020) and Verma et al. (2017). They indicated that conscientiousness plays a vital role in sustainable behavior and that such trait improves sustainable behavior.

In the same way, this study confirms the finding of Kornilaki et al. (2019) that self-efficacy is an essential driver of sustainable behavior ($\gamma_{10} = 0.457$, p<.01). As a tourist's confidence in behaving in sustainable way increases, the actual sustainable behavior in real life increases. Therefore, it is crucial to improve the ability and self-acknowledgment among international tourists that sustainable behavior can always be done in any destination. These findings show that helping tourists to understand little actions that reflect sustainability will help improve their behavior concerning sustainability in destinations worldwide. Moreover, noticing their capability to behave sustainably will improve their sustainable tendencies.

5.4.2 Contextual-level predictors

Regarding the contextual level, the findings of this study revealed that the affluence of a state (tourists' origin) negatively impacts tourists' sustainable actions ($\gamma_{01} = -0.124$, p<.01). This negative impact means that tourists from affluent areas are more likely to be unsustainable in their actions in destinations. In other words, the more affluent the state, province, or county a tourist originates, the less sustainable he or she will be on an international leisure trip. This finding contradicts that of Gelissen (2007), Milfont and Markowitz (2016), and VanHeuvelen and Summers (2019) that residents of affluent states or nations are more sustainable than those from less affluent states, provinces, or nations. Thus, the affluent the country or province of origin, the less sustainably inclined the tourists. Conceivably, the state of being free from responsibilities without familiar eyes to put tourists in check, together with more spending power than the locals, makes tourists feel superior and do not behave sustainably. Unsustainable behavior costs at home often outweigh the cost during a leisure tour (Juvan & Dolnicar, 2017). Tourists, therefore, select self-benefiting choices that are not considered sustainable acts because such acts may cost them more time, attention, and money. Therefore, the finding is in line with Jorgenson, Longhofer, Grant, Sie, and Giedraitis' (2017) submission that the affluence of the origin of a tourist has a negative relationship with environmental concerns and sustainable behavior. It proves that people behave differently (usually unsustainably) when on leisure tours outside their usual environment of sleep and work than when at home.

The study's findings revealed that actions by the government, including enacting regulatory policies and laws and the presence of signage, and law enforcement agents, positively affect the sustainable behavior of tourists ($\gamma_{04} = 0.159$, p<.01). The fear of getting arrested and spending time in a police cell, losing time for relaxing or enjoyable leisure activity due to unacceptable behavior, and losing money meant for leisure by paying for fines resulting from ignoring signage of sustainable conduct or breaking the rules relating to sustainability, among others, can influence tourists to behave sustainably in destinations. This finding is in congruence with the notion that government actions are fundamental drivers of sustainable behavior as posited by researchers such as Elliot and Church (1997), Heiskanen and Matschoss (2017), and Yu, He, Li, Huang, and Zhu (2014). In addition, this finding adds that government actions, through regulatory policy implementation, do not only influence residents' sustainable behavior as in the case of Vietnam, United Kingdom, United States, and China (see Hicks, Dietmar, & Eugster, 2005, Statista, 2021a, 2021b, 2021c, and Wang, Guo, & Wang, 2016), but influence tourists behavior as well. In good light, various countries, since 2010, have adopted the promulgation of regulations and active communication of same to ensure economic and social well-being of visitors in the short run and their citizens or locals in the long run (OECD, 2010b; Statista, 2021a, 2021b, 2021c). It means that incorporating sustainable tourist behavior in destinations' policies and regulations will help to gradually change the incredulity of tourists toward sustainable behavior to obtain desired levels of sustainable behavior at destinations worldwide.

Interacting with people with similar and different backgrounds tends to influence individuals to be altruistic and empathetic toward others ($\gamma_{02} = 0.246$, p<.01). Such interactions create connections and social relations among different groups of people. In line with recent

literature, including Hasan et al. (2017) and Mahfud et al. (2020), social connections positively influence altruistic tendencies, high values, and the sense of selflessness, collaboration, and dependableness. This study confirms that social connectedness between tourists and locals positively impacts on sustainable behavior of tourists. When they interact, tourists' connection with locals develops shared relationships for sustaining culture and social influences. Therefore, a greater level of social connectedness improves the likelihood of tourists behaving sustainably. It helps locals maintain their culture, protect their environment, and gain economic benefits. Consequently, it is essential to encourage genuine interactions and cooperation among tourists and locals to increase the tourists' sense of connectedness and intensify their shared relationships for improved behavior toward sustainability.

Aside from tourists' interactions with locals and other tourists, the group connections and societal affiliations may put pressure on acting sustainably or otherwise ($\gamma_{03} = 0.428$, p<.01). The perceived social pressure exerted on tourists by people close to them influences their actions (including partners, close friends, parents, and other people of value to them). Such pressures (subtle and mostly non-verbal) drive individuals to act to satisfy the expectations of people they value who are either present at the destination or not. The current study revealed that social pressures positively influence sustainable behavior among international leisure tourists. Therefore, the stronger the social pressure to behave sustainably, the more likely tourists are to be sustainable during their leisure trips. This finding supports that of current studies by Choi and Park (2017), Liu et al. (2020), and Verma and Chandra (2018). They posit that social pressure from subjective norms is a critical driver that significantly and positively influences tourists' desires, behavioral intentions, and actual sustainable behavior. Social pressure can maintain the influence of tourists

toward sustainable actions in destinations. This influence is not only in the choice of hotels, as in the case of young Indian tourists (see Verma & Chandra, 2018) but in all activities at the visited destination.

Interestingly, tourists collecting information and recommendations from travel recommendation applications through mobile technology devices did not significantly affect tourists' sustainable behavior (γ_{05} = -0.107, p>0.05). Indeed, the regular use of mobile devices has become an everyday activity for many. Tourists may use recommendations for destinations, hotel choices, restaurants, and other tourism service provision assistance. Though mobile technology plays an essential role in tourists' experiences (Dayour et al., 2019), this study posits that recommendation apps and information do not influence tourists' sustainable behaviors. This finding is in contrast with the standpoint of Harstad et al. (2019), Hawi and Samaha (2017), Kim and Kim (2017), Levy et al. (2017), and Yu et al. (2017). They opined that mobile technology and the information derived from its use positively affects sustainable behavior and increases the perceived ability to perform sustainable actions. In addition, the catalytic effect of mobile technology use on the behavior of tourists, as opined by Shaw and Kesharwani (2019) and Law et al. (2020), was not supported by the findings of this study. Perhaps, the information and recommendations given through the applications for mobile technology and the information on destinations accessed through mobile technology do not have enough information and recommendations on behaving sustainably in destinations. As the use of mobile technology for travel advice is noted by Harstad et al. (2019) to increase the strength of the goal of avoiding trouble by complying with regulations, mobile technology use and the travel information derived from recommendation applications were expected to affect sustainable behavior of tourists.

These influencing factors of tourists' sustainable behavior help frame various goals before and during leisure trips according to activities in a destination. As a result, goals are expected to play an essential role in the sustainable behavior of leisure tourists. The following section discusses the role of goal frames in sustainable behavior.

5.5 Research objective 3: The mediating role of goal orientation in tourists' sustainable behavior

Early researchers, including Alexander and van Knippenberg (2014), and Gifford and Nilsson (2014), have posited that goal orientation positively predicts behavior in destinations. This study revealed that hedonic and gain goals positively impact the sustainable behavior of tourists. Interestingly, the normative goal of a tourist negatively impacts sustainable behavior. This finding shows that group activities of tourists and behaving in an acceptable group way are likely to influence other tourists to be unsustainable in their actions. For example, group members may litter or engage in graffiti, influencing others to do the same. Developing a social brain and adhering to social norms of destinations, as opined by Dunbar (2003) and Lindenberg and Steg (2013), is not seen as the usual situation among international leisure tourists in this study. Generally, this study agrees with Chen et al. (2019), Domurath et al. (2020), Garay et al. (2019), Gifford and Nilsson (2014), Kaspi-Baruch (2019), and Kornilaki et al. (2019) that goal orientation is a proximal predictor of behavior that is directly impacting on individual sustainable behavior. The negative impact of the normative goal frame on sustainable behavior means that tourists do not consider the well-being of others when on tours. The moment tourists consider the well-being of others, they

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become less sustainable. Although this situation is paradoxical, it must be noted that international leisure tourists travel for leisure, fun, and relaxation, which is centered on themselves. The desired outcome, in this case, is the benefit to the tourist.

At all levels, the hedonic goal acts as a mediator that amplifies the predictive power/effect of the drivers. Hence, it displays a suppressive effect on direct relationships and expresses a relatively large percentage of mediation (between 36% to 66%) than the normative goal frame (2% to 28%) and the gain goal frame (34% to 48%). This finding shows that the hedonic goal frame is relatively strong in tourism. The gain goal completely mediated the relationship between GDP and sustainable behavior. Consequently, this goal frame can be used to minimize the unsustainable behavior of tourists from affluent areas. The use of fines, prison terms, and delay or non-entry or use of a facility will deter tourists from behaving in an unsustainable way since they want to enjoy their stay in destinations.

These findings mean that while the normative and the gain goal frames generally reduce the effect of the drivers on sustainable behavior, the hedonic goal frame increases their effect on sustainable behavior. In addition, the normative goal frame is generally a weak frame to support sustainable behavior in tourism. Consequently, the normative goal is the least effective frame for promoting sustainable behavior among international leisure tourists.

5.6 Research objective 4: Effect of pandemic anxiety (COVID-19) on future behavioral intentions

Tourism is highly susceptible to shocks, including crises. The COVID-19 pandemic has affected the pattern, frequency of tourist movement, and fear among potential tourists globally. The COVID-19 pandemic has disrupted many activities, including tourism. As noted by previous researchers, its effect has caused a change in travel behavior (Marek, 2021). This study predicted that the effect of the pandemic in the form of travel anxiety tends to affect tourists' behavioral intentions for future tourism activities negatively. It confirms that the pandemic anxiety about travel negatively impacts future tourist behavior (behavioral intention) concerning sustainability. As the pandemic anxiety negatively affects social interactions, self-efficacy, and social pressures, altruism and the willingness to be sustainable may reduce.

Meanwhile, disposable medical products (including face masks) and single-use food and beverage product packages increase as the world recovers from the pandemic. Therefore, as the study findings suggest, unsustainable behavior in the post-COVID era could dominate tourists' behavior. This finding implies that tourism stakeholders should treat the anxiety effect of COVID-19 as an urgent situation to aim at achieving 2030 SDGs after the COVID-19 pandemic through tourism.

5.7 Implications of the study

Findings from this study provide some implications to expand the theoretical understanding and contribute to the discourse on the sustainable behavior of tourists and the key drivers that propel such behaviors. It provides theoretical foundations for advancing investigations into the multilevel predictors of behavior, the influence of goal frames, and the effect that COVID-19 has on the future sustainable behavior of international leisure tourists. In addition, practical implications are presented along with strategies based on the findings to help attractions, facilities, destination marketing managers, and Destination Management Organizations improve tourists' sustainable behavior and sustainability in general.

5.7.1 Theoretical implications of the study

This study investigated the multileveled drivers of sustainable behavior of international leisure tourists. Previous studies have revealed that multiple drivers influence sustainable behavior from multiple domains and levels (Lindenberg & Steg, 2013; Marquart-Pyatt, 2012; Milfont & Markowitz, 2016). In tourism, Juvan and Dolnicar (2017) alluded that the behavior of tourists results from a complex amalgamation of drivers from the individual and the environment. However, little attempt has been made to investigate the multileveled nature of these drivers and their respective effects on sustainable behavior. This study is one of the first to use multilevel modeling with Mplus to investigate the drivers of sustainable behavior in tourism. The findings of this study extend the understanding of drivers of sustainable behavior among tourists, the role of goal frame orientation in sustainable behavior formation, and the effect of COVID-19 on future

behavioral intentions of international tourists concerning sustainability. The details of the theoretical implications of this study are discussed in the following paragraphs.

This study found empirical support for the multilevel nature of drivers of sustainable behavior among international leisure tourists. This support broadens the literature on tourist behavior-sustainability nexus since the multilevel assessment of drivers of sustainable behavior is hardly discussed in the tourism literature. Previous research on tourist behavior has extensively investigated sustainable and unsustainable tourist activities (e.g., Hjalager, 2000; Mckercher et al., 2010; Moon & Han, 2019; Pearce, 2020; Stanford, 2008). However, the drivers of such actions have not received much attention. The relatively few studies that examine the drivers of sustainable behavior among tourists have done so from a single-level perspective. This study adds to the value of literature on sustainable behavior and, more specifically, on the drivers of sustainable behavior. It answers the question: "What is the nature of the drivers that influence sustainable behavior among international leisure tourists?" and fills the gap of inadequate empirical studies on the factors of sustainable tourist behavior. This study empirically establishes that the core drivers of sustainable behavior among tourists are multileveled and should be assessed using multilevel approaches to accentuate their impacts in the proper context. It, therefore, provides a grounded reason and an incentive for future scholars to assess sustainable behavior in the tourism context using multilevel approaches.

This study highlights the importance of using the multilevel approach to assess behavior drivers in tourism. For instance, travel information and recommendations received from recommendation applications by tourists for decision making and goal formation are noted to (together with other factors) have a substantial impact on the sustainable behavior of tourists to a

destination when measured from a single-level perspective. However, it is revealed that separating it from the individual-level factors and measuring it as a contextual driver (because it is neither a psychological factor nor demographic but instead emanates from the environment) loses the impact that it exerts on the behavior of tourists. The insignificant impact can be attributed to inadequate information on sustainability that can influence tourists to be sustainable in their actions. It implies that modeling factors based on individual and contextual domains reveal insightful and domain-specific findings. Thus, the study highlights the importance of multilevel modeling in investigating drivers concerning the sustainable behavior of leisure tourists and calls for more investigations into the driving factors of sustainable behavior in tourism using the multilevel approach.

Furthermore, the study contributes to the socio-psychological inquiries into individual behaviors by researchers including Lindenberg and Steg (2013) and Milfont and Markowitz (2016). This study offers new insights into the psychology of tourists regarding their activities that transcend decision-making to behavioral actions influenced by goal frames. This study highlights the importance of goal frames in tourist behavior formation and actions, largely missing in tourism literature. It theorizes that goal frame orientation mediates the impact of multilevel drivers on sustainable behavior. It implies that goal frames play a vital role in behavior formation among tourists. Though expected to impact sustainable behavior positively, the normative goal frame has a negative direct effect and a weak mediating impact. The hedonic goal and gain goal frames, on the other hand, positively impact tourists' sustainable behavior. This outcome implies that normative goals among tourists do not play the same role among international tourists as they do among residents of an area or country or other groups of individuals. As a new theoretical

perspective on tourists' sustainable behavior, goal frames will help researchers determine innovative ways to prime tourists and make them more sustainable. This study could be a starting point of cross-level theorization in the study of sustainable behavior of tourists with a focus on key drivers.

In addition, this study incorporates the Goal-Framing Theory into the investigation of sustainable behaviors of international leisure tourists. This approach helps describe the relationship between the core drivers and the tourists' sustainable behavior. Considering the shortcomings of existing theories used in tourists behavior studies, which include the inability to investigate tourist behaviors holistically and their multilevel nature (see Chua et al., 2021; Han, 2015; Han et al., 2017; Juvan & Dolnicar, 2017; Lindenberg & Steg, 2013; Steg & Vlek, 2009; Yadav & Pathak, 2017), this study builds a framework based on the Goal-Framing Theory. The framework helps to examine the drivers of sustainable behavior among tourists. It reduces the theoretical gap of not having a framework that can stipulate a comprehensive investigation into how goals affect the relationship between multilevel core drivers and sustainable behavior. In addition, it helps to address inadequate theories for investigating the complex nature and amalgamation of drivers from different dimensions and levels that impact the behavior of tourists. The framework allows for the testing of external drivers and the activation of goal frames that influence the behavior of international tourists. This study further stimulates the development of theories and testing of models investigating innovative ways to make tourists more sustainable by considering the multilevel nature of behavior drivers.

Moreover, this study extends the frontiers of existing studies that focus on environmental sustainability. It combines the three pillars (environmental, social, and economic sustainability)

into a single dependent behavior to balance the measure of sustainability while maintaining the importance of the individual dimensions. It also extends the importance of the combined dimension of sustainability in tourism and offers new scholars the foundation and opportunity to explore the individual dimensions for innovative solutions to unsustainable practices (Dolnicar, 2010; Kiatkawsin & Han, 2017) concerning sustainability while referring to the combined behavior. The current study suggests that international leisure tourists are low on sustainable behavior. However, drivers substantially impact combined behavior actions considering the hedonic goal frame. This finding offers scholars the premise to investigate further to determine specific actions that have the potential to become desired actions should goal frames change. In addition, it offers scholars the foundation for investigating which factors are more sensitive to stimulation and how they can be primed to result in sustainable behavior among tourists while maintaining or enhancing their travel experience.

5.7.2 Practical implications of the study

The growing interests in sustainability require practical strategies that will help induce sustainable behavior among individuals who travel to other places for relaxation, fun, and adventure. Tourists usually are without the sense of responsibility to care for the destination's environment, people, and economy. This study has some implications for DMO managers and facility operators who would like to understand and improve the behavioral actions of international leisure tourists to their destinations or facilities. The study suggests that information and travel recommendations powered by mobile technology were utterly irrelevant in the priming and

formation of sustainable behavior of international leisure tourists. Although recommendations and information from mobile technology are noted in other contexts as critical drivers of behavior, their relevance was not the same in this study. Therefore, destination marketing managers can use mobile technology and recommendation platforms to inform, educate, and encourage tourists to be sustainable in their actions as part of their marketing campaigns.

The study established that the self-efficacy of tourists positively influences sustainable behavior. DMO managers can embark on campaigns at entry ports and attractions to help tourists notice the ease of practicing sustainable actions and how capable they are of performing these actions in their destinations. Recommendation and guiding applications and signages can communicate unsustainable behavior and its consequences to tourists. Accordingly, destination managers like the Hong Kong Tourism Board, in collaboration with entry port authorities, can have sustainability messages to help tourists identify their capabilities and encourage them to utilize their capabilities in the destination. For instance, Hong Kong attracts substantial visitors from Mainland China. So, welcome messages to tourists can have a subtle cue of sustainability (in Mandarin) to Chinese visitors. At the same time, English versions can be sent to other nationals. Other tourism authorities, marketers, and managers of destinations such as Ghana, Spain, Macao, South Africa, Kenya, Malaysia, Thailand, and Greece can adopt subtle messages that communicate the ease and satisfaction of sustainable behavior during briefing sessions to international leisure tourists before embarking on a tour upon arrival at the destination.

Tourists' desire to travel reflected a positive effect on sustainable behavior. This desire has implications for destination marketing managers. Marketing campaigns (flyers, brochures, and electronic campaigns) can contain subtle messages that encourage potential tourists to consider

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unsustainability and its consequences. Previous studies have noted that awareness of consequences improves sustainable behavior. Therefore, if destination or attraction marketing managers increase the desire of tourists to travel to their destinations through marketing campaigns, sustainable messages and activities incorporated in marketing messages can improve sustainability among tourists during their travel, irrespective of the attraction to be visited. Since the study reveals that travel desire is as important as a tourist's level of discipline, orderliness, motivation to achieve, and self-attributed responsibility, priming tourists to have the intention to be more sustainable while marketing a destination to them will imprint in their minds the need to be sustainable during travel. This strategy is likely to improve the sustainable behavior among international leisure tourists.

The findings of this study establish that interactions with locals and social pressure induce international tourists to be sustainable. The findings emerged that social pressure has the most substantial impact on tourists' sustainable behavior among the contextual factors. This finding implies that partners, friends, and family, among other influential individuals, can help destinations to experience sustainability. In the findings, the goal of having benefits strongly impacts sustainability. It also increases the effect of the drivers of sustainable behavior. Therefore, DMOs and tourism-related facility managers can use gamification to make tourists more sustainable, as Dolnicar et al. (2020) noted for plate waste reduction. For instance, DMO or facility managers can encourage tourists to be sustainable in their actions, such as saving electricity and water, buying locally made items, or reducing waste for specific rewards or benefits as groups or in partnership with other travelers. Rewards can include dinner coupons, free drinks, and souvenirs. As the

hedonic goal strongly influences sustainable behavior, the combination of the social pressure and the quest to gain benefits, tourists are likely to behave sustainably to enjoy the benefits.

Moreover, the quest to protect and improve one's resources and avoid trouble has a substantial impact on the behavior of tourists. As this goal is closely related to utility maximization (Elliot & Church, 1997a), signage and regular communication of the consequences of disrespectful or unsustainable behavior will prompt tourists to avoid undesirable behaviors. Though this strategy may not wholly change the undesirable behaviors of tourists, knowing the effect of unsustainable behavior or misconduct on their freedom to experience the quality of moments envisioned for their trips, undesired behaviors of tourists in destinations will be reduced, and gradually, to the minimum. In addition, the presence of law enforcement agents in tourist destinations is likely to reduce undesired behavior. Therefore, governments of destinations are to improve the visibility of law enforcement agents and signage that communicates to tourists and locals about desired behavior that encourages sustainability and undesired behaviors and their repercussions. The authorities should also provide the enabling environment and facilities (e.g., waste bins for waste segregation and tourism information centers) to make sustainable behavior easy to practice.

After the COVID-19 pandemic is over, researchers predict revenge tourism or the compensatory form of tourism where travel volume will increase substantially, putting undue pressure on the limited resources and facilities. A recovery of that sort will be good news for the tourism industry. However, the current study establishes that the pandemic anxiety negatively affects the future intention of tourists to behave sustainably. Therefore, managers of DMOs, facilities and attractions should assure tourists of a safe and virus-free destination, attraction, and facilities. Marketing of destinations should incorporate travel anxiety reduction strategies. This

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assurance will help reduce anxiety during travel in the post-COVID-19 era. If the tourists feel assured of safety, their anxiety may rapidly be reduced. In effect, behavioral intentions that culminate in sustainable behavior improve the tourists' interaction with locals to understand their culture, buy local products, and keep the environment clean and safe.

5.8 Summary of chapter

This chapter presented the discussion of findings from the analysis and results of the study. It related the study's findings to the literature to determine common assertions and divergent findings. This chapter elaborated on the meaning of the findings concerning the behavior of international leisure tourists. It explained that international leisure tourists are usually not engaging in desirable behaviors. The unsustainable behavior could be attributed to the tourists' aim to relax, have fun, and free themselves from usual routines and life activities. In addition, it highlighted the importance of the findings to the theoretical development of sustainable tourism and behavioral studies. The study supported the claim of previous researchers in socio-psychology and economics. It established empirical support that multilevel predictors influence sustainable behavior among international leisure tourists.

This chapter further elaborated on the relevance of the findings of this study in practical approaches to encourage tourists to be more sustainable. It discussed and suggested ways for DMOs, destination marketers, and facility managers to prime tourists to behave or act sustainably while enjoying their stay and activities. These suggested ways include subtle sustainability messages, incorporating sustainability in destination campaign materials, gamification, and

communicating the repercussions of unsustainable behavior to tourists before and during tourism activities.

The subsequent chapter of the study will summarize the previous chapters and present the limitations of the study, in addition to recommendations for future studies. Concluding remarks that condense the study will also be stated in the chapter.

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This chapter of the study presents a summary of the previous chapters. It also presents the study's limitations and recommendations for future studies. This chapter ends with the concluding remarks that condense the study in addition to reflections.

6.2 Overview of the study

This study was conducted to contribute to knowledge concerning sustainable behavior among tourists. It aimed at analyzing the drivers of tourists' sustainable behavior through goal orientation. The objectives were to investigate the level of sustainable behavior among international leisure tourists and the effects that the multilevel predictors have on sustainable behavior. In addition, it examined the mediating role of goal orientations of tourists and the effect of pandemic anxiety on future sustainable behavioral intentions of tourists. The study respondents were sourced from active global tourism markets. It adopted respondents from three of the ten top tourist generating markets that double as top spenders on international tourism activities. The selected generating markets (China, the USA, and the UK) generated over half of international expenditure on tourism. Accordingly, the study's objectives were achieved using the quantitative method of inquiry explained and presented in six logically linked chapters.

The first chapter of this study provided an introduction to the study. It presented the purpose, context, and background information relevant to the study. In the background, sustainable development is an integral part of the global agenda for this decade (2020 – 2030). The recognition of tourism as a sure way of conserving the environment through conservation helps fulfill its intended goal if the behavior of tourists towards sustainability is understood in its totality. It further expressed that the interest of stakeholders in the sustainability of culture, environment, and the economy rests on the practice of best sustainable practices by the tourism supply actors and the tourists. To this end, chapter one identified the dynamics of tourists' behavior, which play a crucial role in the actualization of sustainable tourism—not forgetting the role of goals in behavior formation.

Consequently, research gaps were identified. They include the limited attention given to the drivers of sustainable behavior among tourists, inadequate literature on the effect of goal orientation of tourists on sustainable behavior, and inadequate theories and frameworks for assessing multilevel predictors of sustainable behavior among tourists. Furthermore, the predominant use of single-level approaches to investigate multilevel phenomena such as sustainable behavior of tourists do not reflect the actual picture to help pro-sustainable policy and strategy formation. It leaves much to be desired as the understanding of tourists' behavior toward sustainability is not comprehensively understood. Against this backdrop, five research questions were asked, leading to the following research objectives:

1. Determine the level of sustainable behavior among international leisure tourists.
2. Investigate how multilevel factors relate to the sustainable behavior of tourists;

3. Examine the mediating effect of goal frame orientation on the relationship between the multilevel factors and sustainable tourists' behavior; and

4. Examine the influence of COVID-19 travel anxiety on future sustainable behavioral intentions.

Also, chapter one presented the significance of the study to justify the essence of conducting the study.

Chapter two reviewed relevant literature on the study. It covered the nexus between sustainability, sustainable tourist behavior, and tourism and theoretical analysis of the pillars of sustainability to contextualize the research plan. Further, the chapter reviewed the thematic areas captured by previous research on sustainable behavior in tourism. A literature review also drew possible factors of tourists' sustainable behavior to present the scope of driving forces on tourists' behavioral actions. These possible factors include attitude, social norms/pressures, policies, regulations, and technology.

A myriad of theories was reviewed to set the study in its theoretical context. The theories discussed in the chapter include the Theory of Planned Behavior, Norm-Activation Theory, and the Goal-Framing Theory. Based on the limitations of the traditional theoretical approaches used in the study of sustainable behavior, the Goal-framing Theory was used as the theoretical foundation for the study. Previous empirical studies examined tourists' behavior and sustainable behavior with the single-level approach. However, the possible factors of sustainable behavior among international leisure tourists seem to be influenced by multi-domain and multilevel factors.

The conceptual model that guided the study was developed by combining the theoretical and empirical reviews. It provided the framework for explaining the multilevel nature of predictors and the effects of goal orientation, mobile technology, and pandemic anxiety caused by COVID-19 on sustainable behavior and future behavioral intentions. The study framework was based on the Goal-framing Theory. Conscientiousness, pandemic anxiety, and self-efficacy) formed the individual-level predictors of tourists' sustainable behavior.

On the other hand, the contextual-level factors were GDP, social capital, social pressure, information /recommendations, and government actions. Goal orientation, made up of three sub-goals (hedonic, normative, and gain goals), is shown as the mediator for the predictor-behavior relationships. Research hypotheses were then derived from the literature and the conceptual framework.

Chapter three presented the methodological issues concerning the study and explained the research design used in the study. In addition, the population for the study, measurement constructs, and analysis procedure were explained in this chapter. A pilot test of the research instrument was conducted to test the constructs and their applicability in this study. Data were collected from China, the USA, and the UK.

Chapter four covered the analysis and results of the study. For analysis, 1020 data sets were collected from 30 provinces, states, or counties across China, the USA, and the UK. Confirmatory Factor analysis confirmed 13 constructs for the study. Out of the thirteen, four were aggregated to the cluster level for the multilevel analysis. Furthermore, a 16% between cluster variance justified the multilevel modeling (MLM) technique. MLM was, therefore, used to ascertain the effect that the predictors have on sustainable behavior. A 2-1-1 and 1-1-1 multilevel mediation analysis were

used, as appropriate, to examine the mediating role of goal orientation on the predictor-behavior relationship with the help of Mplus. This chapter assessed the results to determine support for the hypotheses or otherwise.

Chapter five discussed the study's findings based on the research objectives. The chapter discussed the findings of this study, comparing them with the assertions made by researchers in previous studies to position the study in the extant literature. It also discussed the hypotheses to address the expectations of the study that were proposed. In addition, explanations were given to support the findings of the study. It was revealed that multilevel factors influence the behavior of tourists, where about 16% is attributed to contextual factors. The predictor-behavior relationships were confirmed except for the influence of information and recommendations on the sustainable behavior of tourists. The study also confirmed that goal orientation plays an essential role in forming tourists' sustainable behavior and the adverse effect of COVID-19 on future sustainable behavior.

Chapter six, the final chapter, summarizes the previous chapters, giving an overview of the entire study. It also provides a summary of the key findings of the study. This section is followed by a summary of key findings, limitations, and directions for future studies.

6.3 Summary of key findings

This study aimed at four objectives. The first was to determine sustainable behavior among international leisure tourists. Second, to determine whether predictors of sustainable behavior are multileveled and how they influence the behavior of international tourists regarding sustainability.

Third, to examine the mediating role of goal orientation in the predictor-behavior relationship. Finally, to examine the effect of COVID-19 pandemic travel anxiety on the future behavior of tourists concerning sustainability. The key findings are summarized for each objective in the following subsections to exhibit how they were achieved.

6.3.1 Objective 1

To determine the level of sustainable behavior among international leisure tourists.

The mixed model regression analysis showed that leisure tourists' average level of sustainability practices was 5.471. It indicates that the tourists' behavior is somewhat sustainable. However, notable differences were realized in the major tourism source markets. The ANOVA analysis revealed that Chinese tourists were more sustainable in their activities in various destinations. The American tourists followed them. Tourists from the UK were noted to have the least sustainable behavioral practices in destinations. While the Chinese tourists reported sustainable behavior (though not assertive), the tourists from the USA and UK reported somewhat sustainable behavioral actions in destinations.

6.3.2 Objective 2

To investigate how multilevel factors relate to the sustainable behavior of tourists.

This objective was approached in two steps. First, the percentage of systematic between-level variation was estimated to determine the amount of variation attributed to cluster membership. Muthén's Intraclass Correlation Coefficient revealed that about 16% of the variation in sustainable

behavior of international leisure tourists was attributed to contextual factors. This finding establishes that the factors that influence sustainable behavior among tourists are not single-leveled. Therefore, there is a need to examine them using a multilevel approach. The two-level analysis was used to assess the individual-level and contextual-level factors.

The multilevel modeling analysis revealed that individual-level factors play a significant role in forming sustainable behavior. A tourist's predisposition to be disciplined, responsible, and motivated to achieve goals positively impacts their sustainable behavioral actions. In the same way, self-efficacy positively impacts their behavior. Among the two, self-efficacy has a more substantial impact on sustainable behavior.

All except the information and recommendation play a significant role in behavior formation for contextual factors. Apart from the GDP of the generating province or state that negatively impacts tourists' sustainable behavior, social connection, social pressure, and government actions positively impact sustainable behavior. Social pressure has the most substantial impact on sustainable behavior among the contextual factors. This finding indicates that tourists from origins with high GDP are usually unsustainable in their actions during leisure tours. The findings also indicate that expectations of respected individuals and social connections with locals are fundamental drivers of tourists' sustainable behavior in destinations.

6.3.3 Objective 3

To examine the mediating effect of goal frame orientation on the relationship between the multilevel factors and sustainable tourists' behavior.

The goal orientation was sub-divided into three sub-goals. The sub-goals are the hedonic, normative, and gain goals. A 2-1-1 multilevel mediation analysis was used to examine the mediation role of the sub-goals on the cluster-level predictors-sustainable behavior relationship. The results showed that the hedonic, normative, and gain goals successfully mediate predictor-behavior relationships except for GDP-behavior with the normative goal.

A 1-1-1 multilevel mediation analysis was used with the individual-level factors to examine the mediating effect of goals on predictor-behavior relationships among international leisure tourists. The 1-1-1 analysis revealed similar results as the 2-1-1 analysis. The hedonic and gain goals mediated the relationship between self-efficacy, conscientiousness, and sustainable behavior. However, the normative goal only mediated the relationship between self-efficacy and sustainable behavior. The results show that normative goal is a weak mediator compared to hedonic and gain goals. Therefore, the normative goal is likely to be the least effective frame for promoting sustainable behavior among international leisure tourists.

6.3.4 Objective 4

To Examine the influence of COVID-19 travel anxiety on future sustainable behavioral intentions.

A regression analysis was conducted to ascertain the effect of the COVID-19 pandemic travel anxiety on behavioral intentions for future travel among leisure tourists. The regression

analysis revealed that the COVID-19 pandemic travel anxiety has a negative effect (β= -0.124; t= -7.011; p< 0.000) on future sustainable behavioral intentions. The finding means the anxiety to travel because of the COVID-19 pandemic will affect the behavior of leisure tourists if the anxiety is not lowered. The low sustainable behavior of leisure tourists will be reduced even further. The pandemic anxiety also negatively influenced the predictors (self-efficacy, social connectedness, and social pressure).

6.4 Limitations and suggestions for future research

Notwithstanding the unique contributions this study makes to the literature and practical solutions, it has the following limitations that suggest guidelines for future research. First, the examination of behavior is a broad concept. Predictors that may explain the formation of sustainable behavior among international leisure tourists are likely to be omitted in this study. The current study did not include all possible predictors of sustainable tourists' behavior. Therefore, it is possible to examine other factors that can add comprehensive results to the current study. Future studies can employ other relevant predictors from different levels to extend the findings of this study.

Second, the current study acquired cross-sectional data from three top tourist-generating countries (China, the USA, and the UK). Though tourists from these countries form about half of tourism, the study's findings are limited regarding the changes in behavioral trends of tourists. The study did not capture the changes in behavioral trends of tourists from the pre-COVID-19 era to the current state of tourism. Again, the study did not reflect the sustainable behavioral issues from other regions like the Middle East and Africa. For future studies, longitudinal data can be used to

determine consistent predictors over time to generate long-term strategies for seasonality concerns in tourism.

Third, the three countries in this study did not represent the eastern or western cultures. Though there are notable differences in people's behavior between the eastern and the western cultures, the current study did not consider cultural differences in the analysis. This study's investigation of sustainable behavior was done across three main source markets. By using more countries, a cross-cultural approach can be considered by future studies for a comparative analysis to provide insights into cultural differences and sustainable behavior. Again, the theoretical framework can later be modified and tested on different population groups from different countries, focusing on culture likely to impact world tourism and sustainability.

Fourth, the current study revealed that the Corona-Virus pandemic could potentially affect future behavioral intentions. However, the study did not consider the pandemic's influence on goal frames. In addition, the influence that the pandemic can have on the predictor-behavior relationship was not considered. Therefore, future research could consider the moderating effect of COVID-19 on the predictor-behavior relationship to provide more information on how the pandemic affects the formation of sustainable behavior. This information will enable the formation of strategies that can help accelerate the achievement of the SDGs in the post-pandemic era.

Lastly, a two-level modeling technique with the help of the Mplus software was used for conducting this study. Future research could use a more advanced data modeling approach such as the three-level multilevel modeling approach to examine the relationships between predictors at different levels. These levels can be individual, social or state-level, and the country level. Examining predictors from these levels will help uncover more possible relationships that can help

understand sustainability comprehensively. For example, a three-level model could be constructed to examine the stringency of laws/regulations regarding sustainability at the country level, personality or sociodemographics at the individual level, and social factors. Results from mixed models with three levels will provide more comprehensive information for better strategic decisions than the current study.

6.5 Concluding remarks

Concerns about sustainability are critical to the development of tourism. Literature has revealed that a human-centered approach to development is necessary to help safeguard a destination's economy, environment, and culture. Given this, the behavior of tourists has gained considerable attention (Grilli et al., 2021). However, the drivers of the sustainable behavioral actions of tourists have been given limited attention. Therefore, compared to the effect of tourist behavior, limited studies have been conducted to investigate the drivers of sustainable behavior among tourists.

Consequently, this research aimed to contribute to the emerging literature on the drivers of sustainable behavior among international leisure tourists. This study used a multilevel modeling approach to investigate tourists' sustainable behavior drivers with four proposed research objectives. These four objectives were achieved with the help of SPSS and Mplus software.

The current research developed a theoretical framework by combining the literature's theoretical review and empirical review. The Goal-framing Theory was used as the basis for the framework. It can be concluded that tourists generally have a low level of unsustainable. Multilevel

predictors influence the level of sustainable behavior, with social pressure having a more substantial effect on behavior. In addition, the affluence of tourist-generating regions negatively influences tourists' sustainable behavior. In addition, goals play an integral role in sustainability actions among tourists. Interestingly, the normative goal has a weak mediating effect on the predictor-behavior relationships. Travel anxiety caused by the COVID-19 pandemic has a detrimental effect on future sustainable behavioral intentions.

This study expands the knowledge on the sustainable behavior of tourists and, specifically, the drivers that influence the sustainable behavior of international leisure tourists. The study paves the way for new methodological approaches to studying the drivers of sustainable behavior for future studies. Though the study is the initial step toward using the multilevel approach to investigate sustainable tourism behavior, it offers insightful contributions. This thesis provides theoretical contributions to sustainable tourism knowledge, including methodological contributions. It also provides

6.6 Summary of chapter

This chapter presented an overview of the study and provided conclusions on the research objectives. In addition, this chapter of the study highlighted the limitation of the study and offered recommendations for future research.

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APPENDICES

Appendix 1. *Survey Questionn*air*e* (ENGLISH VERSION)

A survey of drivers of tourists' sustainable behavior

Dear Respondent,
Thank you for taking the time to complete this survey.

The study aims to analyze the factors that influence the sustainable behavior of tourists. The findings will help improve knowledge and understanding of behavioral triggers and provide a reference method for encouraging the sustainable behavior of tourists.

This survey will take 15 minutes.

Your answers will be treated with strict anonymity and confidentiality. Responses will be used for academic purposes only and will be kept for at least 5 years for reference and audit purposes.

If you want more information about this study, you may freely contact me.

Yours sincerely,

Emmanuel Gamor, Ph.D. Student
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Part 1: Kindly respond to all the questions

[Screening Questions]

I agree to participate in the research study voluntarily, and I understand the purpose and nature of this study.

[ ] Yes   [ ] No   If yes, respondent is permitted to continue

Have you traveled for tourism outside your country of residence within the past 5 years?

[ ] Yes   [ ] No   If yes, respondent is eligible for the study

How old are you? (complete years)………………………….

Strongly disagree (SD)	Disagree (D)	Somewhat disagree (SWD)	Neither agree nor disagree (NA/D)	Somewhat agree (SWA)	Agree (A)	Strongly agree (SA)
1	2	3	4	5	6	7

	Strongly disagree			←→			**Strongly agree**
To what extent do you agree with the statements concerning your capacity to execute the following?	SD	D	SWD	NA/D	SWA	A	SA
1 I know about the actions of tourists that help maintain tourism resources for future use.	1	2	3	4	5	6	7
3 I can reduce environmental impact by participating in activities that preserve the natural environment.	1	2	3	4	5	6	7
4 I am responsible for convincing those damaging the natural environment (e.g., littering and graffiti).	1	2	3	4	5	6	7
5 I have the responsibility to convince those who are disrespecting the values and norms of the host community.	1	2	3	4	5	6	7
6 I feel confident that I can perform actions to preserve resources when I travel for leisure.	1	2	3	4	5	6	7
Please indicate to what extent you agree with the following statements about your approach to work (how to get things done)	SD	D	SWD	NA/D	SWA	A	SA
7 I plan and organize things (in advance), to avoid (stacking up to) rush at the last minute.	1	2	3	4	5	6	7
8 I often push myself to try and achieve my goal.	1	2	3	4	5	6	7
9 I see myself as disciplined.	1	2	3	4	5	6	7
10 When people tell me that I am wrong, my first reaction is to argue with them.	1	2	3	4	5	6	7
11 When working, I sometimes have difficulties because I am disorganized.	1	2	3	4	5	6	7
12 I do only a minimum amount of work necessary to get things done or pass.	1	2	3	4	5	6	7

To what extent do you agree with the statements concerning what an important person /group will approve and support?	SD	D	SW D	NA /D	SW A	A	S A
13 People who are important to me think I should protect the environment when I travel.	1	2	3	4	5	6	7
14 People whose opinions I value would want me to abide by the destination norms and values.	1	2	3	4	5	6	7
15 The people close to me would buy local goods from the local shops in the destination.	1	2	3	4	5	6	7
16 Protecting the environment is important to the group I belong.	1	2	3	4	5	6	7
To what extent do you agree with the statements concerning the network and relationship with locals during your most recent trip?	SD	D	SW D	NA /D	SW A	A	S A
17 I have friendly relationships with residents of the destinations I visit.	1	2	3	4	5	6	7
18 During my tour, the local people were honest and reliable.	1	2	3	4	5	6	7
19 There were no conflicts with the locals during my visit.	1	2	3	4	5	6	7
20 I often volunteer to help locals when I am on tour.	1	2	3	4	5	6	7
21 I join community works/communal labor on the days that the local communities have community works (e.g., community cleaning, the building of schools, etc.).	1	2	3	4	5	6	7
22 I join a group of other tourists that help local communities during my travel.	1	2	3	4	5	6	7
To what extent do you agree with the statements concerning pleasant or unpleasant sensations?							
23 It is exciting to participate in sustainable activities.	1	2	3	4	5	6	7
24 Compared to non-sustainable activities, sustainable activities are enjoyable.	1	2	3	4	5	6	7
25 I am easily moved by the advertisement of sustainable products and activities.	1	2	3	4	5	6	7
26 I gain happiness during sustainable activities on a trip.	1	2	3	4	5	6	7
27 I gain satisfaction when doing green consumption.							
28 I feel proud when acting sustainably.							
To what extent do you agree with the statements concerning desirable and undesirable actions?							
29 Environment protection culture improves the quality of life of the locals.	1	2	3	4	5	6	7

30 I feel morally obliged to act sustainably.	1	2	3	4	5	6	7
31 It is important to treat everybody equally.	1	2	3	4	5	6	7
32 Tourists have to save the ecosystem by preserving the natural environment of destinations.	1	2	3	4	5	6	7
33 Adopting a sustainable lifestyle and consumption during vacation travel is important to me.	1	2	3	4	5	6	7
To what extent do you agree with the statements concerning avoiding trouble and other costs?							
34 Clean destinations boost my energy and makes me feel healthy on tour.	1	2	3	4	5	6	7
35 Green consumption (e.g., energy-saving, recycling) helps lower living costs in destinations.	1	2	3	4	5	6	7
36 Buying from the local communities helps me to save money.							
37 Sustainable practices can improve my social status and make life more decent.	1	2	3	4	5	6	7
38 There are some benefits (e.g., subsidized prices, discounts) to green consumption.	1	2	3	4	5	6	7
39 Abiding by the destination values and rules will keep me out of trouble.							
Please indicate what you were able to do during my last trip :							
40 I always sorted food waste on my last trip before putting out the trash.	1	2	3	4	5	6	7
41 I recycled as much as I could during my last trip.	1	2	3	4	5	6	7
42 I changed my lifestyle to reduce waste during my last trip.	1	2	3	4	5	6	7
43 When I interacted with the locals, I always treated them with respect.	1	2	3	4	5	6	7
44 I showed the same respect to both men and women.	1	2	3	4	5	6	7
45 I supported a social group or an aid organization.	1	2	3	4	5	6	7
46 I bought local goods.	1	2	3	4	5	6	7
47 During my trip, I often did things that helped people.	1	2	3	4	5	6	7
48 I intentionally avoided buying goods that are not labeled as environmentally friendly.	1	2	3	4	5	6	7
Please indicate your level of agreement to the desire to travel							
49 I want to travel for tourism sustainably way soon	1	2	3	4	5	6	7

50	I wish to travel as soon as the pandemic is over	1	2	3	4	5	6	7
51	I am eager to travel for leisure shortly	1	2	3	4	5	6	7
52	My wish to travel for tourism shortly can be described desirably	1	2	3	4	5	6	7
For my future trip, I will....								
53	I am willing to buy locally produced goods.	1	2	3	4	5	6	7
54	I intend to reduce waste as much as possible.	1	2	3	4	5	6	7
55	I intend to interact with the local people respectfully	1	2	3	4	5	6	7
56	I intend to respect the local culture	1	2	3	4	5	6	7
57	I will separate food waste before putting out the trash	1	2	3	4	5	6	7
58	I intend to recycle as much as I can during the tour	1	2	3	4	5	6	7
Please, indicate your level of agreement to the following statements.								
59	I use a travel recommendation system (E.g., Trip Advisor, Booking.com) to make travel choices	1	2	3	4	5	6	7
60	The recommendation service has always met my expectations.	1	2	3	4	5	6	7
61	The recommender service always helped me during my trip to find meaningful activities at destinations.	1	2	3	4	5	6	7
62	I often use mobile apps for travel advice.	1	2	3	4	5	6	7
63	I consider myself a frequent user of mobile devices.	1	2	3	4	5	6	7
64	I am confident in using mobile devices, such as smartphones, notebooks, and iPad.	1	2	3	4	5	6	7
Please, indicate how COVID-19 has affected you								
65	COVID-19 makes me worry a lot about my usual traveling and vacationing methods.	1	2	3	4	5	6	7
66	It makes me uncomfortable to think about COVID-19 while planning my vacation.	1	2	3	4	5	6	7
67	I am afraid to risk my life when I travel because of COVID-19.	1	2	3	4	5	6	7
68	When watching the news about COVID-19, I become nervous or anxious regarding travel.	1	2	3	4	5	6	7
69	I do not feel safe to travel due to COVID-19.	1	2	3	4	5	6	7
To what extent does the last destination implement the following:								
70	Provide sufficient information to encourage eco-tourism and other sustainable activities in the destination.	1	2	3	4	5	6	7

71	Information campaign (e.g., green passport campaign) clearly explains the benefits of sustainable consumption.	1	2	3	4	5	6	7
72	Clear Signage to inform tourists about unacceptable acts.	1	2	3	4	5	6	7
73	Visible law enforcement agents at attractions and touristic areas.	1	2	3	4	5	6	7
74	Provision of sufficient waste separation bins to facilitate recycling.	1	2	3	4	5	6	7
75	Provision of clear guidelines on responsible behavior at tourism centers.	1	2	3	4	5	6	7

Travel Characteristics

Have you been vaccinated against COVID-19?
[ ] Yes. Fully vaccinated
[ ] Yes. Partially vaccinated
[ ] Not yet vaccinated
[ ] I will not take the vaccine

For my next holiday, I will travel to a destination I have been to before.
[ ] Definitely yes
[ ] Probably yes
[ ] Might or might not
[ ] Probably not
[ ] Definitely not

For your next travel, how likely are you to book travel insurance?
[ ] Extremely likely
[ ] Somewhat likely
[ ] Neither likely nor unlikely
[ ] Somewhat unlikely
[ ] Extremely unlikely

Part 2: Travel Characteristics

In this part, please describe the last or recent leisure trip you made.

1. Which country did you travel to for your previous trip (last)?

    _____

2. How long was your stay? _____days.

3. Who organized your last trip?

    [ ] Independent trip

[ ] Tour group trip

4. Whom did you travel with? *(Please tick all that apply)*

        [ ] Travelled alone
        [ ] Family
        [ ] Friends/colleagues
        [ ] Others I do not know

5. What type of attractions or activities did you engage in during the most recent trip?

(Please tick all that apply)

[ ] Natural attractions (such as National parks, waterfalls, beaches, islands, mountains

[ ] Cultural attractions (such as Museums, historical sites, festivals, food, theatre and concert shows, and theatre arts)

[ ] Entertainments attractions (such as theme parks, shopping centers, casinos)

[ ] Outdoor recreational attractions (such as hiking, sports activities, biking, snow sports)

[ ] Other Please specify ………………..

6. The recent past trip was my first international travel for tourism activities.

        [ ] Yes   [ ] No

7. Do you belong to any sustainability activist group? [ ] Yes   [ ] No

8. Please provide the name: …………………………………………………………..

9. What was the purpose of the visit?

        [ ] Leisure/vacation [ ] Business [ ] Visiting family & friends

        [ ] Health treatment [ ] Food   [ ] Others

Part 3: Demographical characteristics

1. Gender: [ ] Male   [ ] Female   [ ] Non binary

               [ ] Prefer not to say

2. Nationality   _____

3. Which state do you live in? _____

4. Which year were you born? The year _____ (e.g., 1982)

5. Marital status:

   [ ] Married
   [ ] Widowed
   [ ] Divorced
   [ ] Separated
   [ ] Never married

6. Educational level:

   [ ] Below high school   [ ] Secondary/High School

   [ ] College (eg. Diploma)   [ ] Bachelor's Degree

   [ ] Master's Degree   [ ] Doctorate Degree

7. Employment status:

   [ ] Employed full time   [ ] Retired

   [ ] Employed Part-time   [ ] Student

   [ ] Unemployed looking for work [ ] Disable

   [ ] Unemployed looking for work

8. Which of the following best describes the annual household income (before tax)?

   [ ] Less than US$ 20,000   [ ] US$ 20, 000 - 39,999

   [ ] US$ 40, 000 - 59, 000   [ ] US$ 60, 000 - 79, 999

   [ ] US$ 80, 000 – 99,999   [ ] US$ 100, 000 and above

Thank you for taking the time to participate in this survey. If you have any questions, please contact emmanuel.gamor@

Appendix 2. *Survey Questionnaire* (MANDARIN CHINESE VERSION)

游客可持续行为影响因素调查

尊敬的先生/女士：

感谢您抽出宝贵时间来完成此次调查。

本研究旨在分析游客可持续行为的影响因素。研究结论将有助于提升人们对游客可持续行为的认知和理解，并为鼓励游客的可持续行为提供可借鉴的方法。

此次调查将需要您抽出 10-15 分钟时间来完成。

本研究将采用匿名形式，我们会严格保密您的信息，请您放心如实填写。 所有信息将仅用于学术用途。 您的答复将至少保存 5 年，以供参考和审计之用。如果您想了解有关本研究的更多信息，欢迎随时与我联系。

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［筛选］

我同意自愿参加此次调查，并且我了解此次调查的目的和性质。

[ ] 是　　　　　　[ ] 否

在过去的 5 年中，您是否曾到居住国以外的地方休闲旅行？

[ ] 是　　　　　　[ ] 否

您的年龄：_____（岁）

非常不同意	不同意	有点不同意	既不同意也不反对	有点同意	同意	非常同意
1	2	3	4	5	6	7

非常不同意 ◀━━▶非常同意

	1	2	3	4	5	6	7
您在多大程度上同意以下有关您执行这些行为能力的陈述？	1	2	3 4		5	6	7
1　我知道游客的可持续性行为有助于维护旅游资源以供未来使用。	1	2	3 4		5	6	7
2　对我来说，采取行动来保护环境是非常困难的。	1	2	3 4		5	6	7
3　我可以通过参与保护自然环境的活动来减少对环境的不良影响。	1	2	3 4		5	6	7
4　我有责任说服那些破坏自然环境的人（例如：乱扔垃圾和涂鸦）。	1	2	3 4		5	6	7
5　我有责任说服那些不尊重当地社区价值观和规范的人。	1	2	3 4		5	6	7
6　在休闲旅行时，我有信心可以采取行动来保护自然资源。	1	2	3 4		5	6	7
请指出您在多大程度上同意以下有关您对您处事方法（完成事情的方法）的陈述							
7　我会（事先）计划和组织待完成的事项，以避免（堆积至）最后期限的仓促	1	2	3 4		5	6	7
8　我经常督促自己努力实现目标。	1	2	3 4		5	6	7
9　我认为自己是自律的。	1	2	3 4		5	6	7
10 当人们告诉我我错了时，我的第一反应是与他们争论。	1	2	3 4		5	6	7
11 工作时，我有时会因为杂乱无章而遇到困难。	1	2	3 4		5	6	7
12 我只做最少量的工作来力来做必需完成的事情	1	2	3 4		5	6	7
您在多大程度上同意以下有关对您而言重要的人/群体的意见（比如：赞同和支持）的陈述？							
13 对我很重要的人认为我应该在旅行时保护环境。	1	2	3 4		5	6	7

14	那些意见被我看重的人会希望我遵守目的地的规范和价值观。	1	2	3 4	5	6 7
15	我身边的人会从目的地的当地商店购买当地商品。	1	2	3 4	5	6 7
16	保护环境对我所属的群体很重要保护环境对我们（我所在的群体）来说是很重要的。	1	2	3 4	5	6 7

您在多大程度上同意最近一次旅行中有关社交网络以及与当地人的关系的陈述？

17	我与我访问过的目的地的居民有着友好的关系。	1	2	3 4	5	6 7
18	在我上次旅行中，当地人诚实可靠。	1	2	3 4	5	6 7
19	在我旅游期间，没有与当地人发生冲突。	1	2	3 4	5	6 7
20	在这次旅行中，我参加免费帮助当地人的活动。	1	2	3 4	5	6 7
21	在当地社区开展社区工作的日子，我参加社区工作/社区劳动。	1	2	3 4	5	6 7
22	在我旅行期间，我加入到一群其他游客中去帮助当地社区。	1	2	3 4	5	6 7

您在多大程度上同意以下有关愉快或不愉快感觉的陈述

23	干净的目的地增强了我的能量，让我在旅行中感觉健康。	1	2	3 4	5	6 7
24	参与可持续活动令人兴奋。	1	2	3 4	5	6 7
25	享受生活的乐趣很重要。	1	2	3 4	5	6 7
26	在休闲旅游中感到快乐很重要。	1	2	3 4	5	6 7

您在多大程度上同意以下有关可取和不可取行为的陈述？

27	环保文化提高了当地人的生活质量。	1	2	3 4	5	6 7
28	我觉得我有道德义务进行可持续性旅行行动	1	2	3 4	5	6 7
29	平等对待每一个人很重要。	1	2	3 4	5	6 7
30	我在一座城堡里。请选择有点不同意。	1	2	3 4	5	6 7
31	游客必须通过保护目的地的自然环境来拯救生态系统。	1	2	3 4	5	6 7
32	在假期旅行中采用可持续的生活方式和消费对我来说很重要。	1	2	3 4	5	6 7

您在多大程度上同意以下有关避免麻烦和其他费用的陈述？

33	绿色消费（例如：节能回收）有助于降低目的地的生活成本。	1	2	3 4	5	6 7
34	从当地社区购买将帮助我省钱。	1	2	3 4	5	6 7

35 加法更大。请选择有点不同意。	1	2	3	4	5	6	7
36 遵守目标价值观和规则将使我远离麻烦。	1	2	3	4	5	6	7
37 我避免破坏环境以避免罚款。	1	2	3	4	5	6	7
请说明您在上次旅行当中是否有进行了如下行为							
38 上次旅游时，我一直会把食物(厨余)垃圾进行分类再扔垃圾。	1	2	3	4	5	6	7
39 在上次旅行期间，我尽可能多地回收利用。	1	2	3	4	5	6	7
40 在上次旅行期间，我改变了生活方式以减少浪费。	1	2	3	4	5	6	7
41 当我与当地人互动时，我总是尊重他们。	1	2	3	4	5	6	7
42 在上次旅行期间，我对男人和女人都表现出同样的尊重。	1	2	3	4	5	6	7
43 在上次旅行期间，我支持了一个社会团体或一个援助组织。	1	2	3	4	5	6	7
44 在上次旅行期间，我购买了当地的商品。	1	2	3	4	5	6	7
45 在上次旅行期间，我经常用不同的方式做一些帮助别人的事情。	1	2	3	4	5	6	7
46 我有意避免购买非环境友好的商品。	1	2	3	4	5	6	7
对于我未来的旅行，我会…							
47 我愿意购买当地生产的商品。	1	2	3	4	5	6	7
48 我打算尽可能减少浪费。	1	2	3	4	5	6	7
49 我打算恭敬地与当地人互动。	1	2	3	4	5	6	7
50 我打算尊重当地文化。	1	2	3	4	5	6	7
51 在倒垃圾之前，我会一直将食物垃圾分类。							
52 我打算在旅行期间尽可能多地循环利用。							
请指出您对以下陈述的同意程度。							
53 我使用旅游推荐软件（例如：TripAdvisor 和 booking.com）做出旅游选择。	1	2	3	4	5	6	7
54 软件上的推荐服务一直符合我的期望	1	2	3	4	5	6	7
55 在我旅行期间，推荐服务不断帮助我在目的地找到有意义的活动。	1	2	3	4	5	6	7
56 我经常使用 App 搜索旅行建议。	1	2	3	4	5	6	7
57 我认为自己经常使用移动设备。	1	2	3	4	5	6	7

58 我对使用移动设备充满信心，例如智能手机，笔记本电脑，和 iPad。	1	2	3 4		5		6 7	

请说明 COVID-19 对您的影响

59 COVID-19 让我非常担心我的正常旅行和度假方式。	1	2	3 4		5		6 7	
60 在计划假期时想到 COVID-19 让我感到不舒服。	1	2	3 4		5		6 7	
61 由于 COVID-19，我害怕在旅行时有生命危险的担忧。	1	2	3 4		5		6 7	
62 在观看有关 COVID-19 的新闻时，我对旅行感到紧张或焦虑。	1	2	3 4		5		6 7	
63 由于 COVID-19，我觉得旅行不安全。	1	2	3 4		5		6 7	

第 2 部分：请在 ✓ 上打勾或填写相应的答案

1. 上一次旅行，您去过哪个国家？ _____

2. 您在这个国家呆了多少天？ _____

3. 您上一次的旅行是如何安排的？？
   [   ]   自组织
   [   ]   旅行团

4. 最近的一次旅行，您是和谁一起去的 ？ （请勾选所有适用项））
   [   ]   一个人旅行
   [   ]   和家人一起旅行
   [   ]   和朋友/同事一起旅行
   [   ]   陌生人一起旅行

5. 在您最近的旅行中，您参加了哪些类型的景点或活动？ （请勾选所有适用项）
   [   ] 自然景点（例如国家公园、瀑布、海滩、岛屿、山脉
   [   ] 文化景点（例如博物馆、历史遗迹、节日、美食、戏剧和音乐会表演、以及戏剧艺术）
   [   ] 娱乐景点（例如主题公园、购物中心、赌场）

［ ］户外休闲景点（例如远足、体育活动、骑自行车、雪上运动）

［ ］其他。请注明……………。

6. 最近的旅行是我第一次参加旅游活动的国际旅行。

　　［ ］　是

　　［ ］　否

7. 您是否是任何可持续发展的组织（团体）的成员？
　　［ ］　是
　　［ ］　否

　　如果您选择：是，　请提供该团体名称：＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

第 3 部分：请在 ✔ 上打勾或填写相应的答案

1. 您的性别
　　［ ］男性
　　［ ］女性
　　［ ］非二元/第三性别
　　［ ］　不想说

2. 您的国籍是：＿＿＿＿＿＿＿＿＿

3. Province 你住在哪个省? ＿＿＿＿＿＿＿＿

4. 您是哪一年出生的？ （例如，1973 年）＿＿＿＿＿＿＿＿＿＿＿＿＿

5. 您的婚姻状况如何？

　　［ ］　已婚
　　［ ］　丧偶

[ ] 离婚
[ ] 分居
[ ] 未婚

6. 您的教育程度：

[ ] 高中以下

[ ] 高中毕业

[ ] 大专（例如：文凭，高级文凭）

[ ] 学士学位

[ ] 专业学位

[ ] 硕士研究生

[ ] 博士研究生

6. 您的目前职业是什么？ (Work status =工作状态)
　　　　[ ] 全职工作
　　　　[ ] 兼职工作
　　　　[ ] 待业中，正在找工作
　　　　[ ] 待业中，没有在找工作
　　　　[ ] 退休
　　　　[ ] 学生

7. 以下哪一项最能描述您的家庭年收入（税前）？
　　　　[ ] 低于 ¥129,273.07
　　　　[ ] ¥129,273.07 – ¥258,539.68
　　　　[ ] ¥258,561.74 – ¥387,840.73
　　　　[ ] ¥387,828.69 – ¥517,060.46
　　　　[ ] ¥517,060.85 – ¥646,306.44
　　　　[ ] ¥646,326.60 – ¥7675,569.02
　　　　[ ] 大于 ¥775,569.88

感谢您抽出宝贵时间参与本次调查。如有任何疑问，请联络 emmanuel.gamor@

Appendix 3. Sample Mplus Syntax for fixed effects models

```
TITLE:           Multilevel Models Level 1 Fixed Effects Model
DATA:            FILE IS Data April 8.dat;
VARIABLE:        NAMES ARE

ID Screen3
GDP_S Market DOB Marry Edu Employ Pay_645 Age1 Age_Gen filter
GDPsta GDP_Cat HDI HDI_Cat Female
Se4 Cons4 CONS_R SP4 SC4 IR4 Pas4 GA4 TD4 HG4 NG4 GG4 SB4 PAS4_R
Se4_Agg Con4_Agg SP4_Agg SC4_Agg IR4_Agg Pas4_Agg PAS_R_Ag GA4_Agg
TD4_Agg HG4_Agg NG4_Agg GG4_Agg SB4_Agg BI4 BI4_mean Pas1R Pas2R
Pas3R Pas4R Pas5R;
```

[The variables have been reduced to save space]

```
Cluster is State;

 USEVARIABLES ARE
   SB4 Se4 Cons4 Pay_645 Marry Age1 TD4;

  within = Se4 Cons4 Pay_645 Marry Age1 TD4;

  Missing are all (99);

  Cluster is State;

  Define: Center Se4 Cons4 Age1 TD4(Groupmean);
  ! Center the estimates by the group mean it is more intuitive

  Analysis: TYPE IS Twolevel; Iteration 1200000;

  Model:
  %within%! indicates the model at level 1
  SB4 on Se4 Cons4 Pay_645 Marry Age1 TD4;

  Output: Sampstat STDYX; !no STDYX in random model
  ! this will ask for a standardized solution Rsquare and estimates
```

Appendix 4. Sample Mplus Syntax for Means-as-outcomes models

```
TITLE:          Multilevel Models –Level 2 means-as-outcomes
  !Multilevel Models
  DATA:           FILE IS Data April 8.dat;
  VARIABLE:       NAMES ARE

  ID Screen3
  GDP_S Market DOB Marry Edu Employ Pay_645 Age1 Age_Gen filter
  GDPsta GDP_Cat HDI HDI_Cat Female
  Se4 Cons4 CONS_R SP4 SC4 IR4 Pas4 GA4 TD4 HG4 NG4 GG4 SB4 PAS4_R
  Se4_Agg Con4_Agg SP4_Agg SC4_Agg IR4_Agg Pas4_Agg PAS_R_Ag GA4_Agg
TD4_Agg HG4_Agg NG4_Agg GG4_Agg SB4_Agg BI4 BI4_mean Pas1R Pas2R
  Pas3R Pas4R Pas5R;

[The variables have been reduced to save space]

  Cluster is State;

   USEVARIABLES ARE
     SB4 GDP_Cat SC4_Agg SP4_Agg GA4_Agg IR4_Agg;

   Between = GDP_Cat SC4_Agg SP4_Agg GA4_Agg IR4_Agg;

   Missing are all (99);

   Cluster is State;

   Define: Center GDP_Cat SC4_Agg SP4_Agg GA4_Agg IR4_Agg(Grandmean);
   ! Center the estimates by the group mean it is more intuitive

   Analysis: TYPE IS Twolevel; Iteration 1200000;

   Model:
   %between% ! indicates the model at level 1
   SB4 on GDP_Cat SC4_Agg SP4_Agg GA4_Agg IR4_Agg;

   Output: Sampstat STDYX; !no STDYX in random model
   ! this will ask for a standardized solution Rsquare and estimates
```

Appendix 5. Sample Mplus Syntax for Multilevel Models (MLM)

```
TITLE:          Multilevel Model
  !Multilevel Models
  DATA:           FILE IS Data April 8.dat;
  VARIABLE:       NAMES ARE

  ID Screen3
  GDP_S Market DOB Marry Edu Employ Pay_645 Age1 Age_Gen filter
  GDPsta GDP_Cat HDI HDI_Cat Female
  Se4 Cons4 CONS_R SP4 SC4 IR4 Pas4 GA4 TD4 HG4 NG4 GG4 SB4 PAS4_R
  Se4_Agg Con4_Agg SP4_Agg SC4_Agg IR4_Agg Pas4_Agg PAS_R_Ag GA4_Agg
TD4_Agg HG4_Agg NG4_Agg GG4_Agg SB4_Agg BI4 BI4_mean Pas1R Pas2R
  Pas3R Pas4R Pas5R;

[The variables have been reduced to save space]

  Cluster is State;

   USEVARIABLES ARE
     SB4 Se4 Cons4 Pay_645 Marry Age1 TD4 GDP_Cat SP4_Agg SC4_Agg IR4_Agg
GA4_Agg;

    within = Se4 Cons4 Pay_645 Marry Age1 TD4;
    between = GDP_Cat SP4_Agg SC4_Agg GA4_Agg IR4_Agg;

    Missing are all (99);

    Cluster is State;

    Define: Center Se4 Cons4 Pay_645 Age1 TD4(Groupmean);
    ! Center the estimates by the group mean. It is intuitive

    Define: Center SP4_Agg SC4_Agg GA4_Agg IR4_Agg (Grandmean);

    Analysis: TYPE IS Twolevel Random; Iteration 1200000;

    Model:
    %within% ! indicates the model at level 1
    SB4 on Cons4 Pay_645 Marry Age1 TD4;
    S | SB4 on Se4;

    %between%
    S with SB4;
    S on GDP_Cat SP4_Agg SC4_Agg GA4_Agg IR4_Agg;
    SB4 on GDP_Cat SP4_Agg SC4_Agg GA4_Agg IR4_Agg;

    Output: Sampstat; !STDYX; !no STDYX in random model
    ! this will ask for standardized solution Rsquare and estimates
```

Appendix 6. Sample Mplus Syntax for 1-1-1 Multilevel Mediation Model

```
TITLE:          1-1-1 Multilevel Mediation Model
  DATA:          FILE IS Data April 8.dat;
  VARIABLE:      NAMES ARE

    ID Screen3
  GDP_S Market DOB Marry Edu Employ Pay_645 Age1 Age_Gen filter
  GDPsta GDP_Cat HDI HDI_Cat Female
  Se4 Cons4 CONS_R SP4 SC4 IR4 Pas4 GA4 TD4 HG4 NG4 GG4 SB4 PAS4_R
  Se4_Agg Con4_Agg SP4_Agg SC4_Agg IR4_Agg Pas4_Agg PAS_R_Ag GA4_Agg
TD4_Agg HG4_Agg NG4_Agg GG4_Agg SB4_Agg BI4 BI4_mean Pas1R Pas2R
  Pas3R Pas4R Pas5R;

[The variables have been reduced to save space]

  Cluster is State;

  Missing are all (99);

  USEVARIABLES ARE
  State SB4 Cons4 NG4;
  Cluster is State;

  Analysis: Type is Twolevel Random;

  Model:
  %within%
  sa | NG4 ON Cons4;
  sb | SB4 ON NG4;
  sc | SB4 ON Cons4;

  %between%
  sa sb sc NG4 SB4 Cons4;
  [sa] (a);
  [sb] (b);
  [sc] (c);
  sa WITH sc NG4 SB4;
  sb WITH sc NG4 SB4;
  sc WITH NG4 SB4;
  SB4 WITH NG4;
  sa WITH sb(cab);

  MODEL CONSTRAINT:
  NEW(T ind);
  ind = a*b+cab;
  T = ind+c;
  Output: Tech1 Tech8 CINTERVAL;
  !This code is based on Preacher, Zhang & Zyphur (2010) and (2011)
```

Appendix 7. Sample Mplus Syntax for 2-1-1 Multilevel Mediation Model

```
TITLE:          2-1-1 Multilevel Model (Traditional)
  !multilevel Models
  DATA:           FILE IS Data April 8.dat;
  VARIABLE:       NAMES ARE

    ID Screen3
  GDP_S Market DOB Marry Edu Employ Pay_645 Age1 Age_Gen filter
  GDPsta GDP_Cat HDI HDI_Cat Female
  Se4 Cons4 CONS_R SP4 SC4 IR4 Pas4 GA4 TD4 HG4 NG4 GG4 SB4 PAS4_R
  Se4_Agg Con4_Agg SP4_Agg SC4_Agg IR4_Agg Pas4_Agg PAS_R_Ag GA4_Agg
TD4_Agg HG4_Agg NG4_Agg GG4_Agg SB4_Agg BI4 BI4_mean Pas1R Pas2R
  Pas3R Pas4R Pas5R;
```

[The variables have been reduced to save space]

```
  Cluster is State;

   Missing are all (99);

   USEVARIABLES ARE
   State SB4 GDP_Cat HG4;
   Cluster is State;
   Between is GDP_Cat;
   Analysis: Type is Twolevel Random;

   Model:
   %within%
   HG4 SB4;
   SB4 ON HG4 (b);

   %between%
   HG4 ON GDP_Cat (a);
   SB4 ON HG4 (b);
   SB4 ON GDP_Cat (c);


   MODEL CONSTRAINT:
   NEW(T indb);
   indb = a*b;
   T = indb+c;
   Output: Tech1 Tech8 CINTERVAL;

   !This code is based on Preacher, Zhang & Zyphur (2010) and (2011)
```