EXPLORING TOURIST RESPONSE TO FRIENDLY ENVIRONMENTAL DESIGN AND PERCEIVED VALUE ON TOURIST VISITATION INTENTION OF ADULT-CHILDREN TRAVELING WITH THEIR PARENTS

Jiin-Ling Lin and Ren-Fang Chao*

Department Leisure Management, I-Shou University, Taiwan
*Corresponding Author: Ren-Fang Chao

ABSTRACT

The purpose of this study is to explore the travel decision-making of a specific type of traveler, adult-children, and their aged parents. The study examines the impact of an age-friendly environment and perceived value on the tourist's travel intention. The results show that in addition to the significant impact of perceived value on tourism intentions, age-friendly environmental design has also been confirmed to play a mediating role between the above two dimensions. This phenomenon indicates that good age-friendly environmental design is indeed a key factor in adult-child and parent travel decision-making.

KEYWORDS: Friendly Environment, Perceived Value, Travel Intentions, Mediation Effect

1. INTRODUCTION

The World Health Organization (WHO) declared a Decade of Healthy Ageing (2021–2030) in December 2020 (Amuthavalli Thiyagarajan et al., 2022). In 2017, the proportion of adults aged 65 year and older in Taiwan reached 14.05%, which classified Taiwan as an aged society according to the WHO (Huang et al., 2019). Countries with large portions of the population aged 65 and older are classified by WHO using three thresholds, (i) an aging society with 7% of the population age 65 and above, (ii) an aged society, 14% and (iii) a super super-aged society, where seniors make up 20% of the total population (Chen et al., 2019). As the number of elderly citizens continues to rise in Taiwan and around the world, estimated to reach 12% of the global population by 2030. It is increasingly important for this group to pursue a better quality of life and improve their happiness after retirement (World Health Organization, 2023; Kellaher et al., 2004; Orsega-Smith et al., 2004). Qiao et al. (2022) confirmed the health benefits of travel companionship in promoting senior citizen's overall health.

Family tourism research has chiefly focused on the family group of young children with parents travelers, typically nuclear families in Western contexts, in the analysis of family travel motives and

destination image (Wang et al., 2018). This study focuses on an emerging family travel group, adult-child and senior parents, and its implications for tourism in Taiwan. The collectivist cultural background prevalent in Asian society, with a focus on group goals and interpersonal harmony, results in higher bonding relationships and interdependence between children and parents throughout their adult lives (Wang et al. 2018). Adults in Taiwan were also likely to travel with their elderly parents, both to strengthen their relationship with their parents and to share in health benefits. "Parent-child travel" is no longer just for parents travelling with school-age children, but also for adult-children travelling with their elderly parents.

The German government of North Rhine-Westphalia proposed the concept of the "silver economy" in 2000, which refers to "the best link between the living needs, wealth, skills and health of the silver-haired people and society" and how shaping and improving their environment can increase the health and happiness of senior citizens, which can result in a decrease in total government spending on social welfare needs of the elderly and provide a new impetus for economic growth" (Nikolova et al., 2022). To cope with the rapidly growing aged population, the WHO actively promotes age-friendly city and community development (World Health Organization, 2023), hoping to solve environmental and social obstacles through international efforts to help form an active and healthy society for elderly people (Lai et al., 2016). Promoting successful ageing and improving a wide variety of accessible facilities in recreation sites that encourage senior citizens to maintain physical activity can have an impact on the health of this population—helping prolong good health and delay their physical decline. Travel and tourism can likewise bring health benefits to the ageing population, hence the need to create an age-friendly environment for tourism. Darcy et al. (2020) pointed out that it is necessary to incorporate an embodied understanding of this in developing destination experiences, especially in improvements to physical and service infrastructures—particularly in transportation, building design, and facilities.

Generally speaking, there are two kinds of barriers to senior travel, the limitations of their own health (stamina, strength, mobility) and the challenges of the external environment. Woodside and Lysonski (1989) indicated that travel decision-making was composed of two constructs, internal personal perceptions and external environment factors. In order to fully understand adult-children and aged parent travel trends, this study examines the relationship among individual perception value (internal personal perceptions), friendly environmental design (external environment factor), and travel intention (travel decision-making).

2. LITERATURE REVIEW
2.1 Adult-children and parent travel
With the advent of an aging society and the increase in the average life expectancy of Chinese people,

there is a growing "sandwich generation" of adults with the dual responsibilities of caring for their own children and caring for their aging parents (Zhang & Goza, 2006). In Taiwan, this middle-aged group (aged 30 to 60), may be the last generation that still believes in the value of filial piety, a Chinese value of parental respect, and takes care of their parents (Huang, 2014). For these adult-children caring for their elderly parents, family tourism can provide a fun and attractive way to care for their parents by visiting new places together (Xiong et al., 2021). Parent-child tourism is, simply put, parents and children leaving their daily living space together and travelling to unfamiliar places to release work pressure, broaden knowledge, and enhance family relationships (Wei et al., 2021). Age-friendly environments and destinations for Taiwan's growing elderly generation to visit with their children can be an important part of active aging and promoting good health. Tiraphat et al. (2021) found a perceived high level of age-friendly environments to be one of the significant positive predictors of active aging among Southeast Asians.

2.2 Perceived value

Perceived value is defined in the marketing literature from a customer-side perspective and Zeithaml (1988) found that the concept of perceived value has been widely used in the tourism industry. The tourism industry provides tourists with perceived value and promotes high loyalty of tourists, which has become a key factor for maintaining the competitive advantage of the tourism industry. For tourist regions, the loyalty generated by tourists' perception can bring long-term benefits to tourism regions and has long-term cumulative benefits. Zeithaml (1988) revealed that perceived quality leads to perceived value and purchase intention. In Baker's (1990) research, both the physical environment and perceived value influenced consumer's purchase intention. Zeithaml believes that user perceived value can be regarded as the user's evaluation of the overall utility provided by the product or service, that is, based on the user's effort (such as the time to find information) and the result (such as the acquisition of knowledge) to evaluate the overall utility of the product. As such, perceived value is a relatively subjective judgement that is composed of multiple dimensions. Many scholars have adopted a one-dimensional perspective and use price cognition to discuss perceived value (Kerin et al., 1992; Ryu et al., 2008; Tuncer et al., 2021).

Other scholars believe that perceived value is a complex system, which should not be explained in one dimension and from there adopt a multi-dimensional explanation of perceived value (Chang & Dibb, 2012; Chen & Hu, 2010; Liu et al., 2015). Customer perceived value includes the provision of product benefits from the customer's point of view, especially product attributes, brand or supporting services, and thereby reducing the cost of customer service time, money, and energy. Customer value is often viewed as a firm's competitive advantage (Martelo Landroguez, 2013). Khalifa (2004) pointed out that creating excellent customer value is the key factor to ensure the success of business operations. Kotler (1994) proposed that the total value comes from product, service, personal, image and other aspects;

the finished product comes from money, time, physical strength, and psychological cost. Therefore, it can be deduced that the real value obtained by the customer is the total value minus the cost. Value refers to the overall benefits obtained by consumers compared with the total cost paid by consumers. There are many different forms of value, such as product practicability, product image and additional service. Thus, this study utilized a multi-dimensional view and explored customer perceived value from the dimensions of customer value and customer cost.

2.3 Age-friendly environmental design

An age-friendly local living environment can be constructed to reduce the possible incompatibility and conflict between the elderly and the built environment during the aging process by making good use of existing connections between the elderly and their local support system (Blusi et al., 2013). Halfon and Hochstein (2002) believe that, in addition to the proper allocation of public health and medical resources, the physical environment is more closely integrated with the lives of the elderly. The friendliness and inclusiveness of the physical environment determines the degree of independence of the elderly. The construction of a friendly physical environment can further respond to the physical and mental health activities of the elderly. For example, public spaces including parks, streets, markets, and cultural centres, can increase the space for the elderly to participate in social activities.

World Health Organization (2007) put forward the "Global Age-Friendly Cities: A Guide", which believes that age-friendly cities should include eight aspects, including barrier-free and safe public space, transportation, and housing, and all three aspects address problems faced by the elderly. The concept of barrier-free and safe public space includes the key concepts of age-friendly outdoor open space and public buildings and stresses the importance of a comfortable and clean environment and green space. Outdoor seating areas, age-friendly sidewalks, pedestrian crossing safety, accessibility, a safe environment, sidewalks and bike lanes, age-friendly buildings, adequate public restrooms are some of many important considerations in creating an age-friendly environment. Nieboer and Cramm (2018) organized the 24 WHO-identified factors that promote healthy aging into eight areas, social participation, transportation, outdoor spaces and buildings, housing, civic participation, communication and information, respect and social approval, and community support and health services. Gibney and Shannon (2018) adopted civic participation and employment, social participation, respect and social inclusion, information dissemination and community support and health services transport, housing, and age-friendly public spaces as important indicators for the development of age-friendly cities and counties. As further described in their recent publication, "National Programmes for Age-Friendly Cities and Communities: A Guide," (World Health Organization, 2023) the WHO actively promotes international efforts to contribute to an active and healthy elderly society through the development of age-friendly environments that address environmental and social obstacles and strive to create inclusive, accessible community

2.4 Travel intention

Behavioural intention is an individual's willingness to participate in a certain behaviour (Ajzen & Fishbein, 1975). Fishbein and Ajzen (2010) used the theory of planned behaviour to understand people's participation in behaviour, and intention is an important predictor of actual behaviour. Many researchers try to establish a relationship between behavioural intention and personal subjective judgment (González et al., 2007). Ajzen (1991) posited that perceived behavioural control refers to the individual's belief that it is difficult or easy to engage in a specific behaviour and evaluates the resources and opportunities that the self owns to anticipate the obstacles that may be encountered when achieving the target behaviour. Mayo and Jarvis (1981) defined willingness as the possibility of going to the tourist destination in the travel decision-making process model. Intention is an individual's expectation, plan, or desire for future behaviour. Intention can be the best prediction of human future behaviour. At the same time, intention can also be a person's tendency to subjectively judge his possible future actions (Folkes, 1988). Ragheb (1980) applied willingness to tourism-related research fields, and defined tourism intention as the frequency and type of tourism activities that individuals participate in.

In terms of family travel, it is recognized that friendly environmental design information has more influence on tourists' travel intentions (Zhang et al., 2022). Woodside and Lysonski (1989) model of "the cognition and choice mode of tourist destinations" can be applied to this new model of adult-children and parents family travel to understand their travel decisions. To do so, it is necessary to clearly understand the important factors that affect their behavioural intentions. In addition, when tourists choose a tourist destination, they usually evaluate different attributes to make a final travel decision. The uniqueness of tourist destinations may also affect the perceived value of tourists. Therefore, we deduce the following research hypotheses and the research model in Figure 1.

H1: Perceived value positively impacts travel intention.
H2: Perceived value indirectly impacts travel intentions through friendly environment design response.
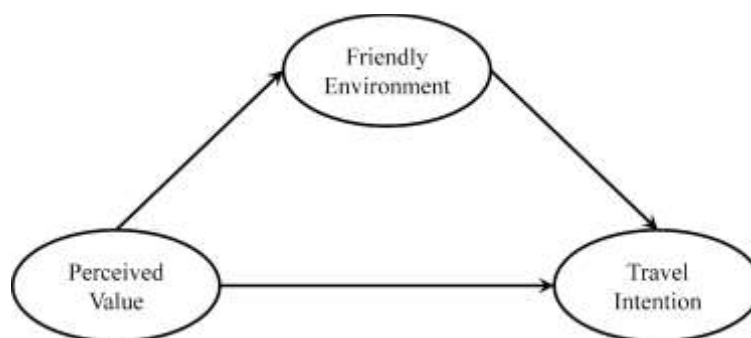
Figure 1: Research model

3. METHODS

3.1 Instrument

We utilized a closed questionnaire divided into four parts—(i) perceived value of the tourist destination, (ii) participant travel intention, (iii) perception of environmental friendliness, and (iv) basic personal information. The 20 items in this questionnaire, included 7 questions about perceived value, 3 questions on travel intention, and 10 questions about environmental friendliness of the design. A pilot test was used for this study. The initial questionnaire was reviewed by two experts and included 25 people as the subjects of the pre-test. The main test is whether the content and terms of the questionnaire are fluent and easy to understand. Final touches to the formal questionnaire. Measurements were carried out on a 5-point Likert scale based on respondents' level of agreement for each item, with scores from one to five indicating "strongly disagree", "disagree", "neutral", "agree", and "strongly agree".

Statistical analysis was performed using the SPSS 18 statistical software. Statistical methods such as reliability analysis, correlation analysis, regression analysis, and path analysis were used to analyse the data obtained in the study. In simple and multiple regression analysis, whether the interaction between the independent variable and the mediator is or is not significant can be used to determine whether there is a mediating effect and serves an effective method to predict the mediating effect between different variables (Baron & Kenny, 1986). The present study used the Sobel test to examine whether perceived value had mediation effect on travel intention through friendly environmental design. Perceived value was composed of cost and consumer value. A total of 7 items comprised the perceived value, cost value (money cost, time cost, and recreational environment) and customer value (overall facilities, recreational activities, overall services, and memories of experience) (Davern et al., 2020; Shen et al., 2011). The instrument of travel re-visitation intention in this research is adopted from Lin (2019), with a total of 3 items. The instrument for the perception of the friendly environment in this study was composed of 10 items, including outdoor spaces and buildings, transportation and community support, health services, age-friendly public spaces, and communication and information community (Gibney & Shannon, 2018; Nieboer & Cramm, 2018). The basic participants' information in this study included gender, age, education level, occupation, average monthly income, information source, number of trips in the past year, average days of each trip, main recreational activities, factors for choosing tourist destinations and means of transportation, a total of 11 questions.

3.2 Data collections

In this study, adults over the age of 18 were selected as the questionnaire subjects. The data collection locations included Pier-2 Art Center and Meinong Cultural and Creative Center in Kaohsiung, Taiwan. A total of 200 questionnaires were distributed during March 19–23, 2023. A total of 196 valid

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questionnaires were used to examine the hypothesis. The majority of respondents were female (58.7%), the largest age range was between 18–24 (44.4%) and the level of education completed was chiefly senior high school (73%). The primary occupation was student (33.7%) and their average monthly income was mostly below NT$ 30,000 (54.1%). The travel information source respondents used most frequently was relatives, friends, and colleague's opinions (40.9%). The number of trips in the past year was two to 2–5 trips (65.8%), with the average length of 2 days (42.3%). The main recreational activity was visiting natural scenery (accounting for 31.1%). The most important factor in choosing travel destination was the convenience of transportation (21.2%), with the automobile travel as the main method of transport (54.1%).

4. RESULTS AND DISCUSSION

4.1 Measurement Model

This study used skewness and kurtosis to test whether the data were normally distributed. The absolute value of the skewness of all items was between .162-1.411, and the absolute value of the kurtosis was between .083-1.598, which met the standard threshold of the absolute value of bias and de mean is less than 2 (George & Mallery, 2019). Therefore, the data collected meet the standard of normal distribution. The reliability of each construct was then tested using Cronbach's α. According to the analysis results, the α values of perceived value, friendly environmental design, and travel intention were .823, .816, and .919, respectively. These values were all greater than .70, meeting the threshold for good reliability suggested by Hair et al. (2017). Finally, the Pearson's correlation coefficient was tested to demonstrate discriminant validity among the constructs. According to the suggestion of Kline (2015), the Pearson's correlation should be lower than the threshold of .85 to meet the requirement of distinguishing construct. The Pearson's correlation ranged from .508-.678 (Table 1), which was in line with the standard value suggested by Kline (2015). This showed that this study has good discriminant validity among all constructs.

Table 1: Correlation matrix among constructs

Constructs	Perceived value	Friendly environment	Travel intention
Perceived value	1		
Friendly environment	.678	1	
Travel intention	.630	.508	1

4.2 Structural Model

H1 was tested first. According to the results of the regression analysis, the t value was 11.287 and the p value was less than .001. This result indicated that H1 is accepted. In other words, the perceived value will have an impact on travel intention.

Secondly, we examined the mediating role of the friendly environment. In the case of friendly environment as a mediation factor, the influence relationship among the three constructs is significant (Table 3). Next, we checked the value of the Sobel test. This value was 1.977 ($p < .05$). This result showed that the mediating role of friendly environment exists. Thus, H2 was accepted. From the calculation of mediation effect, it can be found that the effect was 16.23%. While this value is not high, it is acceptable. In other words, in the relationship between perceived value and travel intention, in addition to the mediating role of friendly environment, there may be other constructs that may also have the same mediating role as friendly environment. This is an issue worthy of future discussion.

Table 2: The impact of perceived value on travel intention

Construct	Unstd. estimate		Std. estimate	t	Sig.
	B	SE	β		
Constant	.931	.290		3.212	.002
Perceived value	.791	.070	.630	11.287	<.001

Dependent variable: Travel intention

Table 3: The mediating role of friendly environment through path analysis

	Friendly environment	Travel intention	
		Independent variable model	Mediation variable model
Perceived value	.850***	.791***	.663***
Friendly environment			.151*
R^2	.459	.396	.409
Adjusted R^2	.456	.393	.403
F	164.691	127.402	66.709

4.3 Discussion

The value of barrier-free tourism is not only limited to individuals with physical restrictions, but rather benefits the travel group (such as families, groups of friends, etc.) as a whole (Qiao et al., 2021) and a barrier-free space is only a part of an age-friendly environment. The benefits of friendly and accessible environments extend beyond providing address to people with disabilities or other physical needs, is also attracts family tourists to these destinations. Understanding the impact of age-friendly

environments has forced marketers to pay attention to the entire consumption experience for senior citizens. Providing more appropriate environment services for the elderly has had the significant impacts on their travel intentions. Most research supports the idea that travel intention is affected by the cognitive and affective inputs for a wide range of recreation settings (Hung & Petrick, 2012; Loureiro et al., 2021). However, different types of targets may experience different types of process while they make travel decision. To build on this study, given the adult-children and parents travellers' emphasis on the needs of the elderly, additional potential influence factors should be identified and analysed to provide a more accurate marketing strategy to target this unique segment. In this study, perceived value was found to indirectly impact travel intention through the path of friendly environment. The results showed that friendly environment design had a mediation effect between perceived value and travel intention. The results of this study showed that in addition to the significant impact of perceived value on tourism intentions, age-friendly environmental design was also confirmed to play a mediating role between the above two dimensions. This phenomenon indicates that good age-friendly environmental design is indeed a key factor in adult-child and parent travel decision-making.

Because of the choice of sampling, this study has unavoidable research limitations. However, the identification of the important role of friendly environmental design in travel decision-making remains the most important contribution of this study. In the future, if the framework of this study is verified in other regions, the results of this study may be more scalable. In addition, it can be found that although friendly environmental design has been shown to play a mediating role between perceived value and tourism intention, its mediating effect is low. Therefore, in future research we can consider adding other mediation factors to discover if additional constructs affect this travel decision-making.

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