Social servicescape and Asian students:
An analysis of spring break island bed and breakfast experiences in Taiwan

Abstract
This research explored factors influencing lodging experiences and examined the relationship among B&B (bed and breakfast) experiences, satisfaction, and revisit intentions for properties on the small island of Liuqiu in Taiwan, based on the social servicescape concept and was mainly from the perspective of a younger generation of Asian Millennials. On-site surveys were conducted with visitors who had stayed at Liuqiu’s B&Bs. The findings showed that B&B experiences consisted of two dimensions: physical environment and personal interactions. Satisfaction was largely affected by personal interactions; and revisit intentions were mainly influenced by satisfaction. The physical environment had little effect on satisfaction and revisit intentions. Implications and managerial suggestions for Liuqiu’s B&B businesses are provided.

Keywords: interpersonal relationships; social servicescape; students; physical environment; bed and breakfast (B&B); satisfaction; revisit intention; island tourism; Taiwan
1. Introduction

The number of bed & breakfasts (B&Bs) has been increasing throughout the world. They represent a growth area in tourism and hospitality in Asia as well. Liuqiu is a coral reef island, governed by Pingtung County, off the southwest coast of Taiwan (Figure 1). It is about 6.8 square kilometers with around 13,000 people (Liuqiu Township Office, 2018). With unique natural and cultural resources, such as coral rocks, local fish specialties, twisted rolls (handmade snacks), and temples, Liuqiu has become an appealing tourism destination in southern Taiwan, mainly for the domestic market. Therefore, the number of visitors to Liuqiu has increased recently (Taiwan Tourism Bureau, 2018) and more B&B businesses are being established in Liuqiu that generally offer packaged tour guide services, including on-site interpretation experiences and recreational activities in the intertidal zones.

To gain distinctive advantages in lodging, practitioners may emphasize adding or improving tangible features of accommodations to differentiate their properties from competitors (Lee, 2011). For example, the distinctive physical components of accommodations have significant effects on customers’ perceptions and behavior (Dedeoğlu, Küçükergin & Balkcioğlu, 2015; Jani & Han, 2014; Dedeoğlu, Bilgihan, Ye, Buonincontri, & Okumus, 2018). The significant influence of servicescape (physical environment) on customer satisfaction and loyalty has been acknowledged for many years in the hospitality research literature.

However, to achieve further differentiation from competitors, it is at least equally important for hospitality businesses to focus on the design and delivery of positive and appealing experiences to increase customer satisfaction and loyalty (Walls, Okumus, Wang, & Kwun, 2011a). The relatively high intensity of interactions between hosts and guests is a critical feature of small-sized specialist accommodation units that include B&Bs (Morrison, Pearce, & Moscardo, 1996). The host-guest relationship and the quality of interaction may greatly influence visitors’ experiences. Thus, interpersonal or social factors of service organizations can significantly influence customers’ responses. The social servicescape concept (Tombs & McColl-Kennedy, 2003) provides insight into understanding visitors’ experiences with B&Bs.

Jones and Guan (2011) indicated that the potential customers of B&Bs in Mainland China are
young adults; similarly, Chen, Lin, and Kuo (2013) found that most B&B visitors in Taiwan’s rural areas were young nuclear families. It seems that the younger generation is one of the important segments of B&Bs in Asia. Millennials (born after 1982) are perceived as having extrinsic and materialistic orientations (Twenge, Campbell, & Freeman, 2012). The university student travel market, comprising Millennials, not only reflects the characteristics of the youth market, but is also a discrete market segment for tourism and leisure (Xiao, So, & Wang, 2015). In addition, spring break travel is a youth tourism phenomenon, which not only takes place in North America but also in Taiwan and other parts of Asia. Thus, it is interesting and worthwhile to understand the lodging experiences with B&Bs from an Asian perspective; especially regarding Asian Millennials, who have become the fastest growing market segment within hospitality and tourism (Nusair, Parsa, & Cobanoglu, 2011). It is expected that their characteristics and values can influence the outcome of experiences in places such as B&Bs.

Accordingly, the main purposes of this research were to explore the factors influencing lodging experiences of younger travelers and mainly university students, specifically with B&Bs used on spring breaks, and to investigate how these factors affect these younger customers’ satisfaction and revisit intentions for B&Bs on the small island of Liuqiu.

2. Literature Review and Hypotheses

2.1 Characteristics of B&Bs in Taiwan

B&Bs first began to develop in Taiwan in the 1980s and were established in some tourist sites and areas that lacked large-scale hotels. The number of legally registered B&Bs in Taiwan has tripled over the past decade, to 8,193 businesses with 33,669 rooms; and the small island of Liuqiu currently has 109 legal B&Bs with 503 rooms (Taiwan Tourism Bureau, 2018). The increasing numbers of B&Bs in Taiwan reflects the phenomenon of more tourists selecting B&Bs as accommodations while traveling.

B&Bs generally are managed by family entrepreneurs who are self-employed. However, compared with large-scale tourist hotels, B&Bs are better able to provide personalized services and recreational activities that meet visitors’ special needs, such as local food and cuisine, and accommodation facilities that reflect the local culture or environmental resources (Chen, Chen, & Lee, 2013; Nuntsu, Tassiopoulos, & Haydam, 2004; Tang, 2015). In this regard, to attract visitors,
B&Bs not only provide accommodations, but also offer various recreational activities for visitors, which integrate local nature or social resources of the specific destination, to create memorable and satisfying experiences for visitors (Chiu, 2018; C. M. Chen et al., 2013; Tang, 2015).

B&B businesses play an active role in rural tourism development, not only due to their contribution to accommodation capacity, but also because their characteristics become an element of rural attractiveness (Chen, Lin, & Kuo, 2013; Santana-Jiménez, Sun, Hernández, & Suárez-Vega, 2015). Rural B&Bs offer opportunities for urban-dwellers to experience country lifestyles and environments, as well as having interactions with hosts and locals, which enhance the appeal of rural destinations to visitors (Chen, 2015; L. C. Chen et al., 2013).

Previous studies indicate that specific features of the physical environments of accommodations have significant effects on customers’ behavioral responses (Chen, 2015). However, B&Bs attempt to focus on creating exceptional experiences to satisfy customers’ needs, because of the increasing demands for more value-added and quality-oriented tourism products, such as providing new lodging services or unique leisure experiences (Lee, Jeong, & Jeon, 2016).

Liuqiu is a well-known rural destination for Taiwan domestic tourism. Thus, it is informative to investigate visitors’ experiences with B&Bs in Liuqiu and the resulting visitor responses.

2.2 Spring break travel

The spring break market represents as an important and profitable target for many hospitality and tourism businesses. University students mainly travel during spring breaks and in the summer months, including North Americans and Asians (Heung & Leong, 2006; Mattila, Apostolopoulos, Sönmez, Yu, & Sasidharan, 2001).

According to Ribeiro and Hickerson’s (2013) review of spring break research, most past studies had a focus on spring break travel market motivations and relevant behaviors. In addition, past studies have indicated that university students are a heterogeneous group with regard to nationality, culture, and demographic characteristics (e.g. Xiao et al., 2015; Xu, Morgan, & Song, 2009); however, most previous studies have mainly investigated university students’ travel motivations, preferences, and travel patterns (e.g. Xiao et al., 2015; Xu et al., 2009). In other words, although considerable research has been done on university students’ spring break travel behavior, little has been accomplished to better understanding their hospitality experiences during spring breaks. To
date, the hospitality experience related studies relating to spring break have focused on non-routine and hedonic behaviors, such as health risk behaviors (Mattila et al., 2001) and hedonic consumption (Miao, Lehto, & Wei, 2014). Limited research has been conducted that examine youth tourists’ lodging experiences. Hence, there is a good opportunity to gain further knowledge about youth travel behavior with respect to lodging experiences during spring breaks.

2.3 Lodging experiences with B&Bs

According to the experience economy concept proposed by Pine and Gilmore (1998) and Schmitt (1999), personal experience is an individual’s response to certain events; it is usually induced rather than spontaneous. Schmitt (1999) deemed such experiences as personal, unique, and impossible for consumers to produce alone; an individual must be involved in certain situations to produce personal experiences based on his or her perceptions and feelings at a given moment. In addition, Holbrook and Hirschman (1982) considered experience as a convergence of fantasy, emotion, and entertainment. Consumer experience is a symbolic meaning, a hedonic response or an aesthetic standard (Ahola, 2005).

Walls, Okumus, Wang, and Kwun (2011b) proposed a framework for hospitality and tourism consumer experiences, which is divided into four dimensions: ordinary, extraordinary, cognitive, and emotive. According to this framework, factors that affect consumer experiences include perceived physical experience elements, perceived human interaction elements, personal characteristics, and contexts. Furthermore, Walls (2013) measured hotel consumer experiences by two main dimensions: the physical environment and human interactions. The physical environment includes the design, property upkeep, and physiological/atmosphere, while human interactions include attentiveness/caring, professionalism, guest-to-guest interaction, and reliability (Walls, 2013). Walls et al. (2011a) stated that to enhance the emotional ties between businesses and customers, lodging experiences should be created in such dimensions as the physical environment and human interactions.

Additionally, Teng (2011) proposed four themes related to hospitality consumer experiences: interpersonal relationships (the interactions between customers and employees and the customer’s emotional ties with the location), individual behavior (the employees’ hospitality and service behaviors), environmental/space, and customer value. After data analysis, five dimensions of dining
and accommodation consumer experiences were identified (Teng, 2011): interpersonal interaction, psychological connection, openness to different cultures, sensation satisfaction, and perceived value.

Nuntsu et al. (2004) described B&Bs as lodgings that receive small numbers of visitors and provide a good accommodation ambience. Typically, B&B businesses are small, offering less than ten bedrooms. This is because one of the main goals of most B&Bs is to “meet interesting people” (Rusher & Hall, 2002). Although profits can be significant for B&B operators, business growth and expansion may not be a top priority for the owners (Rusher & Hall, 2002). Moreover, Tucker and Keen (2002) indicated that people who preferred to stay in B&Bs like to experience local culture and lifestyles, and to have relationships with local people. B&B customers may want their hosts to share local knowledge and first-hand information with them (Tucker & Keen, 2002). Therefore, the host-guest relationship is much more critical and pleasurable within the B&B sector (Tucker & Keen 2002; Di Domenico & Lynch, 2007). Accordingly, personal interactions may be more important and contribute to positive lodging experiences of B&Bs.

2.4 Social-servicescape and lodging experiences with B&Bs

The concept of servicescape, developed by Bitner (1992), has been extensively used to examine the relationships among physical environment elements and people in service organizations. Numerous studies have extended the servicescape framework and applied it to different settings, such as winescape (Bruwer & Gross, 2017), dinescape (Ryu & Jang, 2007), and festivalscape (Mason & Paggiaro, 2012). In general, the servicescape concept focuses on the impacts of the physical environment of a service organization (ambience, spatial layout, signs, symbols, or artifacts) on consumers’ cognitive, affective, and behavioral responses (Chen, 2015; Jani & Han, 2014). People, or customers, respond differently in accordance to the environment.

Tombs and McColl-Kennedy (2003) proposed the concept of social servicescape, which further advances the servicescape framework and argues that there is a lack of social factors within the servicescape concept. In fact, social factors may be more important than physical factors in determining consumers’ responses in a service environment (Tombs & McColl-Kennedy, 2010). This is especially so in hospitality, which is a more social and interactive environment emphasizing the relationships between the service providers and customers (Butcher, 2005; Tombs & McColl-
The social servicescape framework (Tombs & McColl-Kennedy, 2003), consists of five key elements: (1) purchase occasion (context); (2) social density (physical elements); (3) displayed emotion of others (social elements); (4) customer’s affective responses (internal responses); and (5) customer’s cognitive responses (either as intended behavior or actual behaviors). Tombs & McColl-Kennedy added that the purchase occasion or context will affect the social density and the displayed emotions of other customers; and therefore, the elements of social servicescape will influence customers’ cognition through their affective responses.

The social servicescape conceptual model provides a perspective to explain the influence of social factors of an environment on an individual’s response, including cognitive and affective reactions (Antun, Frash Jr., Costen, & Runyan, 2010; Jang, Ro, & Kim, 2015). In addition, it also includes the servicescape concept and the interactions among service providers and customers in a service setting (Hightower, Brady, & Baker, 2002). For example, Chiang (2018) using capsule hotels as an example, found that tourists’ perceived price and service convenience affected functional value; however, service convenience and social servicescape influenced experiential value. Both functional and experiential values then affected repurchase intention and positive eWOM. Within B&Bs, the interactions among service providers (hosts and employees), physical environment, and customers occur simultaneously. Thus, it is proposed that the social servicescape concept can be used to explain guests’ experiences with B&Bs and their cognitive and affective responses.

2.5 Satisfaction with B&Bs

Over the past few decades, several studies have focused on the influence of physical environment cues of service settings or establishments on consumer behavior, including satisfaction and future purchase intention. For example, Zemke and Pullman (2008) studied 30 hotels and investigated employees’ and customers’ feelings about hotel design. According to the customers’ feedback, emotional factors, personal traits, environmental interaction, and gender had significant positive impacts on satisfaction; thus, hotels that invest heavily in architecture and design may command higher rates in a highly competitive market. In another study, Countryman and Jang (2006) found that style, color, and lighting of the hotel lobby had a significant impact on customers’
impressions of hotels. Of these three factors, color had the strongest influence, meaning that hoteliers focusing on color selection and design may increase customers’ positive perceptions of their properties. Considering the physical environment as an intermediary variable, Ariffin and Aziz (2012) explored the impact of accommodation quality on satisfaction. Their study demonstrated that the creativeness of the physical environment had a significant impact on satisfaction. Chen (2015) showed that the B&B atmosphere had a positive effect on customer experience and customer value.

According to Ryu and Jang (2008), professional service personnel can make corporate core concepts concrete for customers; and service personnel’s manners and attitudes affect customer emotions. Ryu and Jang (2007) also suggested that service personnel’s performance has a considerable impact on customers’ experiences of joy and excitement. A study by Kandampully and Suhartanto (2000) measured hotels’ images and their customers’ satisfaction and loyalty. The authors divided satisfaction into four dimensions: reception staff, meals, price, and housekeeping staff. The enthusiasm and capability of the housekeeping staff was a main factor that influenced customers’ satisfaction and revisit intention.

More importantly, several studies have shown that both tangible products and intangible services can affect consumer experiences. For instance, Choi and Chu (2001) explored the factors that influenced overall customer satisfaction with accommodations in Hong Kong hotels; they found that the staff’s service quality, room quality, and value were three important aspects of overall satisfaction. Shi and Su (2007) noted that the hotel lobby’s design and the service staff’s enthusiasm, initiative, and care were all important factors affecting customers’ satisfaction. Chen et al. (2013) used Kinmen Island’s B&Bs as an example and showed that the effects of both the physical environment and personal interaction quality on satisfaction and customer loyalty.

In sum, if customers have a positive experience with a specific product or service, they are more likely to repeat the purchase or to engage in favorable behaviors, such as positive word-of-mouth communications (Petrick, 2002; Li, Ye, & Law, 2013). Hence, to maximize the possibility of repurchasing intention, it is important to increase customer satisfaction, because dissatisfied customers are not likely to purchase in the future. Therefore, this leads to the following hypotheses:

**H1:** The physical environments of lodging experiences have a positive effect on satisfaction with B&Bs.
H2: The personal interactions of lodging experiences have a positive effect on satisfaction with B&Bs.

2.6 Revisit intention

Davidow (2003) described revisit intention as a type of repurchase intention where customers will continue to use a product in the future and will maintain the same consumption frequency. Chang, Chen, Pang, Chen, & Yen (2013) defined revisit intention as repurchase intention, that is, customers’ intention to use the same business when they needed that product or service again. Similarly, from the perspective of Kozak (2001), revisit intention indicates visitors’ desire to revisit the same tourist attraction. Han & Kim (2010) regarded revisit intention as visitors’ intention to stay at the same hotel the next time they visited a place.

In a study that investigated the factors influencing loyalty to international hotels, Tsaur, Chiu, & Huang (2002) broke loyalty down into revisit intention, recommendation intention and intention to introduce others. This research indicated that service staff’s responsiveness and the physical facility are the factors that most significantly affected loyalty, and meal service was the least influential factor. Using traditional Japanese hotels as the research target, Kang, Okamoto, and Donovan (2004) studied service quality, satisfaction and behavioral intention and found that the physical environment was the most important factor affecting satisfaction, and highly satisfied customers had higher revisit and recommendation intentions. Similarly, in a study of British star-rated hotels, Ramakrishnan (2012) proposed that the quality of the physical environment was an important indicator influencing business travelers’ revisit intention; the staff, process management, maintenance of the hotel’s quality and the hotel’s star rating also affected revisit intention. In addition, Chen, Chen, & Lee (2012) used a focus group approach to study the influence of service quality, satisfaction, and loyalty on Kinmen B&B visitors. Their study found that the interaction quality of the staff was a major factor impacting loyalty, and the quality of the physical environment influenced loyalty through satisfaction.

Satisfaction has very important impacts on customers’ revisit intentions. Loyal customers generally are willing to spend more money to buy a specific product or service because they believe that the product or service is valuable (Fečíková, 2004). Kim & Cha (2002) analyzed the factors that affect the quality of visitors’ relationships with five-star hotels in Seoul and explored the impact
of customer satisfaction on revisit intention, recommendation intention, and price tolerance. Their results indicated that satisfaction had a significant positive impact on revisit intention, recommendation intention, and price tolerance. Likewise, Poon & Low (2005) studied Asian and Western tourists’ hotel experiences; they found that hospitality was the most important factor that affected Asian and Western tourists’ overall satisfaction, and it impacted revisit intention through satisfaction. Han and Kim (2010) claimed that service quality affected revisit intention through satisfaction and attitudes, while service quality, satisfaction and overall impressions had a substantial positive influence on revisit intention.

Overall, it appears that poor experiences reduce consumers’ intentions to purchase again, while high customer satisfaction increases loyalty to a product or service, thus enhancing customers’ revisit intentions (Huang & Hsu, 2009). Teng (2011) concluded that visitors’ lodging experiences are formed by the interaction between visitors and service providers. Moreover, Ramakrishnan (2012) noted that visitors’ feelings of loyalty develop before, during and after their stay at a hotel, and the visitor lodging experience is composed of several factors, such as service, cleanliness, facility, price, and location. Liu & Liu (2008) measured the impact of hotel service and customers’ experiences on revisit intention; they indicated that lodging experiences can be divided into physiological, emotional, and relevant experiences, and all three indicators have a direct and significant impact on visitors’ revisit intentions. Thus, the following hypotheses are proposed:

\[H3\]: The physical environment of lodging experiences has a positive effect on revisit intentions.

\[H4\]: Personal interactions of lodging experiences have a positive effect on revisit intentions.

\[H5\]: Satisfaction with B&Bs has a positive effect on revisit intentions.

To sum up, the extant literature presents the conceptualization of lodging experiences, physical environment (PE), and personal interactions (PI). In addition, the social servicescape concept provides the foundation for the relationships among these related constructs, including physical environment (PE), personal interactions (PI), satisfaction (SA), and revisit intention (RI).

The social servicescape concept provides a perspective to explain the influences of social and physical factors of a service environment on individuals’ responses, including cognitive and affective reactions. Thus, the current study proposed that visitors’ experiences with B&Bs may significantly influence revisit intention through satisfaction. Regarding the customer’s affective
response, the extent of satisfaction can be regarded as an affective status (Oliver, 1980). Behavioral intention is of a conative nature (Ajzen. 1989). Hence, revisit intention, the likelihood of personal intention to revisit the same B&B should be considered as a conative response. Thus, the proposed model for this study is shown in Figure 2.

[Insert Figure 2 about here]

3. Methods

3.1 Measurement

A pilot study was conducted in early March 2013 at Donggang Dock where visitors were returning to Taiwan from Liuqiu. A total of 140 questionnaires were distributed to visitors who stayed in Liuqiu; after invalid questionnaires were excluded, 102 completed questionnaires were included in the analysis, for a response rate of 72.9%. Three experts in the field of hospitality and tourism management were invited to examine the content validity of the items. The items used in the pilot questionnaire were examined by item analysis, including Cronbach’s Alpha, means with standard deviations, relation coefficients, and factor loadings. Results of the item analysis showed that all the items met the criteria; however, some wordings were changed based on the feedback from the three experts.

The final questionnaire consisted of two main sections. The first section was about visitors’ lodging experiences at B&Bs, satisfaction, and revisit intentions for B&Bs. The lodging experience construct consisted of two dimensions with 14 items, the physical environment and the personal interactions, mainly based on the concept developed by Walls (2013). The satisfaction with B&Bs construct was measured by three items, which assessed visitors’ overall satisfaction with the lodging at the B&Bs, adapted from Kang, Okamoto, and Donovan’s (2004) study. The revisit intention construct was measured by three items, adapted from Grappi and Montanari’s (2011) and White and Yu’s (2005) studies. This concerned visitors’ intentions to stay in the same B&B when they revisited Liuqiu again in the future. A seven-point Likert scale was used to assess guests’ responses, with 7 = strongly agree and 1 = strongly disagree. The second section was visitors’ profile information, including gender, age, education, marital status, occupation, average monthly income, and trip purpose.
3.2 Sampling

The formal survey was conducted during the first two weeks of April 2013 by one of the co-authors and well-trained graduate students. Self-administrated questionnaires were distributed to a convenience sample of visitors at Donggang Dock where they were returning to Taiwan from Liuqiu; and of visitors after checking-out from B&Bs on the island of Liuqiu. In total, 330 questionnaires were distributed, and 291 questionnaires were valid for analysis, yielding a response rate of 88.1%. Among the 291 questionnaires, 60 were collected from the B&Bs in Liuqiu and 231 were collected at Donggang Dock. T-tests and Chi-square tests were used to compare the scale and demographic variables for these two groups and there were no significant differences.

3.3 Data analysis

The proposed model was analyzed using SPSS 22.0 and AMOS 23.0. Descriptive statistics were analyzed to characterize visitors’ demographics. Assumptions of normality were tested (skewness and kurtosis) before using structural equation modeling (SEM). All variables used in this study had skewness and kurtosis indices of less than 1, indicating the normality of the data (Hair, Anderson, Tatham, & Black, 1998). According to Anderson and Gerbing (1988), the two-step approach was followed. First, confirmatory factor analysis (CFA) with maximum likelihood estimation (MLE) was tested to analyze the validity and reliability of the constructs of the measurement model, including composite reliability (CR), convergent validity, and discriminant validity. Then, structural equation modeling (SEM) was used to estimate all parameters and to verify the hypotheses.

4. Results

4.1 Demographic and trip characteristics

The respondents included 140 males (48.1%) and 150 females (51.5%). Some 217 of the respondents were 21-30 years old, forming the majority (74.6%); 64 were 20 years old and younger (22.0%). Most were unmarried (93.1%) and were well-educated, 78% with bachelor’s and 16.5% with master’s degrees. A majority (80.1%) worked in the service and business industries. Some 79% had average monthly incomes of 700 NT dollars or less. Leisure and vacation (93.8%) on Liuqiu was the main purpose of visit and most people came for one night and two days (86.9%). Eighty-nine respondents came with a group of 7-9 visitors (30.6%); groups of 10-15 visitors represented 24.7%; and groups of 4-6 visitors were 23.4%. Average accommodation price of $50-70 per day
were paid by 52.6%; 24.7% $50 or less (24.7%); and 21.9% paid $70 or more. Respondents preferred to use Internet searches (53.6%) and the advice of friends and family (51.5%) for trip planning.

In Taiwan, the spring break period is around late March and continues into early April and university students usually have one week-long vacation period. National scenic areas are popular spring break destinations in Taiwan, including the island of Liuqiu (Jiang, 2018), which belongs to the Dapeng Bay National Scenic Area. In this regard, the results showed that most of the respondents were Millennials, also called Generation Y, which refers to a generation born in between 1982 to 2000 (Howe & Strauss, 2000). Thus, results of this study reflect a younger generation of Asians’ perspective.

[Insert Table 1 about here]

4.2 Experiences

The top three mean scores for lodging experiences were “solve my problems enthusiastically” ($M = 5.79 \pm 1.34$), “shows a good service attitude” ($M = 5.75 \pm 1.37$), and “have enough professional knowledge” ($M = 5.62 \pm 1.40$). However, “have an attractive building” ($M = 4.64 \pm 1.48$) received the lowest average score, followed by “have a distinctive interior design” ($M = 4.90 \pm 1.48$) and “have an overall design that is incorporated into the surrounding natural environment” ($M = 4.99 \pm 1.54$). The overall average score for personal interaction items was higher than the average score for the physical environment items.

4.3 The measurement model

A confirmatory factor analysis (CFA) was conducted with a maximum likelihood to estimate the measurement model by verifying the underlying structure of constructs for lodging experiences. The results showed that the experiences at B&Bs consisted of two dimensions: physical environment and personal interactions. The internal consistency of each construct was assessed using Cronbach’s Alpha coefficients, which ranged from 0.94 to 0.95 for lodging experiences. The composite reliabilities of the constructs were from 0.94 to 0.96 for lodging experiences, which were all over the cutoff value of 0.70, ensuring adequate internal consistency of multiple items for each construct (Nunnally, 1978). Convergent validity was good with confirmatory factor loadings exceeding 0.60, which were all significant at 0.01 (Anderson & Gerbing, 1988). The average
variance extracted (AVE) of all constructs was above 0.60, indicating that the constructs explained a large portion of the variance (Hair et al., 1998). The average variance extracted (AVE) and construct reliability (CR) are given in Table 2. All criteria as outlined by Gerbing and Anderson (1992) were met, supporting reliability.

To examine the discriminant validity of the measurement model, the AVE values for the latent constructs were compared to the squared correlations between the corresponding constructs (Fornell & Larcker, 1981), and none of the squared correlations surpassed the AVE. To satisfy the requirement of discriminant validity, the square root of a construct’s AVE must be greater than the correlations between the construct and the other ones in the model. Table 3 indicates the acceptable discriminant validity between each pair of constructs.

Further, the results also showed that physical environment and personal interactions of lodging experiences, satisfaction, and revisit intention were positively related to each other. The confirmatory measurement model demonstrated an acceptable fit: \( \chi^2 (98) = 304.49, p = 0.000; \chi^2/df = 3.11, \text{NFI} = 0.95, \text{RFI} = 0.93, \text{TLI} = 0.95, \text{CFI} = 0.96, \text{RMSEA} = 0.085 \). The squared standardized loadings for all the items on their respective constructs are given in Table 2. Although a small value of RMSEA (less than 0.05) indicates a good fit; it is suggested that an RMSEA of between 0.08 to 0.10 provides a mediocre fit of the model (MacCallum, Browne, & Sugawara, 1996).

4.4 The structural model

The Chi-square statistic for the structural model was 304.49, with 100 degrees of freedom \( (p = 0.000) \), \( \chi^2/df = 3.11, \text{NFI} = 0.95, \text{RFI} = 0.93, \text{TLI} = 0.95, \text{CFI} = 0.96, \text{RMSEA} = 0.085 \). Except for the value of RMSEA, which was slightly higher than the cutoff value of 0.08, all the other indices indicated an acceptable model fit. The examination of the structural model also involves significance tests for the estimated coefficients (paths), which provide the basis for accepting or rejecting the proposed relationships between latent constructs.

With respect to the hypothesis tests, three hypothesized relationships were supported and two were rejected, as shown in Table 4. That is, the physical environment had a significantly positive
effect on satisfaction ($\gamma_1 = 0.28, p < 0.05$), personal interaction had a significantly positive effect on satisfaction ($\gamma_2 = 0.69, p < 0.05$), and satisfaction with B&Bs had a significantly positive effect on revisit intention ($\gamma_5 = 0.65, p < 0.05$); however, the physical environment and personal interaction had positive influences on satisfaction, but not on revisit intention. Thus, it can be concluded that satisfaction mediated the relationship between lodging experiences and revisit intention. Hence, H1, H2, and H5 were supported; however, H3 and H4 were not supported.

Overall, satisfaction was largely affected by personal interactions; and revisit intentions were mainly influenced by satisfaction. The physical environment had little effect on satisfaction and revisit intentions. This implies that although Liuqiu’s B&Bs are somewhat lacking in terms of attractive physical environments, visitors are willing to stay again if the B&Bs strengthen interactions with their guests.

5. Conclusions and limitations

Theoretical implications

Regarding the visitor lodging experience, personal interaction had a greater impact on satisfaction than the physical environment. Compared with personal interactions, the physical environment effect on satisfaction was relatively low. The results also indicated that the B&Bs in Liuqiu were not greatly admired among visitors in terms of their exterior design and overall appearance. It could be that many local B&Bs were converted from older buildings; thus, they are relatively unattractive, which might be why visitors do not rate the overall B&B design highly and they do not have especially high expectations about B&Bs’ appearances. Although local B&Bs aim to provide clean and warm interiors, the architectural designs of these B&Bs are not as unique as B&Bs in other areas are. Therefore, the overall physical environment of the B&Bs had a relatively low impact on visitor satisfaction.

Although Liuqiu’s B&Bs properties have certain shortcomings, the B&B’s cordiality, enthusiasm, reliability and professionalism received positive evaluations from guests. In other words, although B&Bs are somewhat lacking in terms of their physical environment, visitors are willing to stay again if the B&Bs maintain good accommodation quality and strengthen their interactions with visitors. Particularly, most visitors to Liuqiu are young and in student groups; the
friendly and dedicated service and multiple types of local cultural and recreational activities provided by the B&Bs build emotional ties between the young visitors and owners, which is one of the possible reasons for these findings. Therefore, if facilities reach a basic cleanliness and comfort standard, visitors may choose the same B&B again because they had a good lodging experience. Also, tourist attractions of Liuqiu mainly are local cultural tours and nature-based activities; thus, the physical environment of B&Bs may only partially account for the overall experience in Liuqiu.

In summary, it can be argued that although elements of the physical environment have significant influences on customers’ responses; the interactions among service providers and guests (social factors) perform the key role in influencing customers’ experiences which can largely determine visitors’ satisfaction and their intentions to return to the B&Bs. In the study of Kinmen B&Bs, Chen et al. (2012) also found that the physical environment and personal interactions had a significant influence on satisfaction and loyalty, and personal interaction was the main factor that affected loyalty (including revisit and recommendation intentions). In other words, the hospitality provided by service personnel is an important factor that affects visitor satisfaction, and it influences revisit intentions through satisfaction (Han & Kim, 2010; Li, Ye, & Law, 2013; Poon & Low, 2005).

In a recent empirical study, Ye et al. (2019) examined the relationships between guest experiences and the growth of small accommodation businesses (SABs) in rural destinations, including B&Bs. Their study indicated that SABs with larger investments or employment size can have a negative impact on authentic experiences, such as the authenticity of rural lifestyles and host-guest relationships. However, those SABs with greater numbers of employees tend to have a positive impact on functional and emotional experiences. Ye et al. found that seeking authenticity was one of the primary motivations for rural tourists. Thus, this may indicate that the host-guest relationships (social factors) are critical in determining customers’ experiences with the B&Bs in Liuqiu.

**Practical implications**

According to the findings of this study, young adults, under the age of 30 years (90%), were the main visitors to Liuqiu’s B&Bs. Most visitors choose to stay two days and one night with a group of 4-15 people and mostly with classmates and friends. Their main travel purpose was leisure and
vacation. The average lodging cost per visitor was US$50-70. This is because many students travel during the spring break period, and these young adults are Millennials. Many young visitors coming from cities want experiences on vacation that they are unlikely to have in their daily lives; especially with Taiwan being a small and highly urbanized island. Liuqiu provides multiple opportunities for young adults to engage in nature-based recreational activities in the intertidal zones; and the affordable prices of B&Bs have also made Liuqiu one of the popular tourism destinations in southern Taiwan.

Bowen and Chen McCain (2015) indicated that to have a better understanding of Millennials, hoteliers and practitioners need to know the accommodation features that attract Boomers or Generation X may not be the same features that attract Millennials. For instance, if lodging businesses want to attract Millennials, it is important to have social responsibility programs which show an interest in social welfare and benefits (Bowen and Chen McCain, 2015). Therefore, Liuqiu’s B&B businesses may deliver special and memorable experiences to increase visitor satisfaction and loyalty, e.g., strengthening expertise for ecological tours and providing ecological education opportunities for visitors. Additionally, local B&B businesses should integrate green or eco-friendly concepts into lodging operations to increase environmentally responsible behavior, which may create special lodging experiences for younger visitors.

Enhancing the visitor lodging experience is an important factor for the sustainable operation of B&Bs. B&Bs should also share local customs and traditions with visitors, create a holiday atmosphere, and organize events to attract more visitors to Liuqiu for vacations. B&Bs can implement other tourism-related activities during the non-peak season, such as cycling around the island. They can also encourage visitors to tour Liuqiu during different seasons to avoid the influx of summer crowds that place a burden on local tourism, accommodations and ecology. For instance, the local destination management organization (DMO) along with B&Bs can design and create more diverse types of activities and experiences during off-peak seasons. These new travel opportunities will encourage people to tour Liuqiu during all seasons and lessen the impacts of crowding that place a burden on local tourism, accommodations, and ecology in the summer. Extending the island’s offer will enhance the overall quality of Liuqiu tourism and its accommodations, generating more memorable tourism and lodging experiences for visitors.
Limitations and future research

Despite this research’s contributions, there are several limitations that must be acknowledged. The questionnaire was administered in the first two weeks of April, which is non-peak tourist season for Liuqiu (its peak tourist season is July to August); visitors’ feelings might have been affected by the season. Visitor groups vary in different seasons, too; for example, the proportion of family tourists is highest in the summer, so the results of this study might not be valid for inferring the opinions of those who visit during other seasons. The study was conducted using a convenience sampling method; the sampling location was Donggang Dock. Because of factors such as the need to catch buses, the respondents had a relatively short time to complete questionnaires and were unable to reflect for long, which may have led to some bias in their responses. Regarding the questionnaires that were distributed at B&Bs, the visitors might not have been able to express their real opinions about their lodging experiences in front of the B&B owners; consequently, a full picture of the visitors’ experiences may not have been reflected.

In the future, researchers may consider examining other factors that affect visitor lodging experiences, such as visitor needs and preferences, or comparing visitors’ comments about the physical environment and personal interactions before and after they stay at a B&B, to help B&Bs understand which factors visitors value and how to improve or enhance their offerings. In addition, although this study attempted to explain the effects of visitors’ experiences with B&Bs on satisfaction and revisit intentions based on the social servicescape concept, there was a lack of measurement of social density and displayed emotion. It is suggested that all the key elements of social servicescape should be included in future studies to gain a more comprehensive understanding about the antecedents and consequences of lodging experience. Further, although the social servicescape framework with five main elements developed by Tombs and McColl-Kennedy (2003) has provided a basis for better understanding how the overall service context influences customers’ responses, there remains a need to advance research on the nature and interactions of social servicescape elements. To fill this research gap, elements such as social density and customer’s cognitive responses require greater investigation.

Finally, this study only investigated the effects of visitor lodging experiences and satisfaction on revisit intention. Future studies can incorporate revisit intentions into visitor behavior intention
measures to understand the effects of the B&B experiences on visitors’ willingness to revisit Liuqiu. Such studies could serve as a guideline for the sustainable development of Liuqiu’s sightseeing and hospitality industry. Furthermore, the accommodation experienscape (Mody, Suess, & Lehto, 2017), a relatively new concept in the field of hospitality, may provide new insights into understanding and explaining customers’ experiences with B&Bs. Also, a multidisciplinary approach is suggested to study the use of experienscape (Pizam & Tasci, 2019).

The study obtained samples through convenience sampling. Some people in older age groups or from other countries might have been missed in the survey, resulting in a perception that visitors are primarily younger people. These results do not mean that adults and elderly visitors rarely visit Liuqiu. Travelers with different attributes prefer different types of B&Bs, and because of their different preferences, they have different expectations of their lodging experiences. Future research could explore the correlations between visitors’ attributes and B&B categories or classes as a reference for tourism market segmentation and marketing strategies. The data were collected in 2013, and although not considered outdated by the research team, there is an opportunity to replicate this with contemporary research on Millennial visitors to other island destinations.
References


