Journal of Hospitality and Tourism Management 48 (2021) 357–367

Contents lists available at ScienceDirect

Journal of Hospitality and Tourism Management

journal homepage: www.elsevier.com/locate/jhtm

# Examining when and how perceived sustainability-related climate influences pro-environmental behaviors of tourism destination residents in China

Jing Wang [a], Shanyong Wang [a,*], Hualong Wang [a], Zengtian Zhang [a], Xingjun Ru [b]

[a] University of Science and Technology of China, Hefei, Anhui Province, 230026, PR China
[b] Hangzhou Dianzi University, Hangzhou, Zhejiang Province, 310018, PR China

ARTICLE INFO

*Keywords:*
Perceived sustainability-related climate
Attention to social comparison information
Tourism destination residents
Pro-environmental behaviors

ABSTRACT

Scholarly interest in the pro-environmental behaviors of local residents in tourism destination has begun to emerge. While the research is beginning to shed light on the predictors of local residents' pro-environmental behaviors, the circumstances and the influencing mechanisms of predictors on pro-environmental behaviors is incomplete. From the perspective of the destination-specific situational antecedent, this study develops a Stimulus-Organism-Response (S–O-R) framework to examine the effect of perceived sustainability-related climate on residents' pro-environmental behaviors and further investigate the boundary condition and underlying mechanisms of this relationship. The approach of this study is deductive. Data from 652 residents in a Chinese tourism destination indicated that residents' perceived sustainability-related climate directly affects their engagement in pro-environmental behaviors. The above effect is stronger for residents who are highly valued attention to social comparison information. Furthermore, perceived sustainability-related climate also indirectly affects residents' pro-environmental behaviors via environmental passion, perceived environmental responsibility, and environmental commitment. This study offers a new research perspective from the situational antecedent and provides insights and implications for destination managers to promote the destination sustainability.

## 1. Introduction

With the economic rise and social progress, the tourism industry is booming because people pursue higher levels of enjoyment and development needs (Liu, Cheng, & OuYang, 2019; Wang, Wang, Wang, Li, & Zhao, 2018). The number of tourists is increasing with the boom of tourism, which not only brings economic benefits, but also causes a series of environmental problems in tourism destinations (Ren, Su, Chang, & Wen, 2021). The environmental problems include more garbage produced, increased energy consumption due to tourists hosted in hotels, and increased emissions of CO2 due to a higher number of circulating means of transportation, etc (Katircioglu, Feridun, & Kilinc, 2014). Existing literature mainly focus on the pro-environmental behaviors of tourists to mitigate the environmental damage in tourism destinations (Choi & Kim, 2021; Lee, Park, Kim, & Lee, 2021; Xu, Huang, & Whitmarsh, 2020), the study from the perspective of local residents in tourism destinations is insufficient.

There is now considerable agreement that local residents in tourism destinations significantly contribute to environmental degradation (Wang, Wang, Li, & Yang, 2020). The living and entertainment activities of local residents are closely related to the tourism destinations since that they typically reside in or near the destinations (Kelly, Haider, Williams, & Englund, 2007). Particularly, the negative impacts of local residents' environmentally harmful behaviors and non-green lifestyles on the sustainable development of the tourism destinations cannot be neglected. Moreover, pro-environmental behaviors of local residents are important for improving the live ability of their own communities. As such, tourism destinations are beginning to achieve the destination sustainability by encouraging their local residents to perform voluntary pro-environmental behaviors (Guo, Zhang, Zhang, & Zheng, 2018). As for a further comment, the escalating environmental concerns of destination managers have increased the interest of destination stakeholders, including local residents, in the sustainable development of destinations (Su, Huang, & Pearce, 2018; Wang et al., 2020). Many managers and

* Corresponding author. University of Science and Technology of China, No. 96, Jinzhai Road, Hefei, Anhui Province, 230026, PR China.
*E-mail address:* wsy1988@ustc.edu.cn (S. Wang).

https://doi.org/10.1016/j.jhtm.2021.07.008
Received 23 January 2021; Received in revised form 14 July 2021; Accepted 16 July 2021
Available online 24 July 2021

policy makers have formulated corresponding policies, regulations and communications at the situational level which hopes to form a sustainability-related climate to accommodate the growing public sentiment and formulating environmental strategies to respond to stakeholders' concerns about the environment (Balaji, Jiang, & Jha, 2019).

Individuals take cues from their surroundings when deciding whether to adopt pro-environmental behaviors (Leung & Rosenthal, 2019). Previous studies have acknowledged that policies, regulations, and communication efforts to encourage pro-environmental behaviors (Leung & Rosenthal, 2019), which can be considered as a situational factor called sustainability-related climate. The existing literature on sustainability-related climate focuses on two aspects. First, various research on pro-environmental behaviors commonly regarded sustainability-related climate as a moderating variable (Lülfs & Hahn, 2014; Wang et al., 2020). Limited literature has understood the perceived sustainability-related climate as a situational antecedent to explore its direct effect on pro-environmental behaviors. Exploring the local residents' perceptions of sustainability-related climate and the process through which it produces positive results would help destination managers increase the efficiency of their environmental work and attract other stakeholders to contribute to the destination sustainability. Thus, there is a need to understand 'when' (the boundary condition) and 'how' (the underlying mechanisms) the perceived sustainability-related climate positively influences pro-environmental behaviors of local residents.

Second, whereas situational factors are important in facilitating individual behavior, the perceptions of those factors are essential for motivating the behavior (Norton, Zacher, & Ashkanasy, 2014). For example, implementing sustainability policies and regulations does not guarantee local residents feel a positive climate related to the destination sustainability. Because local residents may view such policies and regulations as just a façade or trying to achieve self-interest, rather than promoting behaviors that are beneficial to the environment (De Roeck & Delobbe, 2012). Essentially, situational factors can facilitate or inhibit individual behavior through shaping individuals' ability to adopt the behavior and making cognitive process and attitudes about the behavior more salient (Leung & Rosenthal, 2019). However, there are still inconsistencies between environmental attitudes and pro-environmental behaviors in practice (Shepherd, Patzelt, & Baron, 2013; Wang, Wang, Wang, Yan, & Li, 2018). The paradox that residents realize and pay attention to environmental issues while not taking any actions is still exists in reality (Ozaki, 2011). No matter how hard the scholars and practitioners have tried, all efforts will be in vain if residents do not adopt pro-environmental behaviors and lifestyles (Wu, Huang, Liu, & Law, 2013). Explaining pro-environmental behaviors of local residents from the situational antecedent may provide new explanations for the attitude-behavior gap (Zollo, Yoon, Rialti, & Ciappei, 2018; Bamdad, 2019). Therefore, from the perspective of situational antecedent, the direct impact of perceived sustainability-related climate on individuals' pro-environmental behaviors is worthy of attention.

Adopting Stimulus-Organism-Response (S–O-R) model as a framework, this study examines the relationships between the stimulus (S) that an individual receives, the emotions the individual feels about it (O), and the subsequent responses (R) (Mehrabian & Russell, 1974). Specifically, this study explores the role of perceived sustainability-related climate (S) on local residents' pro-environmental behaviors (R), and to further understand the underlying mechanisms (O) of this effect. Three constructs, namely perceived environmental responsibility, environmental passion and environmental commitment, are selected as the underlying mechanisms to explain the relationship between perceived sustainability-related climate and pro-environmental behaviors. Moreover, due to the social nature of human beings, individuals who are subject to attention the social comparison information imply they tend to care about what other people think of their behaviors. In order to present themselves in a positive way, these individuals are willing to be consistent with others' behavioral guidelines and use these guidelines to guide their behaviors (Zou & Chan, 2019). Given the significant impact of Attention to Social Comparison Information (ATSCI) on shaping individual behavior, this study regards ATSCI as the boundary condition to strive to analyze the moderating effect of ATSCI on the relationship between perceived sustainability-related climate and residents' pro-environmental behaviors.

This study intends to make the following contributions. First, a destination-specific situational antecedent is introduced into the research framework to recognize the direct influence of the external circumstance in the process of behavioral decision-making, which expands the existing literature of perceived sustainability-related climate in the field of tourism destination management. Second, this study explores when and how the perceived sustainability-related climate affects pro-environmental behaviors of local residents in tourism destinations. It helps policy makers and destination managers to develop targeted policies and interventions for destination residents to form their pro-environmental behavioral patterns, thus reducing the environmental costs of their daily behaviors. Third, by introducing ATSCI as a moderating variable, the current study is the first attempt to examine the role of ATSCI in regulating the relationship between perceived sustainability-related climate and pro-environmental behaviors of local residents, which extends the application of ATSCI in the field of tourism-destination sustainability. At the meanwhile, emotional (environmental passion and environmental commitment) and rational (perceived environmental responsibility) responses are included in the S–O-R framework, which provides a more comprehensive explanation for the extant literature about destination sustainability and expands the application of the S–O-R model in this field. The emotional and rational responses to the situational antecedent may also encourage practitioners to consider not only rational measures but also emotional benefits such as the happiness and feelings of well-being, which can improve residents' spiritual quality of life.

## 2. Theoretical framework and hypotheses

### 2.1. Stimulus-organism-response (S–O-R) framework

The conceptual framework of this study is rooted in Stimulus-Organism-Response (S–O-R) framework which proposed by Mehrabian and Russell (1974). The S–O-R framework demonstrates that specific environmental signals (Stimuli) directly affect the cognitive and emotional states of the individual (Organism), thereby inducing approaching or avoiding behaviors (Response) (Balaji et al., 2019). Stimuli (S) are the determinants that influence the cognitive and emotional states of individuals. In the process of individual decision making, stimuli (S) can be conceptualized as the situational factors related to the subsequent decision-making (Peng & Kim, 2014). Organism (O) refers to the internal processes between Stimuli and Response. Essentially, the internal processes are composed of "feelings, perceptions and thinking activities", specifically include the cognitions and emotions of individuals (Vieira, 2013). Response (R) involves the final outcomes or behaviors. That is, individuals make behavioral decisions through three steps: when individuals are stimulated by environmental stimulus (S), they prompt psychological evaluations (O), and then ultimately generate behavioral responses (R).

Validity of the S–O-R framework has been verified in the domains of pro-environmental behaviors (Su & Swanson, 2017). This framework provides a good explanation for the emotional and rational changes and pro-environmental behaviors of individuals (Xu, Wang, Li, & Zhao, 2020). In the current study, the perceived sustainability-related climate (Stimulus) elicits residents' emotional and rational states such as perceived environmental responsibility, environmental passion and environmental commitment (Organisms), which then result in engaging in pro-environmental behaviors (Response). As pro-environmental behaviors are driven by motivational, rational, and emotional process

(Yadav, Balaji, & Jebarajakirthy, 2019), this study expects to adopt the S–O-R framework to offer a more detailed understanding of local residents' pro-environmental behaviors in the tourism destination research context. Fig. 1 shows the conceptual framework of this study.

### 2.2. Perceived sustainability-related climate

Perceived sustainability-related climate is considered as a main situational antecedent of influencing individuals' attitudes and behaviors in the environmental protection literature (Das, Biswas, Jilani, Muhammad, & Uddin, 2019). Studies have examined the impact of perceived sustainability-related climate in the single organizational perspective, such as in the workplace (Robertson & Barling, 2013; Leung, 2018). However, a tourism destination refers to a geographical location that offers tourism services and includes service providers and infrastructure needed by tourists (Buhalis, 2000). Multiple tourism-related sectors (e.g., hotels, transportation and tourism operation) are included in a tourism destination (Su et al., 2018). The perceptions and identification of local destination residents are based on the collective activities of all sectors in the tourism destination. Therefore, the concept of perceived sustainability-related climate in the organizational field is not completely suitable for the tourism destination. In this study, the concept 'perceived sustainability-related climate' is applied to the area of destination management. One of its goals is to achieve destination sustainability by integrating sustainable policies and sustainability-related communications (Leung, 2018). Accordingly, the perceived sustainability-related climate can be defined as whether local residents perceive the tourism destination is positive and genuine in promoting sustainability (Leung & Rosenthal, 2019). The perceived sustainability-related climate can provide perceptions with cues for local residents about which kinds of behaviors are praised, supported and rewarded by the tourism destination.

Individuals are motivated to adopt the pro-environmental behaviors for protecting the natural environment, but their desired behaviors may be influenced by the external circumstances in a given situation. When individuals perceive a behavior is supported or praised in a specific circumstance, they will be more likely to perform the desired behavior. Similarly, when local residents perceive the tourism destination is actively promoting sustainable development and encouraging eco-friendly behaviors, such as reinforcing sustainable policies and environmental protection publicity, they will be more actively engaged in pro-environmental behaviors in response to the sustainable policies and advocacy. Previous literature has provided the evidences for a link between perceived sustainability-related climate and individuals' engagement in environmental activities. For instance, the researches of Salvador and Burciaga (2020) and Das et al. (2019) posited that the perceptions about pro-environmental climate directly promote individuals' participation in environmental protection projects. Hence, based on the above statement, the following hypothesis is proposed:

**H1**. Perceived sustainability-related climate positively influences local residents' pro-environmental behaviors.

### 2.3. Attention to social comparison information (ATSCI)

Attention to social comparison information (ATSCI) refers to the extent to which individuals monitor others' behaviors and evaluations as the behavioral guidelines and use these guidelines to guide their behaviors (Zou & Chan, 2019). Individuals who tend to pay attention to the social comparison information are more likely to care about whether the majority considers their specific behavior to be good or desirable (Snyder, 1974). In other words, individuals would control their behaviors and thoughts for conveying and maintaining a positive self-image under the impact of ATSCI (Snyder, 1974). One of the reasons why individuals participate in environmental activities may be due to the consideration of ATSCI. Accordingly, environmental activities of individuals are susceptible to the social comparison information. The social comparison information of a specific behavior is collectively driven by the evaluations from others and the perceptions expressed through public communications or advertisements (Bearden & Rose, 1990). As aforementioned, if local destination residents perceive high degree of sustainability-related climate that represented by public environmental policies and communications, they would endorse strong level of environmental engagement. Besides, residents would also be motivated to show an environmental image to others. When this environmental image

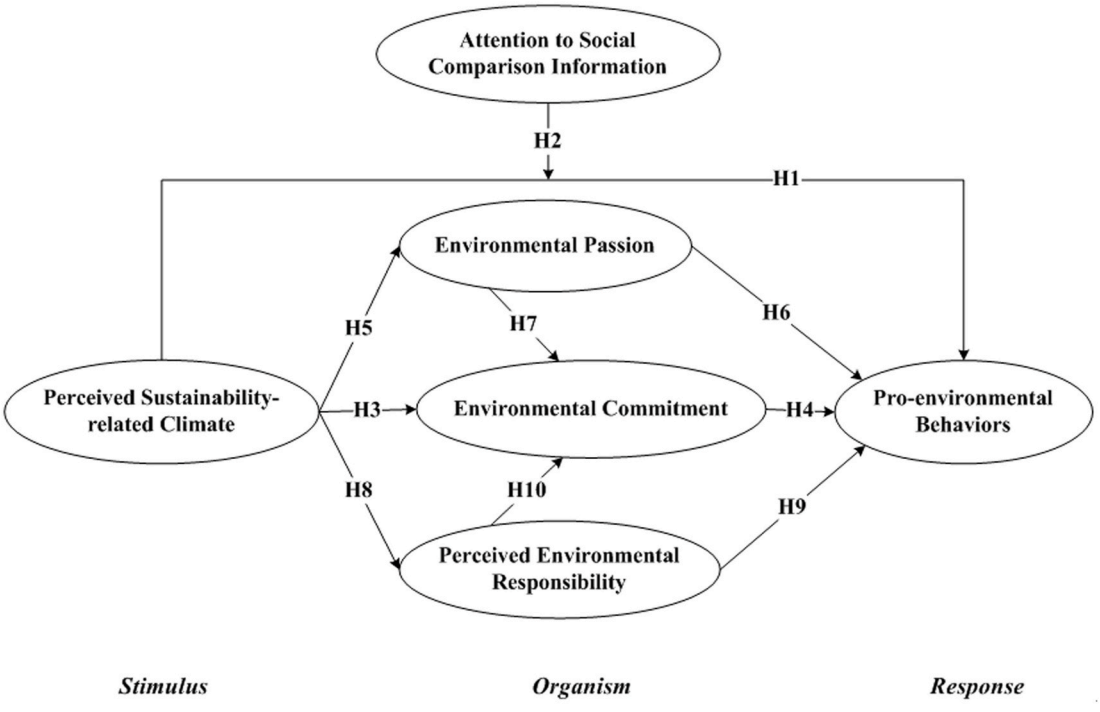


**Fig. 1.** Conceptual framework.

is threatened, local residents tend to behave environmentally to restore it. That is, local residents' pro-environmental behaviors are affected by monitoring others' perceptions and evaluations.

ATSCI is thought to be an innate and vital human need (Festinger, 1954). Nonetheless, the degree of this need vary across individuals. Thus, ATSCI is an individual-difference variable. Individuals who score high on ATSCI are sensitive to others' evaluations about their behaviors and have a strong need for social approval to enhance their self-image about environmental engagement (Lennox & Wolfe, 1984). These individuals are inclined to pay much attention to the social cues and use the cues to guide their behaviors for presenting a positive self-image to others and gaining social approval (Zou & Chan, 2019). Such a strong need for social approval may affect individuals' perceptions about the external circumstances and policies, which will promote their environmental engagement. Individuals scoring high in ATSCI are more likely to be motivated to adopt pro-environmental behaviors for conveying and maintaining their positive environmental image when they perceive external circumstances support and praise the environmental activities. Thus, in this study, local residents who care more about the social comparison information are more likely to be influenced by perceived sustainability-related climate in engaging in pro-environmental behaviors. In this line of thought, the following hypothesis is listed:

**H2**. ATSCI positively moderates the relationship between perceived sustainability-related climate and local residents' pro-environmental behaviors.

### *2.4. Perceived sustainability-related climate and environmental commitment, environmental passion, perceived environmental responsibility*

Commitment is a mental state, it usually contains emotions and thoughts that drive behaviors supposed to continue and remain associations. Also, it is a key predictor to examine the maintenance of long-term oriented relationships and emphasizes maintaining a relationship through psychological attachment (He, Hu, Swanson, Su, & Chen, 2018). More specifically, this study defines environmental commitment as psychological attachment and long-term orientation to the natural environment (Davis, Le, & Coy, 2011). The fulfillment of a commitment requires the assistance of external conditions. The commitment to conduct a behavior is more likely to form with the supports of external circumstances. Favorable sustainability-related climate among residents may cause the passion, psychological attachment and desire to participate in pro-environmental activities (Lee, 2011). Sustainability-related climate can shape an atmosphere that is conducive to the destination sustainability, which in turn enhances local residents' environmental commitment. That is, when the level of perceived sustainability-related climate is high, individuals' level of environmental commitment will increase. Therefore, the hypothesis is listed as follows:

**H3**. Perceived sustainability-related climate positively influences environmental commitment.

The passion of individuals is described as a positive emotion that is within the control of individuals. This positive emotion may result in motivating individuals to participate in the activities or creating the relationship related to the goal of passion (Robertson & Barling, 2013). The present research defines environmental passion as a positive emotion that causes an individual to desire to engage in environmental protection practices (Afsar, Badir, & Kiani, 2016). Emotional arousal often relies on external supports (Koole & Fockenberg, 2011). If individuals perceive supports or appraisals to a given behavior from the external circumstances, their positive emotions toward the given behavior will be evoked. That is, if local residents clearly perceive positive supports and anticipations for sustainable development from tourism destinations, their environmental passion for participating in the protection of the destination environment will increase. Fisk, Patricio, Lin, and Liang (2011) indicated that individuals can experience more positive emotions when external stimuli and supports are perceived. Rego, Ribeiro, and Cunha (2010) also deemed that psychological climate is meaningful for employees' emotions and passion in the field of organizational citizenship behaviors. Thus, this study hypothesizes that:

**H4**. Perceived sustainability-related climate positively influences environmental passion.

Perceived environmental responsibility in this study is defined as the personal responsibility consciousness of local residents to ensure their actions do not adversely affect others or the natural environment (Wang, Wei, & Zhang, 2019). Engaging in pro-environmental behaviors may need to sacrifice some time and resources, such as paying higher price for green products (Zelezny, Chua, & Aldrich, 2000). When the destination creates the sustainability-related climate, local residents may have a high probability of forming a positive attitude toward the destination sustainability and thus are more likely to contribute time and energy for reducing the harm of human activities to the environment (Bonilla-Priego, Font, & Del Rosario Pacheco-Olivares, 2014). This study believes that if a tourism destination builds the sustainability-related climate, local residents may think they also have a responsibility to protect the destination environment. If these residents are not engaging in such environmental activities, they will feel pressured (Tang, Warkentin, & Wu, 2019). Therefore, an encouraging sustainability context is a critical factor in enhancing environmental responsibility of individuals. The higher score of sustainability-related climate represented by the external circumstance, the easier the individual's potential responsibility consciousness to form to protect the environment can be awakened and increased. In other words, when individuals perceive that the surroundings they live in support or praise their efforts for environmental sustainability, their sense of responsibilities will increase. In the light of such understanding, the following hypothesis is proposed:

**H5**. Perceived sustainability-related climate positively influences perceived environmental responsibility.

### *2.5. Environmental commitment, environmental passion, perceived environmental responsibility and pro-environmental behaviors*

Commitment theory essentially examines how individuals identify with a goal and the consequences of that identification (Meyer & Herscovitch, 2001). Generally, commitment manifests itself in individuals' desires and emotional attachments to achieve and support the goal and interests of that goal (Cantor, Morrow, & Blackhurst, 2015). Previous literature has postulated that individuals who make a commitment to engage in environmental protection practices could contribute to the sustainability goal (Ertz, Karakas, & Sarigöllü, 2016). As such, this research draws from commitment theory to explore how local destination residents' emotional attachments to the environment affect their perceptions and behaviors. Researchers noted that individuals have high possibility to make efforts to protect the nature and environment they live in when they make a commitment to do. For instance, Wang et al. (2020) presented that pro-environmental behaviors of destination residents are positively driven by their pro-environmental commitment. Ertz et al. (2016) recognized the vital impact of environmental commitment when exploring pro-environmental behaviors of consumers. Similarly, in this study, a more favorable environmental commitment will increase the probability to participate in pro-environmental behaviors of local residents. Following the above statements, the hypothesis is proposed:

**H6**. Environmental commitment positively influences tourism destination residents' pro-environmental behaviors.

According to commitment theory, emotional attachments would dedicate more power in the identified behaviors and goals. Hence, positive emotions such as pleasure and delight would positively affect

individuals' practices and actions to protect the environment (Robertson & Barling, 2013). When individuals arouse the environmental passion, this positive emotion will motivate them to endorse strong level of environmental engagement. Specifically, in the current research, local residents who score high on environmental passion to protect the destination environment are more likely to perform pro-environmental behaviors. Afsar et al. (2016) revealed that individuals' environmental passion positively predicts their pro-environmental behaviors. Robertson and Barling (2013) also reported that individuals' environmental passion is a positive and important indicator of their environmental behaviors. Based on the literature, this study hypothesizes that environmental passion will be predictive of the adoption of pro-environmental behaviors of tourism destination residents.

**H7**. Environmental passion positively influences tourism destination residents' pro-environmental behaviors.

Normative activation theory provides a scientific theoretical explanation to explore the relationship between perceived environmental responsibility and residents' pro-environmental behaviors. Extrapolating from normative activation theory, individuals are likely to practice environmental activities when they recognize harmful environmental consequences and feel responsible for those consequences. That is to say, individuals who perceive environmental responsibility are more likely to participate in environmental actions, such as avoiding the use of disposable products. In a similar vein, local destination residents who feel responsible for the negative effects of their daily activities will be more willing to put in effort and energy to participate in pro-environmental behaviors. Therefore, the following relationship is expected:

**H8**. Perceived environmental responsibility positively influences tourism destination residents' pro-environmental behaviors.

### 2.6. Environmental passion, perceived environmental responsibility and environmental commitment

Passion is the fuel for potential commitment when it comes to deep and active involvement with leading to such as protecting the environment (Afsar et al., 2016). The interactions and emotional bonds with a specific behavior are the sources of feelings of commitment (Junot, Paquet, & Fenouillet, 2018). The experience of positive emotions, such as happiness and pride may be elicited by passion, which in turn motivates individuals to commit to engage in a specific behavior (Afsar et al., 2016). Passion is one of the foundations and prerequisites for the orientation to maintain a long-term relationship with the specific behavior (Gonzaga & Haselton, 2008). Thus, the more favorable individuals' environmental passion is, the higher their environmental commitment to environmental protection will be. Drawing from the research of Junot et al. (2018), positive emotions are supposed to lead to environmental commitment. In this line of thought, a well-developed sense of environmental passion will elicit a high attachment level to commit to adopt pro-environmental behaviors to fight against environmental pollution. Accordingly, it is postulated that:

**H9**. Environmental passion positively influences environmental commitment.

It is reasonable to regard the responsibility consciousness to protect the ecological system as the antecedent of environmental commitment which represents a long-term psychological attachment to the nature (Müller, Kals, & Pansa, 2009). Individuals who perceive high degree of sense of responsibility to understanding and protecting the ecosystem are more likely to make a commitment to protect the environment. That is, the higher the level of perceived environmental responsibility of local residents, the stronger their willingness to commit to conduct pro-environmental behaviors. Prior studies have also confirmed the connection between environmental responsibility and environmental commitment (Scannell & Gifford, 2013). Researchers such as Montada, Kals, and Becker (2007) have referred that environmental responsibility is a critical determinant to understand long-term environmental commitment. Based on the above literature, this study concludes that environmental commitment of individuals may depend on their perceived environmental responsibility. Therefore, the following hypothesis is inferred based on the above statement:

**H10**. Perceived environmental responsibility positively influences environmental commitment.

## 3. Methodology

### 3.1. Measurements

The present study used the questionnaire survey to collect the data. The questionnaire items were adapted from previous literature. Some wordings have been slightly modified to adapt to the research background of this study. The measurement scale of perceived sustainability-related climate contained five items drawn from the research of Norton, Zacher, and Ashkanasy (2015) and Norton et al. (2014). The scale of environmental passion was measured by adapting five items from the works of Li, Xue, Li, Chen, and Wang (2020) and Afsar et al. (2016). Four items of perceived environmental responsibility were adapted from the studies of Wang and Lin (2017) and Paço and Gouveia Rodrigues (2016). Four items adopted from Cantor et al. (2015) and Wang et al. (2020) were used to measure the construct of environmental commitment. Adopted from the research of Zou and Chan (2019) and Heaney, Goldsmith, and Jusoh (2005), three items were used to measure the scale of ATSCI. In terms of the measurement scale of pro-environmental behaviors, four items were finally determined on the basis of the studies of Liu et al. (2014) and Zhang, Zhang, Zhang, and Cheng (2014). The questionnaire used a 5-point Likert scale, 1 means 'Never' and 5 means 'Always', which was used to measure pro-environmental behaviors. The rest of measurement items were also measured using a 5-point Likert scale with 1 indicating strong disagreement and 5 indicating strong agreement.

The initial version of the questionnaire was in English, which was translated into Chinese by investigators for the survey. In order to ensure the accuracy of the translation, the reverse translation method was adopted. The first step was to translate the initial English questionnaire into Chinese. The second step was to translate the Chinese version into English again by a Chinese-English bilingual. In the third step, the two English versions of the questionnaire were evaluated by another bilingual to avoid ambiguity in the translation process. After the translation finished, the investigators invited seven scholars in the tourism management field to review the translated questionnaires. According to the suggestions and feedback of these scholars, the investigators revised the questionnaire and then obtained the final version of the questionnaire. Moreover, 70 university students were selected to conduct a pilot survey to assess the reliability and validity of the constructs and items of the questionnaire. The results of pilot survey suggested that the constructs and items of the final questionnaire had good reliability and validity. Appendix A displays the details of the constructs and items of the questionnaire.

### 3.2. Survey site and data collection

The potential respondents of this survey are local residents who lived in Xidi and Hongcun, two ancient villages located in Yi County, Huangshan City in south Anhui Province of China. As one of the earliest developed tourist villages in China, tourism has replaced agriculture as the leading industry in Xidi and Hongcun (Na, 2019). Most of the local residents in these two ancient villages are mainly concentrated in the core destination and make a living by setting up homestay businesses, small shops, and the service facilities (e.g., restaurants and hotels). The environmentally harmful behaviors of local residents in their daily lives

and livelihoods, such as randomly discharging domestic sewage and randomly discarding domestic garbage, have posed great threats to the environmental quality of the two villages.

To ensure the authenticity of respondents' answers, the investigators were trained before conducting the survey. The investigators were told that they cannot hint and remind respondents how to answer the survey questions during the survey. The respondents were invited to participate in the survey voluntarily and were promised that their privacy information and answers would not be disclosed. Investigators first asked whether an individual is a local resident and whether he/she would like to participate in the survey. Once the answer is affirmative, the questionnaire was handed out to the respondent. Before the respondent fills the questionnaire, the investigators introduced the purpose of the survey and the importance of their pro-environmental behaviors (e.g., conductive to the development of tourism; to improve the live ability of the local communities) to them in detail. To access to more local residents, we sought assistance from the local community committees. With their help, local residents were willing to cooperate with us and participate in the survey. To increase the response rate and residents' participation, their rules of daily life and behaviors were considered and the survey was conducted in the evening. The time span of this survey was from July 2019 to October 2019. Totally, 652 valid responses were collected.

## 4. Empirical analysis and results

### 4.1. Respondent profile

The survey respondents were slightly more male and the percentage was 51.4 %. Respondents who aged 18–30 years accounted for 30.2 %. The percentage of 31–50 years of age was 39.7 %. The percentage of older than 50 years of age was 30.1 %. 55.5 % of respondents had a high school/technical school education and 28.4 % of respondents had an education level below high school. The percent of respondents who attended junior college was 9.5 %. 5.2 % of respondents got a Bachelor's degree and 1.4 % of respondents obtained a Master's or higher degree. In terms of monthly income, about three-quarters of respondents earned ¥3000–8000 per month. Table 1 summarizes the characteristics of the respondents.

### 4.2. Test of common method bias and normal distribution

Harman's single factor test was used to assess the issue of common method bias. The result indicated that all measurement items were unlikely to load on a single factor, which showed that the common method bias was not a serious problem in this study (Chang, Witteloostuijn, & Eden, 2010). Moreover, before the structural equation model (SEM) was tested, normal distribution test was performed to ensure that the assumptions of the SEM were met. The absolute values of Skewness were all below 3, the values of Kurtosis were all below 10 in absolute value. Drawing from the research of Kline (1998), these findings presented that the data did not deviate significantly from the normal distribution.

**Table 1**
Characteristics of the samples.

| Gender | N | % | Age | N | % |
|---|---|---|---|---|---|
| Female | 317 | 48.6 | 18–30 | 197 | 30.2 |
| Male | 335 | 51.4 | 31–50 | 259 | 39.7 |
| | | | >50 | 196 | 30.1 |
| Educational level | N | % | Monthly Income | N | % |
| Less than high school | 185 | 28.4 % | < ¥3000 | 194 | 29.8 |
| High school/technical school | 362 | 55.5 % | ¥3000-¥5000 | 289 | 44.3 |
| Junior college | 62 | 9.5 % | ¥5001-¥8000 | 107 | 16.4 |
| Bachelor's degree | 34 | 5.2 % | ¥8001-¥10,000 | 50 | 7.7 |
| Master's or higher degree | 9 | 1.4 % | > ¥10,000 | 12 | 1.8 |

### 4.3. Measurement model analysis

A two-step process of analysis was conducted to identify the research hypotheses for addressing the research questions. The first step was Confirmatory Factor Analysis (CFA). The proposed hypotheses were tested in the second step. The fitness of the measurement model was presented in Table 2. According to the criteria of Hu and Bentler (1999), all indicators of the measurement model met the requirements. The Cronbach's alpha values and composite reliability values were widely preferred to measure the reliability (Shammout, 2007). Table 3 indicated that the value range of Cronbach's alpha was between 0.859 and 0.870, which was higher than the benchmark of 0.700. Also, the values of composite reliability were also above the threshold of 0.700. This showed that the internal consistency of the items for measuring the constructs of this study was good. Validity referred to the ability of the measurement scales to capture the intended measurement (Shammout, 2007). The convergent validity and discriminant validity were adopted in the validity analysis. Specifically, factor loadings and Average Variance Extracted (AVE) were used to measure the convergent validity. According to Table 3, the loadings of all the items ranged from 0.819 to 0.891, which were higher than the criterion of 0.700. The AVE values of all the constructs were larger than the 0.500 threshold. These results demonstrated that the convergent validity of all the constructs was sufficient. The discriminant validity was tested by comparing the correlation coefficients of the constructs with the square root of the AVEs. It could be said that the discriminant validity was satisfied if the square root of the AVEs were larger than the correlation coefficients of the constructs. As depicted in Table 4, the discriminant validity of the measurements was well.

### 4.4. Structural model analysis

The fitness of the structural model was listed below: $\chi^2/df = 2.705$, RMSEA = 0.066, GFI = 0.911, NFI = 0.972, IFI = 0.979, TLI = 0.976, CFI = 0.979, which indicated that the data fit the model sufficiently. Fig. 2 demonstrated the results of structural model analysis. As expected, the effects of perceived sustainability-related climate on local residents' pro-environmental behaviors ($\beta = 0.220$, $p < 0.01$), environmental commitment ($\beta = 0.164$, $p < 0.001$), environmental passion ($\beta = 0.264$, $p < 0.001$), and perceived environmental responsibility ($\beta = 0.245$, $p < 0.01$) were all positive and significant, which supporting H1, H3, H4, and H5. Environmental commitment had positive and significant influence on the pro-environmental behaviors ($\beta = 0.332$, $p < 0.001$). Hence, H6 was supported. Additionally, environmental passion had significantly positive effect on the pro-environmental behaviors ($\beta = 0.327$, $p < 0.001$) and environmental commitment ($\beta = 0.273$, $p < 0.001$), which supporting H7 and H9. In a similar vein, H8 and H10 were supported because the effects of perceived environmental responsibility on the pro-environmental behaviors ($\beta = 0.343$, $p < 0.001$) and environmental commitment ($\beta = 0.282$, $p < 0.001$) were also positive and significant.

### 4.5. Moderating effect analysis

The moderating effect of ATSCI was tested by moderated structural

**Table 2**
Fitness of measurement model.

| Index | Criteria | Judgment |
|---|---|---|
| $\chi^2/df = 2.903$ | <3.000 | Yes |
| Root Mean Square Error of Approximation (RMSEA) = .076 | <.080 | Yes |
| Goodness of Fit Index (GFI) = .913 | >.900 | Yes |
| Normed Fit Index (NFI) = .971 | >.900 | Yes |
| Incremental Fit Index (IFI) = .977 | >.900 | Yes |
| Tucker-Lewis Index (TLI) = .973 | >.900 | Yes |
| Comparative Fit Index (CFI) = .977 | >.900 | Yes |

**Table 3**
Results of measurement model.

| Construct | Loading | Cronbach's α | CR | AVE |
|---|---|---|---|---|
| Perceived Sustainability-related Climate | | .870 | .934 | .738 |
| PSC1 | .891 | | | |
| PSC2 | .832 | | | |
| PSC3 | .843 | | | |
| PSC4 | .838 | | | |
| PSC5 | .889 | | | |
| Environmental Passion | | .864 | .925 | .713 |
| EP1 | .854 | | | |
| EP2 | .849 | | | |
| EP3 | .851 | | | |
| EP4 | .848 | | | |
| EP5 | .819 | | | |
| Perceived Environmental Responsibility | | .869 | .908 | .712 |
| PER1 | .852 | | | |
| PER2 | .839 | | | |
| PER3 | .843 | | | |
| PER4 | .842 | | | |
| Environmental Commitment | | .865 | .911 | .718 |
| EC1 | .852 | | | |
| EC2 | .839 | | | |
| EC3 | .844 | | | |
| EC4 | .854 | | | |
| Pro-environmental Behaviors | | .859 | .908 | .712 |
| PEB1 | .841 | | | |
| PEB2 | .839 | | | |
| PEB3 | .846 | | | |
| PEB4 | .850 | | | |
| Attention To Social Comparison Information | | .859 | .908 | .712 |
| ATSCI1 | .841 | | | |
| ATSCI2 | .839 | | | |
| ATSCI3 | .846 | | | |

Note: CR=Composite Reliability; AVE = Average Variance Extracted.

**Table 4**
Correlation coefficients and the square of root of AVE values.

| | Mean | PSC | EP | PER | EC | PEB | ATSCI |
|---|---|---|---|---|---|---|---|
| PSC | 3.39 | .859 | | | | | |
| EP | 3.63 | .384** | .844 | | | | |
| PER | 3.52 | .383** | .378** | .844 | | | |
| EC | 3.58 | .370** | .366** | .365** | .847 | | |
| PEB | 3.17 | .380** | .377** | .376** | .365** | .844 | |
| ATSCI | 3.41 | .431** | .352** | .365** | .398** | .336** | .838 |

Note: (1) The bold numbers are the square roots of AVE values; (2) PSC=Perceived Sustainability-related Climate, EP = Environmental Passion, PER=Perceived Environmental Responsibility, EC = Environmental Commitment, PEB=Pro-environmental Behaviors, ATSCI = Attention to Social Comparison Information; **p < 0.01.

equation model (MSEM). According to the research of Mathieu, Tannenbaum, and Salas (1992), the moderating effect exists if the interaction term is significant. The results of moderating effect analysis were presented in Table 5. The fit of the model was accessed by the values of CFI, RMSEA, and PGFI. The CFI value above 0.90, the RMSEA value was less than 0.08, and the value of PGFI was around 0.50. These results signified a good fitness of the model. As indicated in Table 5, the interaction term (PSC*ATSCI) was positively and significantly correlated with the pro-environmental behaviors ($\beta = 0.129$, $p < 0.001$). The finding revealed that the relationship between perceived sustainability-related climate and the pro-environmental behaviors was moderated by ATSCI. Hence, H2 was supported.

### 4.6. Direct, indirect, and total effects

The results of direct, indirect, and total effects were provided in Table 6. Among the three antecedents of environmental commitment, perceived environmental responsibility had the largest direct effect. Perceived environmental responsibility also was found to have the largest direct effect on the pro-environmental behaviors. Perceived sustainability-related climate had a significantly indirect effect on environmental commitment and the pro-environmental behaviors. Moreover, perceived sustainability-related climate was found to have the largest total effect (direct and indirect via environmental commitment) on the pro-environmental behaviors.

## 5. Conclusions, implications, and limitations

### 5.1. Discussion

An integrated framework is developed in this study to explore when and how perceived sustainability-related climate contributes to destination residents' pro-environmental behaviors. To empirically examine the integrated framework, the data were collected from two ancient villages in China. According to the stimulus-organism-response (S–O-R) framework, the present study confirms that environmental passion, perceived environmental responsibility, and environmental commitment as underlying mechanisms (how), and the ATSCI as the boundary condition (when) are critical for shaping the relationship between perceived sustainability-related climate and the pro-environmental behaviors of local residents. Empirical findings from this study may help those are responsible for the regulations and management of tourism destinations to better understand how perceived sustainability-related climate elicits local residents' psychological attachments, responsibility consciousness with protecting the destination environment, and subsequently motivating those residents to perform their pro-environmental behaviors.

As expected, the findings presented that perceived sustainability-related climate positively influences local residents' passion for environmental engagement and the environmental responsibility they perceived. As such, undertaking activities to increase the level of perceived sustainability-related climate would appear to promote the positive emotions and perceived responsibility about protecting the destination environment. The results also illuminated that the level of perceived sustainability-related climate positively influences environmental commitment. Meanwhile, consistent with expectations, the empirical results suggested that perceived sustainability-related climate is positively associated with the pro-environmental behaviors of local residents. This finding is similar with earlier studies which indicated that external environmental policies and communications are essential for environmental activities (Haque & Ntim, 2018). However, it is worth noting that previous literature on the destination sustainability has rarely emphasized the importance of destination-specific situational antecedent. Thus, this study contributes to the literature of destination sustainability by proposing the construct of perceived sustainability-related climate as an antecedent to understand the impacts of external circumstances related sustainability on psychological attachments and perceived environmental responsibility.

Moreover, the findings acknowledged that higher levels of environmental passion and perceived environmental responsibility could ignite residents' environmental commitment and encourage residents to participate in the pro-environmental behaviors. The results also recognized that a greater level of environmental commitment is positively related to the pro-environmental behaviors. Tourism destinations can thereby motivate local resident to perform pro-environmental behaviors by improving their environmental passion, perceived environmental responsibility, and environmental commitment. These outcomes are in line with prior research concerning emotional attachments and responsibility in environmental engagement (Brown et al., 2019; Story &

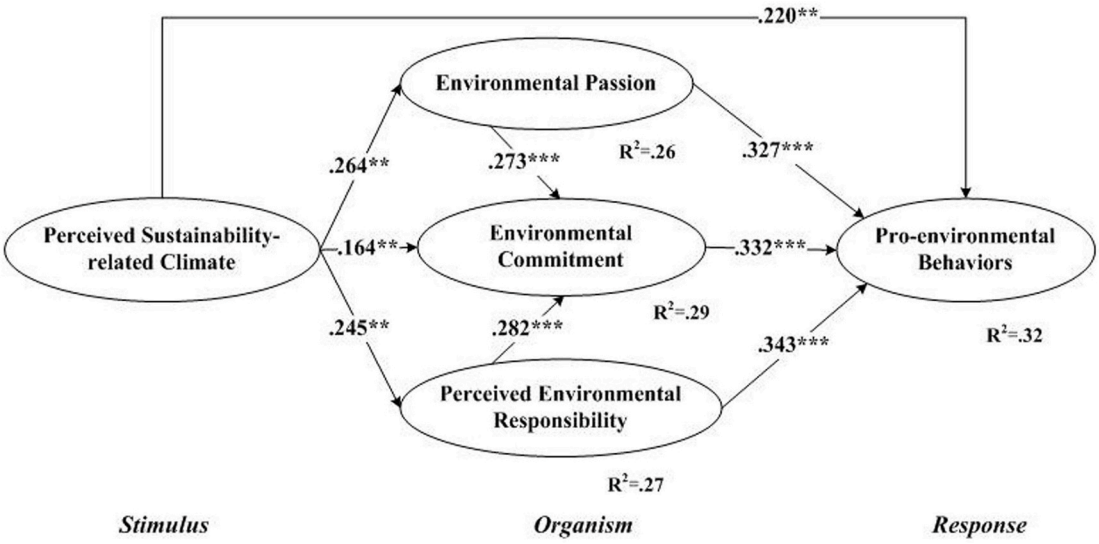


**Fig. 2.** Results of hypotheses testing.

**Table 5**
Results of moderating effect.

| Predictor | Pro-environmental behaviors | CFI | RMSEA | PGFI |
|---|---|---|---|---|
| PSC | .320*** | .92 | .06 | .51 |
| ATSCI | .154*** | | | |
| PSC*ATSCI | .129*** | | | |
| $R^2$ | 29 % | | | |

Note: (1) ***p < 0.001; (2) PGFI=Parsimony Goodness of Fit Index.

**Table 6**
Results of direct, indirect, and total effects.

| Relationship | Direct effect | Indirect effect | Total effect |
|---|---|---|---|
| PSC→EP | .264*** | – | .264*** |
| PSC→PER | .245** | – | .245** |
| PSC→EC | .164*** | .141*** | .305*** |
| PSC→PEB | .220*** | .272*** | .492*** |
| EP→EC | .273*** | – | .273*** |
| EP→PEB | .327*** | .091** | .418*** |
| PER→EC | .282*** | – | .282*** |
| PER→PEB | .343*** | .094** | .437*** |
| EC→PEB | .332*** | – | .332*** |

Note: **p < 0.01; ***p < 0.001.

Forsyth, 2008). These findings provide a more comprehensive way to understand how destination-specific situational antecedent affects the pro-environmental behaviors via emotional and rational responses such as environmental passion, environmental commitment and perceived environmental responsibility. Lastly, this study highlights the importance of ATSCI in pro-environmental behaviors and further pointed out that ATSCI can augment the effect of perceived sustainability-related climate on the pro-environmental behaviors of local residents. That is, the effect of perceived sustainability-related climate on the pro-environmental behaviors depends on the level of ATSCI. The higher the level of ATSCI, the stronger the effect of perceived sustainability-related climate on the pro-environmental behaviors is. This finding expands the application of ATSCI and improves the literature of tourism destination sustainable management by examining the role of ATSCI in regulating the relationship between perceived sustainability-related climate and tourism destination residents' pro-environmental behaviors.

### 5.2. Theoretical and managerial implications

The present study provides several theoretical implications. First, few studies have provided insights into how perceived sustainability-related climate directly affects the pro-environmental behaviors as a situational antecedent. This study introduces perceived sustainability-related climate as an antecedent of the pro-environmental behaviors to examine the impact of destination-specific situational antecedent on the behaviors, which offers a new perspective for understanding the formation mechanisms of local residents' pro-environmental behaviors. Second, in previous destination sustainability literature, few studies have provided insights into how ATSCI and perceived sustainability-related climate concurrently influence local residents' pro-environmental behaviors. The present study lends support to the positive interaction effects of ATSCI and perceived sustainability-related climate on the pro-environmental behaviors, which contributes to the tourism destination management research.

This study also offers managerial implications for tourism destination management and policy making. First, the vital role of local residents in adopting pro-environmental behaviors is highlighted in the current research. Practitioners should pay more attention to encourage tourism destination residents to partake in pro-environmental behaviors in tourism destinations. For instance, the knowledge and skills of saving resources and protecting the environment in daily lives can be publicized to local residents through village broadcasts, lectures, leaflets and other forms. A variety of environmental protection activities such as sharing environmental protection experience and conducting environmental knowledge quiz can be carried out. Furthermore, other stakeholders should also be aware of the importance of local residents in protecting the destination environment and wholeheartedly inspire their efforts. Managers can take advantage of the off-season of tourism to disseminate the necessary environmental knowledge to all stakeholders in the destination. Besides, environmental protection staff with relevant knowledge or teachers from surrounding schools could be invited to regularly conduct targeted environmental protection training programs. In particular, the employees of tourism destinations, tourism companies and the government agencies should be arranged for the regular training programs to ensure that each employee has the ability and knowledge of environmental engagement.

Second, given the significant role of perceived sustainability-related climate, efforts should be made to create an atmosphere which supports the sustainability of tourism destinations. For example, relevant environmental policies or communications should be expressed by the

publicity board of village affairs and community meetings to local residents timely and clearly. Specific and operable messages and knowledge about sustainability should be widespread by environmental protection educations to motivate local residents to reduce their environmentally harmful behaviors. Meanwhile, environmental protection skills (e.g., how to sort waste, how to save energy in daily life) should also be vigorously publicized and popularized to provide knowledge reserve and skill base for local residents to effectively engage in pro-environmental behaviors. Moreover, the measures, determination and confidence of tourism destinations to commit to the sustainable development and environmental protection should also be exposed to local residents.

Third, environmental passion, environmental commitment and the perceived environmental responsibility are the significant predictors of the pro-environmental behaviors of local residents. Hence, several rational and logical actions such as publicizing the severity of environmental problems and emphasizing residents' roles in improving the environment should be taken. Meanwhile, emotional appeals and spiritual improvements are also powerful ways. Specifically, the notion that environmental protection is the responsibility of local residents should be increasingly advocated. Sustainable development strategies of tourism destinations should focus on emotional benefits such as the happiness, feelings of well-being, or satisfaction evoked by local residents' personally participation in protecting the environment. Future environmental communications should also convey how tourism destinations can provide emotional benefits to local residents. Finally, to effectively highlight the impact of ATSCI, the media such as radio and newspapers should be used. The communication media should be regarded as a stimulus to improve the effectiveness of inter-personal channel. Moreover, managers and policy makers should also explore which social groups or references are the most influential in persuading local residents to conduct their pro-environmental behaviors. As such, the environmental engagement of local residents may be increased. Communication programs should cover all of these groups instead of just the research subjects only. Getting these social groups aware of the significance of adopting pro-environmental behaviors can reduce the resistance from these groups.

### 5.3. Limitations and future directions

Several limitations exist in this study. First, a self-report measurement of the adoption of pro-environmental behaviors was applied in the survey. Because of the impact of social desirability, the adoption of pro-environmental behaviors may be overestimated in some residents' responses and the actual behaviors may not be reflected accurately by the measurement. Though previous research suggested the self-reported behavior is a useful indicator of actual behavior, more reliable measurements should still be sought in future studies. Second, based on the S–O-R framework, this study exemplifies environmental passion, perceived environmental responsibility, and environmental commitment as underlying mechanisms of the relationship between perceived sustainability-related climate and local residents' pro-environmental behaviors. However, other variables, such as nature affiliation and environmental identification could also be the determinants that provide insights into this relationship. Correspondingly, additional explorations should be developed for clarifying the impact of perceived sustainability-related climate on the pro-environmental behaviors of local residents in the destination management field. Similarly, more explorations of boundary conditions of this relationship also should be called for. Third, the generalizability of the findings may be limited because the survey was conducted only in two famous ancient villages of China. The traditional lifestyles of local residents have been greatly impacted by the rapid development of tourism, which may skew the survey results of this study. Future directions should collect data from more types of tourism destinations to better assess the adoption of pro-environmental behaviors.

## Declaration of competing interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Acknowledgments

This work was supported by the National Social Science Foundation of China (Grant No. 16CGL041).

## Appendix A. Constructs and itemsAbbreviationItem Wording

*Perceived sustainability-related climate*

| | |
|---|---|
| PSC1 | People in my neighborhood are interested in supporting environmental causes |
| PSC2 | People in my neighborhood believe it is important to protect the environment and achieve the sustainability |
| PSC3 | I receive support from my community for my pro-environmental behaviors |
| PSC4 | My community provides rewards to residents for their pro-environmental behaviors |
| PSC5 | People in my neighborhood encourage me to perform pro-environmental behaviors |

*Environmental passion*

| | |
|---|---|
| EP1 | I am passionate about the environmental protection |
| EP2 | I enjoy engaging in environmental-related activities |
| EP3 | I take pride in protecting the nature |
| EP4 | I get pleasure from taking care of the environment |
| EP5 | I have voluntarily donated time or money to help the environment in some way |

*Perceived environmental responsibility*

| | |
|---|---|
| PER1 | I believe I should be responsible for protecting the environment |
| PER2 | I believe that environmental protection starts with me |
| PER3 | I believe that environmental protection is not only the responsibility of government, but also my responsibility |
| PER4 | I believe that environmental protection is not only the responsibility of environmental organizations, but also my responsibility |

*Environmental commitment*

| | |
|---|---|
| EC1 | I am willing to give things up if they harm the natural environment |
| EC2 | Even when it is inconvenient, I do what is best for the environment |
| EC3 | I take on responsibilities that help conserve the natural environment |
| EC4 | I am willing to do things for the natural environment, even if I am not thanked for my efforts |

*Pro-environmental behaviors How often have you performed each of the following behaviors in the past year?*

| | |
|---|---|
| PEB1 | Saving energy and resources in daily life. |
| PEB2 | Disposing of garbage regularly in daily life. |
| PEB3 | Protecting animals and plants in daily life. |
| PEB4 | Contributing to the eco-environmental protection or construction of the tourist destination |

*Attention to social comparison information*

| | |
|---|---|
| ATSCI1 | It is my feeling that if everyone else in a group is behaving a certain way, this must be the proper way to behave |
| ATSCI2 | My behaviors often depend on how I feel others wish me to |

behave

ATSCI3 If I am the least bit uncertain as to how to act in a social situation, I look to the behaviors of others for cues

## References


Afsar, B., Badir, Y., & Kiani, U. S. (2016). Linking spiritual leadership and employee pro-environmental behavior: The influence of workplace spirituality, intrinsic motivation, and environmental passion. *Journal of Environmental Psychology, 45*, 79–88.

Balaji, M. S., Jiang, Y., & Jha, S. (2019). Green hotel adoption: A personal choice or social pressure? *International Journal of Contemporary Hospitality Management, 31*(8), 3287–3305.

Bamdad, T. (2019). Pro-environmental attitude-behavior; A spillover or a gap? *Cultural Sustainable Tourism*, 169–183.

Bearden, W. O., & Rose, R. L. (1990). Attention to social comparison information: An individual difference factor affecting consumer conformity. *Journal of Consumer Research, 16*(4), 461–471.

Bonilla-Priego, M. J., Font, X., & Del Rosario Pacheco-Olivares, M. (2014). Corporate sustainability reporting index and baseline data for the cruise industry. *Tourism Management, 44*, 149–160.

Brown, K., Adger, W. N., Devine-Wright, P., Anderies, J. M., Barr, S., Bousquet, F., et al. (2019). Empathy, place and identity interactions for sustainability. *Global Environmental Change, 56*, 11–17.

Buhalis, D. (2000). Marketing the competitive destination of the future. *Tourism Management, 21*(1), 97–116.

Cantor, D. E., Morrow, P. C., & Blackhurst, J. (2015). An examination of how supervisors influence their subordinates to engage in environmental behaviors. *Decision Sciences, 46*(4), 697–729.

Chang, S.-J., Witteloostuijn, A., & Eden, L. (2010). From the editors: Common method variance in international business research. *Journal of International Business Studies, 41*, 178–184.

Choi, S., & Kim, I. (2021). Sustainability of nature walking trails: Predicting walking tourists' engagement in pro-environmental behaviors. *Asia Pacific Journal of Tourism Research, 26*(7), 748–767.

Das, A. K., Biswas, S. R., Jilani, A. K., Muhammad, M., & Uddin, M. (2019). Corporate environmental strategy and voluntary environmental behavior-mediating effect of psychological green climate. *Sustainability, 11*(11), 3123.

Davis, J. L., Le, B., & Coy, A. E. (2011). Building a model of commitment to the natural environment to predict ecological behavior and willingness to sacrifice. *Journal of Environmental Psychology, 31*(3), 257–265.

De Roeck, K., & Delobbe, N. (2012). Do environmental CSR initiatives serve organizations' legitimacy in the oil industry? Exploring employees' reactions through organizational identification theory. *Journal of Business Ethics, 110*(4), 397–412.

Ertz, M., Karakas, F., & Sarigöllü, E. (2016). Exploring pro-environmental behaviors of consumers: An analysis of contextual factors, attitude, and behaviors. *Journal of Business Research, 69*(10), 3971–3980.

Festinger, L. (1954). A theory of social comparison processes. *Human Relations, 7*(2), 117–140.

Fisk, R. P., Patricio, L., Lin, J. S. C., & Liang, H. Y. (2011). The influence of service environments on customer emotion and service outcomes. *Managing Service Quality: International Journal, 21*(4), 350–372.

Gonzaga, G. C., & Haselton, M. G. (2008). The evolution of love and long-term bonds. *Social Relationships: Cognitive, affective, and motivational processes, 10*, 39.

Guo, Y., Zhang, J., Zhang, Y., & Zheng, C. (2018). Examining the relationship between social capital and community residents' perceived resilience in tourism destinations. *Journal of Sustainable Tourism, 26*(6), 973–986.

Haque, F., & Ntim, C. G. (2018). Environmental policy, sustainable development, governance mechanisms and environmental performance. *Business Strategy and the Environment, 27*(3), 415–435.

Heaney, J. G., Goldsmith, R. E., & Jusoh, W. J. W. (2005). Status consumption among Malaysian consumers: Exploring its relationships with materialism and attention-to-social-comparison-information. *Journal of International Consumer Marketing, 17*(4), 83–98.

He, X., Hu, D., Swanson, S. R., Su, L., & Chen, X. (2018). Destination perceptions, relationship quality, and tourist environmentally responsible behavior. *Tourism Management Perspectives, 28*, 93–104.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indices in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*(1), 1–55.

Junot, A., Paquet, Y., & Fenouillet, F. (2018). Place attachment influence on human well-being and general pro-environmental behaviors. *Journal of Theoretical Social Psychology, 2*(2), 49–57.

Katircioglu, S. T., Feridun, M., & Kilinc, C. (2014). Estimating tourism-induced energy consumption and CO2 emissions: The case of Cyprus. *Renewable and Sustainable Energy Reviews, 29*, 634–640.

Kelly, J., Haider, W., Williams, P. W., & Englund, K. (2007). Stated preferences of tourists for eco-efficient destination planning options. *Tourism Management, 28*(2), 377–390.

Kline, R. B. (1998). *Principles and practice of structural equation modeling*. New York: Guilford.

Koole, S. L., & Fockenberg, D. A. (2011). Implicit emotion regulation under demanding conditions: The moderating role of action versus state orientation. *Cognition & Emotion, 25*(3), 440–452.

Lee, T. H. (2011). How recreation involvement, place attachment and conservation commitment affect environmentally responsible behavior. *Journal of Sustainable Tourism, 19*(7), 895–915.

Lee, S., Park, H. J., Kim, K. H., & Lee, C. K. (2021). A moderator of destination social responsibility for tourists' pro-environmental behaviors in the VIP model. *Journal of Destination Marketing & Management, 20*, 100610.

Lennox, R. D., & Wolfe, R. N. (1984). Revision of the self-monitoring scale. *Journal of Personality and Social Psychology, 46*, 1349–1364.

Leung, Y. W. (2018). *Generalizing and expanding the comprehensive action determination model: The case of recycling at home and at work (Doctoral dissertation)*.

Leung, Y. W., & Rosenthal, S. (2019). Explicating perceived sustainability-related climate: A situational motivator of pro-environmental behavior. *Sustainability, 11*(1), 231.

Liu, Y., Cheng, P., & OuYang, Z. (2019). Disaster risk, risk management, and tourism competitiveness: A cross-nation analysis. *International Journal of Tourism Research, 21*(6), 855–867.

Liu, J., Qu, H., Huang, D., Chen, G., Yue, X., Zhao, X., et al. (2014). The role of social capital in encouraging residents' pro-environmental behaviors in community-based ecotourism. *Tourism Management, 41*, 190–201.

Li, Z., Xue, J., Li, R., Chen, H., & Wang, T. (2020). Environmentally specific transformational leadership and employee's pro-environmental behavior: The mediating roles of environmental passion and autonomous motivation. *Frontiers in Psychology, 11*, 1408.

Lülfs, R., & Hahn, R. (2014). Sustainable behavior in the business sphere: A comprehensive overview of the explanatory power of psychological models. *Organization & Environment, 27*(1), 43–64.

Mathieu, J. E., Tannenbaum, S. I., & Salas, E. (1992). Influences of individual and situational characteristics on measures of training effectiveness. *Academy of Management Journal, 35*(4), 828–847.

Mehrabian, A., & Russell, J. A. (1974). *An approach to environmental psychology*. The MIT Press.

Meyer, J. P., & Herscovitch, L. (2001). Commitment in the workplace: Toward a general model. *Human Resource Management Review, 11*(3), 299–326.

Montada, L., Kals, E., & Becker, R. (2007). Willingness for continued social commitment: A new concept in environmental research. *Environment and Behavior, 39*(3), 287–316.

Müller, M. M., Kals, E., & Pansa, R. (2009). Adolescents' emotional affinity toward nature: A cross-societal study. *Journal of Developmental Processes, 4*(1), 59–69.

Na, L. (2019). Information technology support for rural homestay product innovation: Text analysis based on user comments. *Urban and Regional Planning, 4*(4), 162–167.

Norton, T. A., Zacher, H., & Ashkanasy, N. M. (2014). Organizational sustainability policies and employee green behavior: The mediating role of work climate perceptions. *Journal of Environmental Psychology, 38*, 49–54.

Norton, T. A., Zacher, H., & Ashkanasy, N. M. (2015). Pro-environmental organizational culture and climate. In J. L. Robertson, & J. Barling (Eds.), *The psychology of green organizations* (pp. 322–348). New York, NY: Oxford University Press.

Ozaki, R. (2011). Adopting sustainable innovation: What makes consumers sign up to green electricity? *Business Strategy and the Environment, 20*(1), 1–17.

Paço, A., & Gouveia Rodrigues, R. (2016). Environmental activism and consumers' perceived responsibility. *International Journal of Consumer Studies, 40*(4), 466–474.

Peng, C., & Kim, Y. G. (2014). Application of the stimuli-organism-response (SOR) framework to online shopping behavior. *Journal of Internet Commerce, 13*(3–4), 159–176.

Rego, A., Ribeiro, N., & Cunha, M. P. (2010). Perceptions of organizational virtuousness and happiness as predictors of organizational citizenship behaviors. *Journal of Business Ethics, 93*(2), 215–235.

Ren, J., Su, K., Chang, Y., & Wen, Y. (2021). formation of environmentally friendly tourist behaviors in ecotourism destinations in China. *Forests, 12*(4), 424.

Robertson, J. L., & Barling, J. (2013). Greening organizations through leaders' influence on employees' pro-environmental behaviors. *Journal of Organizational Behavior, 34*(2), 176–194.

Salvador, R. O., & Burciaga, A. (2020). Organizational environmental orientation and employee environmental in-role behaviors: A cross-level study. *Business Ethics: A European Review, 29*(1), 98–113.

Scannell, L., & Gifford, R. (2013). Personally relevant climate change: The role of place attachment and local versus global message framing in engagement. *Environment and Behavior, 45*(1), 60–85.

Shammout, A. B. (2007). *Evaluating an extended relationship marketing model for Arab guests of five-star hotels*. Melbourne: Unpublished PhD dissertation, School of Hospitality, Tourism and Marketing, Faculty of Business and Law, Victoria University.

Shepherd, D. A., Patzelt, H., & Baron, R. A. (2013). 'I care about nature, but: Disengaging values in assessing opportunities that cause harm. *Academy of Management Journal, 56*(5), 1251–1273.

Snyder, M. (1974). Self-monitoring of expressive behavior. *Journal of Personality and Social Psychology, 30*(4), 526.

Story, P. A., & Forsyth, D. R. (2008). Watershed conservation and preservation: Environmental engagement as helping behavior. *Journal of Environmental Psychology, 28*(4), 305–317.

Su, L., Huang, S. S., & Pearce, J. (2018). How does destination social responsibility contribute to environmentally responsible behavior? A destination resident perspective. *Journal of Business Research, 86*, 179–189.

Su, L., & Swanson, S. R. (2017). The effect of destination social responsibility on tourist environmentally responsible behavior: Compared analysis of first-time and repeat tourists. *Tourism Management, 60*, 308–321.

Tang, Z., Warkentin, M., & Wu, L. (2019). Understanding employees' energy saving behavior from the perspective of stimulus-organism-responses. *Resources, Conservation and Recycling, 140*, 216–223.
Vieira, V. A. (2013). Stimuli-organism-response framework: A meta-analytic review in the store environment. *Journal of Business Research, 66*(9), 1420–1426.
Wang, E. S. T., & Lin, H. C. (2017). Sustainable development: The effects of social normative beliefs on environmental behavior. *Sustainable Development, 25*(6), 595–609.
Wang, S., Wang, J., Li, J., & Yang, F. (2020). Do motivations contribute to local residents' engagement in pro-environmental behaviors? Resident-destination relationship and pro-environmental climate perspective. *Journal of Sustainable Tourism, 28*(6), 834–852.
Wang, J., Wang, S., Wang, Y., Li, J., & Zhao, D. (2018a). Extending the theory of planned behavior to understand consumers' intentions to visit green hotels in the Chinese context. *International Journal of Contemporary Hospitality Management, 30*(8), 2810–2825.
Wang, S., Wang, J., Wang, Y., Yan, J., & Li, J. (2018b). Environmental knowledge and consumers' intentions to visit green hotels: The mediating role of consumption values. *Journal of Travel & Tourism Marketing, 35*(9), 1261–1271.
Wang, L., Wei, F., & Zhang, X. A. (2019). Why does energy-saving behavior rise and fall? A study on consumer face consciousness in the Chinese context. *Journal of Business Ethics, 160*(2), 499–513.
Wu, J., Huang, D., Liu, J., & Law, R. (2013). Which factors help visitors convert their short-term pro-environmental intentions to long-term behaviors? *International Journal of Tourism Sciences, 13*(2), 33–56.
Xu, F., Huang, L., & Whitmarsh, L. (2020). Home and away: Cross-contextual consistency in tourists' pro-environmental behavior. *Journal of Sustainable Tourism, 28*(10), 1443–1459.
Xu, G., Wang, S., Li, J., & Zhao, D. (2020). Moving towards sustainable purchase behavior: Examining the determinants of consumers' intentions to adopt electric vehicles. *Environmental Science and Pollution Research, 27*(18), 22535–22546.
Yadav, R., Balaji, M. S., & Jebarajakirthy, C. (2019). How psychological and contextual factors contribute to travelers' propensity to choose green hotels? *International Journal of Hospitality Management, 77*, 385–395.
Zelezny, L. C., Chua, P. P., & Aldrich, C. (2000). New ways of thinking about environmentalism: Elaborating on gender differences in environmentalism. *Journal of Social Issues, 56*(3), 443–457.
Zhang, Y., Zhang, H. L., Zhang, J., & Cheng, S. (2014). Predicting residents' pro-environmental behaviors at tourist sites: The role of awareness of disaster's consequences, values, and place attachment. *Journal of Environmental Psychology, 40*, 131–146.
Zollo, L., Yoon, S., Rialti, R., & Ciappei, C. (2018). Ethical consumption and consumers' decision making: The role of moral intuition. *Management Decision, 56*(3), 692–710.
Zou, L. W., & Chan, R. Y. (2019). Why and when do consumers perform green behaviors? An examination of regulatory focus and ethical ideology. *Journal of Business Research, 94*, 113–127.