

Article

The Sustainable Development of Organic Agriculture-Tourism: The Role of Consumer Landscape and Pro-Environment Behavior

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Received: 22 June 2020; Accepted: 27 July 2020; Published: 4 August 2020



Abstract: The purpose of this study is to explore the influence path of organic agricultural landscape on tourists' pro-environment behavior and loyalty, and put forward suggestions for realizing sustainable tourism of organic agriculture. The M-R model was employed to construct an integrated model of the influence of consumer landscape on pro-environment behavior and loyalty in organic agricultural tourism. The research framework and questionnaire design were constructed on the basis of literature review and 417 valid questionnaires which were collected from tourists in Eastern Taiwan (Hualien and Taidong). SPSS was employed to analyze the reliability and validity of the questionnaire and LISREL software was used to identify the influence path between variables. The results showed that: 1. The tourists' cognition of consumer landscape will positively affect the environmental intimacy and environmental identity. 2. Tourists' environmental intimacy and environmental identity will increase their pro-environmental behavior. 3. Tourists' pro-environment behavior has a positive impact on their loyalty to organic agricultural tourism. The results show that organic agricultural tourism can stimulate tourists to understand the significance, importance and multiple values of the environment, and increase the intimacy and identity of tourists to the environment, which has a great effect on pro-environment behavior and loyalty. At the same time, it also shows that organic agricultural tourism is a sustainable tourism mode, which is worth promoting.

Keywords: organic agriculture-tourism; consumer landscape; intimacy; environmental identity; M-R model; pro-environment behaviors

1. Introduction

Following the rise of self-care and environmental protection awareness in today's society, the issue of organic agriculture-tourism has grown into a global issue. Nature-focused industries using organic techniques, such as organic farming villages, organic agricultural products, organic farming and organic agriculture-tourism activities have grown rapidly, too [1]. Choo and Jamal proposed the concept of eco-organic farm tourism and suggested that this novel concept could strike a balance between sustainable agriculture, local development, health and well-being, learning, and socio-cultural and environmental protection [2]. Privitera suggested that while organic agriculture-tourism is similar to traditional tourism, it advocates the protection of the environment and natural resources, and also includes the development of activities and facilities that are related to environmental sustainability [3]. For instance, educational, touristic, food and beverage services, as well as sales of certain food products, all contain environmental protection-related implications. This shows that organic agriculture-tourism

provides landscape resources that may protect the environment; creates tangible and intangible facilities and activities that cover the fields of ecology, education, learning, and experience; and sustains a friendly environment [1]. Organic agriculture-tourism is a form of eco-friendly tourism that has evolved in recent years. As the tourism market faces intense competition, in order to boost visits from tourists, it is vital to promote landscape resources that pertain to organic agriculture-tourism as being different from common tourism activities. In-depth touristic experiences can allow visitors to get closer to and understand organic farming and natural environments, thereby allowing them to develop pro-environmental behaviors and strengthening their loyalty to organic agriculture-tourism. Even though the aforementioned qualities are important issues in organic agriculture-tourism and are vital for sustainable development, previous studies related to organic agriculture-tourism have seldom reviewed these topics, hence the authors' motivation to conduct the present study.

Pro-environmental behaviors can help improve nature and reduce actions that negatively impact the environment [4]. Herremans and Reid, as well as Raworth, agreed that the objective of eco-friendly education is to enable people to become environmentally-responsible citizens so that they will understand conservation and promote environmental protection [5,6]. Relevant studies have shown that place attachment can promote pro-environmental behaviors [7,8]. Pro-environmental behaviors also serve as an important variable that affects loyalty, and thus, are necessary for building environmental sustainability. Davis, Green, and Reed concluded that when humans are more dependent on resources from the natural environment, they would strengthen their engagement in environment-related activities [9]. Relevant studies have also confirmed that place attachment and pro-environmental behaviors are closely related [10–12]. Landscape resources are an important factor that influence visitors' place attachment and identity; while the distinctiveness of a spatial environment is an essential component of place identity [1,13,14]. Environmental sustainability is an indispensable resource for organic agriculture-tourism. The landscape resources established through organic agriculture-tourism are also an essential part of environmental education, which seeks for visitors to acquire in-depth knowledge about environmental resources through tourism, to understand the value of protecting the environment and natural resources, and to develop pro-environmental behaviors. Hence, considering the landscape resources established through organic agriculture-tourism, could touristic activities enhance visitors' environmental protection identities, help them to become closer to the environment, and subsequently develop pro-environmental behaviors? As a salient basis for organic agriculture-tourism development, this topic should be further discussed.

Environmental identity is the personal behavior that develops as a result of human-environment interactions. It simultaneously includes how we act with and within different environments, as well as the significance and affection perceived in these interactions [15,16]. According to relevant studies, environmental identity is an important variable that influences pro-environmental behaviors [16,17]. Furthermore, Kyle, Graefe, Manning, and Bacon conducted a study on recreational trail users in the U.S. and revealed that those with a stronger place attachment to specific trails held a stronger perception of environmental impacts [18]. Ignacio and Español-Echàiz found that visitors' aesthetic experiences of a natural landscape are helpful for developing and promoting their environmental identity and awareness [19]. Martin and Czellar described how contact with nature affects pro-environmental behaviors through a connection with nature [20]. Connection with nature can also be defined as an affiliation to nature or environmental identity [21,22]. Therefore, the ability of resources in consumer landscape in organic agriculture-tourism to enhance visitors' environmental identity and pro-environmental behavior, is an issue that should be substantiated.

Intimacy is defined as a close interpersonal relationship. Many studies have focused on the establishment and preservation of intimacy among people. Stern's definition of intimate relationships includes cognitive, affective, and behavioral components, including the opportunity for someone to be willing to disclose to another person that they care about them, as well as feeling free when being close to someone in an intimate manner [23]. Liang, Li, and Turban applied the concept of establishing intimate relationships to study website-human interactions. Their results revealed that

users could develop intimacy toward websites [24]. In terms of an analysis of tourism, Lin, Zhang, Gursoy, and Fu revealed that perceived intimacy affects visitors' engagement in tourism and indirectly influences their satisfaction with touristic experiences [25]. This shows that intimacy has been regarded as an extremely important emotional factor that strengthens our consumption behaviors. Shen et al. found that visitors' consumer landscape in organic agriculture-tourism enables visitors to develop environmental affection and subsequently, place attachment [1]. Alcock et al. revealed that one's exposure to nature enables them to appreciate the natural world and increases the number of recreational visits to natural spaces [26]. This shows that the affective bonds with and appreciation of the natural environment can enhance human-environment interactions and even generate a sense of environmental intimacy. As the public pays more attention to the environment, human-environment relations have become stronger. Whether this understanding of intimacy can be applied in human-environment relations, to form the so-called environmental intimacy, and subsequently influence pro-environmental behaviors, is a topic that should be addressed.

This study attempts to identify the influence path of the landscape in organic agriculture-tourism on pro-environmental behaviors and the development of loyalty from the perspectives of visitors (taking environmental intimacy and environmental identity as mediators), so as to propose suggestions to achieve the sustainable development of organic agriculture tourism. The participants were visitors who engaged in organic agriculture-tourism in the Hualien-Taitung region of Taiwan. These results can assist tourism managers and organic agriculture operators to understand methods of developing organic agriculture-tourism and serve as a reference for creating diverse environmental values.

2. Literature Review

2.1. Consumer Landscape

A landscape includes physical and non-physical resources, natural and cultural settings, as well as tangible and intangible surroundings [27]. The definition of a landscape also has multiple meanings, that can be either inherent or symbolic, that reflect the outcomes of human-environmental interactions. It is a dynamic system that grows and evolves incessantly over time [28,29]. From the perspective of tourism, landscape resources form the basis for tourism development, and hence, the utilization of a tourism destination's landscape resources is crucial for successful tourism development. Previous studies on landscape resources primarily focused on natural and cultural landscapes, but Dai, Zhuang, Yan, and Zhang opined that perspectives based on traditional landscape resources have not adequately considered visitors' feelings toward these resources, which generate value to visitors only through their interpretations (mindscapes) of the resources' meanings [30]. By observing and perceiving landscape resources, humans also expand their imaginations and stimuli, which may be included in landscape resources. Santayana suggested that natural landscapes include the various factors that the eyes can freely view, emphasize, and study while enriching the associations at the location and blurring the emotional stimuli [31]. Previous travel-related studies often lack a discussion about consumer landscape. Therefore, an important factor that attracts visitors to engage in tourism is the visitors' interpretation of the implicit meanings of a landscape, or their interpretation of the significance through their experiences in life. Visitors' interpretations of a landscape are related to their behavior and travel activities, which consolidate humanistic and natural landscapes and meet the touristic needs of visitors. Such interpretations are mainly generated through the visitors' subjective critiques and discussions, which are combinations of their perceptions and expectations which are accepted by them. Meanwhile, these interpretations are an important factor which influences the visitors' attraction to a location, visit intentions, and loyalty toward a destination [32]. Shen et al. advocated the notion of consumer landscape, which suggests that when a visitor is stimulated by humanistic and natural as well as tangible and intangible landscapes in their travels, they would begin to interpret the meanings of landscape resources, uncover implicit symbolic meanings, and describe the landscape resources using figures, structures, images, and definitions. As a result, when landscapes create value for visitors, it affects their

consumption behavior as well as the development of a tourism landscape [1]. The consumer landscape, on the other hand, reflects visitors' perceptions and values about the environment, and creates an environmental identity and affection among visitors, thus generating their dependence on a tourism destination.

2.2. Environmental Identity

Environmental identity refers to how a person interacts with the natural environment [15]. It consists of a series of implications perceived by a person when they engage with the natural environment [33]. In other words, an environmental identity is a set of personal qualities generated from a person's interaction with the environment [34]. Organic agriculture-tourism is a form of tourism that combines travel with the balanced development of the environment. It achieves the objectives of environmental education through touristic experiences. Herremans and Reid described how balanced development entails social, economic, and environmental aspects, in which the environmental aspect calls for an ecological environment where humans and nature may coexist harmoniously, while economic developments must consider the protection and conservation of natural processes, biodiversity, and ecological resources [5]. Raworth and Rockström, Steffen, Noone, Persson, Chapin, and Foley concurred that the objective of environmental education is to allow us to understand the spaces we live in, and to reflect on the relationship between "an operating space for humans that is environmentally and socially safe" and "economic developments that cover sustainability and compatibility." This allows the public to better comprehend environmental protections and economic development at the same time, then to reach a consensus about the situation, and employ specific and feasible actions to promote the goal of sustainable development [6,35]. From the standpoint of organic agriculture-tourism, environmental identity can be defined as a form of travel in which visitors recognize the need to consider environmental protection and personal safety and health at the same time. Consequently, visitors can thoroughly perceive the importance of environmental protection and enjoy organic agriculture-tourism.

Ignaacio and Español-Echàiz held that visitors' aesthetic experiences of a natural landscape help develop their environmental identity and awareness [19]. By experiencing natural landscapes, visitors to a place can recognize the diverse value of the environment, and thus engage in self-reflection and appraisal, generate affective bonds, reinforce their responsibilities and reduce the damage they cause to the environment. Rajesh suggested that visitors' perception of the attributes of touristic environments (such as natural environments, historical and cultural destinations, accessibility, infrastructure, relaxation, price, and value) form a total destination image, which influences visitors' satisfaction and destination loyalty [36]. Rural tourism is rich in natural and cultural resources where landscapes and tourism interact bilaterally, and landscapes are a drive forcing of tourism development while tourism shapes landscapes [37]. The tourism industry enables players to use local resources as consumption goods for social, economic, and environmental touristic development [38,39]. Studies on landscapes as local assets are popular with tourist landscapes of high natural and cultural value [40]. Therefore, tourism should help conserve the traditional and physical elements of landscapes while generating socio-economic benefits for local residents [40]. Therefore, visitors' knowledge about resources in consumer landscapes can enhance their environmental awareness and environmental identity. Relevant studies have concurred that a reinforced environmental identity can assist in the development of pro-environmental behaviors among visitors [16,17,34].

2.3. Intimacy

Intimacy is a close interpersonal relationship. Many studies have focused on the establishment and preservation of intimacy, since everyone has the need to pursue closeness with other people. Therefore, humans develop friendships, relationships, and kinships. Tolstedt and Stokes suggested that intimacy is a feeling of closeness and emotional bonding [41]. Stern's definition of intimate relationships included cognitive, affective, and behavioral components, describing a situation where one is willing

to disclose their inner self to another person and express their deepest thoughts, as well as feeling free to be themselves when being close to someone in an intimate manner [23]. Liang, Li, and Turban applied the concept of intimate relationships to study website-human interactions. By means of information disclosure and interaction, users developed intimacy with websites and this intimacy could be measured through communication, commitment, concern, comfort, and dependence [24]. Lee and Kwon regarded intimacy as a feeling of closeness and emotional bonding. The rapid growth of mobile devices and e-commerce in recent years has imperceptibly caused users to form intimate relationships with their mobile devices [42]. Gustarini, Scipioni, Fanourakis, and Wac found that the degree of intimacy that users have with their mobile devices affects their frequency and time of usage [43]. Users' intimacy with mobile devices has become an affective relationship in which users are constrained and suppressed by their devices [44]. This shows that intimacy may also be regarded as an important emotional factor that strengthens our consumption behaviors. In terms of analyses on travel, Prager studied visitors' intimate relationships with tourism destinations and pointed out that interactions in intimate relationships consist of intimate behaviors and intimate experiences [45]. People who engage in intimate behaviors (sharers) refer to those who are willing to share and disclose their personal information and preferences; while people with intimate experiences (listeners) are those who receive positive feelings and ideas from the behaviors promoted by others. Therefore, intimate interactions can generate deeper experiences in consumers, which ultimately affect their purchase behaviors. Lin, Zhang, Gursoyc, and Fu revealed that perceived intimacy affects visitors' engagement in tourism and indirectly influences their satisfaction about their touristic experiences. Intimacy can be defined as the closeness between two persons [46]. Based on the arguments of Stern (1997); Liang, Li, and Turban (2009); and Lin, Zhang, Gursoyc, and Fu, this study applied concepts about intimate relationships to human-environmental relations such as environmental cognition, environmental affection, and environmental behavior [23,24,46]. As people perceive the beauty of natural and ecological environments through environmental cognition, they should develop a fondness for the environment and be more willing to share their environmental experiences and concerns with others, among other environmental behaviors. Thus, they would feel bonded, free to share, and comfortable in the space when they become close to the environment.

2.4. Pro-Environmental Behaviors

Pro-environmental behaviors are a person's or a group's actions for preventing or solving environmental problems. Practitioners would actively seek out and implement measures that are beneficial to the environment to generate fewer impacts on the natural environment [4,47–49]. Burgess, Harrison, and Filius suggested that one's environmental knowledge can harness their attention to the environment, and their positive attitudes toward the environment can be converted into enhanced environmental responsibility [50]. In general, there are three types of pro-environmental behaviors (1) environmental conservation behavior in daily life; (2) management strategies for the environment and relevant premises as well as the support and assistance received; and (3) the time invested in professional environmental citizenship behavior [51]. Kaiser, Wölfling, and Fuhrer concluded that once a person has more knowledge about their local surroundings, they are more likely to change their thoughts about the environment and develop pro-environmental behaviors [52]. Kollmuss and Agyeman argued that pro-environmental behaviors are more likely to be developed when there is a change in one's concerns about the environment, environmental value, intrinsic motivations, and relevant environmental attitudes [49].

Herremans and Reid as well as Raworth agreed that the objectives of environmental education are to enable people to become environmentally-responsible citizens; to preferentially consume environmentally-responsible goods and services; and promote stronger roles in environmental protection [5,6]. This suggests that people with pro-environmental behaviors are more proactive in making commitments and contributing to environmental concerns. They would also act to improve the environment, overcome environmental problems, and enhance or preserve the quality of

the environment, so as to achieve sustainable development [25]. When people have more knowledge of environmental issues and participate more in solving these issues, they are more likely to act in positive ways for the environment. Wu, Lin, Cheng, Yang, and Hung studied the pro-environmental behaviors of visitors to Lukang Old Street and concluded that old street tourism can serve as an environmentally-responsible behavioral model [53]. Wang and Chen studied visitors who engaged in ecotourism and stressed that regardless of their socioeconomic backgrounds, the visitors had a propensity to develop pro-environmental behaviors [54]. Based on the arguments from Burgess, Harrison, and Filius; Stern; Herremans and Reid; and Raworth, as well as from the perspective of organic agriculture-tourism, the present study suggests that pro-environmental behaviors derived through organic agriculture-tourism enhances visitors' environmental knowledge, generates fondness and positive attitudes, increases their engagement in related activities and future purchases of organic agricultural goods, intensifies the likelihood they will share their opinions on the protection of organic agricultural environments, and play a more proactive role in environmental protection [5,6,50,51].

3. Research Method

3.1. Research Framework and Hypotheses

Organic agriculture-tourism is rooted in environmental resources and has an important relationship with pro-environment behaviors. The ability of organic agriculture-touristic activities to enable visitors to perceive wonderful experiences through landscape resources is crucial for visitors to establish intimate relationships with the environment, comprehend the importance and value of the local environment, strengthen their environmental identity, and develop pro-environment behaviors and loyalty. This study referred to Mebrabian and Russel's stimulus-organism-response (S-O-R) model that shows how they are interrelated in order to explore the influence of an environmental stimulus on a person's behavior [55]. A stimulus can evoke a person's individual factors and is very likely to elicit their intrinsic feelings and cognitive responses, thus resulting in conformist behaviors. Therefore, when visitors engage in organic agriculture-tourism, the resources in consumer landscape serve as the stimulus, which encourages visitors to develop an environmental intimacy and environmental identity, convert their cognition and affection into an organism, and ultimately generate responses such as pro-environment behaviors and loyalty.

When consumers acquire environmental knowledge through education or understand which products or processes pollute the environment, they are more likely to develop positive environmental attitudes, are more willing to purchase eco-friendly products, and exhibit pro-environment behaviors [56]. Cheng and Wu elucidated that changing a person's understanding of an environment can enhance their affection, identity, and attachment to the environment [57]. Wang and Chen pointed out that when a person has a stronger awareness about and concern for the environment, they would have a stronger perception of Earth's ecological crises, thus they would express continued concern toward natural environment-related issues to promote more balanced development between humans and the environment [54]. Lin and Chang advocated that an increased understanding of and engagement in solving environmental issues can encourage one's pro-environmental behaviors and actions [25]. Alcock et al. revealed that exposure to nature, engagement in recreational nature visits, and appreciation of the natural world influence pro-environmental behaviors [26]. In other words, having a stronger appreciation of the natural environment and spending more time engaging in recreational nature visits can generate more pro-environmental behaviors. This shows that resources expended in tourism provide visitors with natural environments, promote their comprehension of environmental knowledge and value, helps enhance their environmental identity, and develop pro-environment behaviors [6,16,17]. Therefore, the following hypotheses are proposed:

Hypothesis 1 (H1): *Resources in consumer landscape positively and significantly influence an environmental identity.*

Hypothesis 2 (H2): *Environmental identity positively and significantly influences pro-environment behaviors.*

Visitors' aesthetic experiences of a natural landscape can increase their environmental responsibility [19]. A visitor's perception of tourist environments forms a destination image, which influences a visitor's satisfaction and destination loyalty [36]. Relevant studies have shown that when visitors develop a sense of attachment towards a destination, they would form feelings of identity, affection, and dependence, which creates positive environmental attitudes or environmental protection behaviors [7,8,10,58,59]. Anton and Lawrence examined how a person's place attachment affects the protection of a certain location [60]. These results showed that people with a stronger place attachment have a higher propensity to maintain the existing environment. Furthermore, environmental attitudes can effectively predict a person's intentions to protect the environment. Wu et al. studied the pro-environmental behaviors of visitors to Lukang Old Street and concluded that touristic behaviors can enhance one's environmental responsibility [53]. Visitors' interpretations of the significance of cultural and natural landscapes are also linked to their perceptions and expectations, and hence, are important determinants that influence visitors' attraction, visits, and loyalty to a destination [32]. In this sense, when visitors experience the natural environment as provided by consumer landscape, they are able to perceive the wonders of the natural and ecological environments [26]. Hence, they develop greater intimacy with the environment through an increased contact with natural environments. Relevant studies have pointed out that intimacy increases one's interactions or engagement in tourism [43,46]. Therefore, this study deduces that intimacy influences pro-environmental behaviors [19,26,60] and proposes the following hypotheses:

Hypothesis 3 (H3): *Resources in consumer landscape positively and significantly influence environmental intimacy.*

Hypothesis 4 (H4): *Environmental intimacy positively and significantly influences pro-environment behaviors.*

Loyalty is crucial for the sustainable development of organic agriculture-tourism, and corporate social responsibility directly and positively influences loyalty [61,62]. A person's environmental responsibility also exerts a positive and strong influence on their environmental concerns and green consumption, more specifically, environmental responsibility positively influences green consumption through environmental concern [63]. Dabija, Bejan, and Grant showed that green consumption, environmental protection propensity, and responsible consumption affect loyalty, and hence pro-environmental behaviors have a positive influence on loyalty [64]. Therefore, the following hypothesis is proposed:

Hypothesis 5 (H5): *Pro-environment behaviors positively and significantly influence loyalty.*

Consumer landscape is defined as tangible and intangible humanistic and natural landscape resources that are of significance and value to visitors that will influence their consumption behavior. The studies by Sauer; Dai, Zhuang, Yan, and Zhang; and Shen et al. served as references [16,27,30]. An online blog search was conducted and 80 comments left by visitors to organic farms in Taiwan's Hualien-Taitung region were collected. The frequency of consumer landscape-related terms that appeared in the comments are as follows: Organic and non-toxic (138 times); experience (98 times); landscape/scenery (63 times); rural life (34 times); environmental protection (42 times); DIY (do-it-yourself) (29 times); natural (23 times); rural delicacy (22 times); environment and food safety (21 times); sustainable environment (pollution-free) (17 times); health care and well-being (9 times); fresh air (7 times); and historic places (6 times). These terms served as the basis for the questionnaire of this study, which pertained to consumptive landscape and consisted of four sections and 13 items, namely (1) Natural landscapes, which includes natural landscape resources (NA1), endless farm views (NA2), and fresh and natural air (NA3); (2) Rural and nostalgic life, which includes rural and rustic environment (RL1), rural life (RL2), and nostalgic landscape (RL3); (3) Natural, healthy, and slow living lifestyle, which includes slow way

of life (SH1), natural and healthy living environment (SH2), and organic, non-toxic, and sustainable environment (SH3); and (4) Organic agricultural experiences and environment, which includes experiential facilities and activities (OA1), organic agricultural landscape (OA2), organic agricultural products (OA3), and product DIY activities (OA4).

Environmental identity is defined as a visitor's identity with organic agriculture-tourism as a form of travel that protects the environment and ensures visitors' health and safety. The studies by Stets and Biga; Nunkoo and Gursoy; and Zhang, Xie, Morrison, and Zhang were referred to in order to design four questionnaire items that pertain to an organic agriculture-tourism environmental identity. The items are: Organic agriculture-tourism assists in environmental protection (ENI1); organic agriculture-tourism promotes physical health (ENI2); organic agriculture-tourism allows visitors to perceive the importance of environmental protection in an in-depth manner (ENI3); and organic agriculture-tourism increases visitors' enjoyment of organic agriculture (ENI4) [16,65,66].

Environmental intimacy consists of behaviors such as feeling the wonders of the environment; feeling free and at ease when being close to the environment; developing a fondness for the environment; and being willing to share experiences and concerns for the environment with others. The studies by Stern, Liang, Li, and Turban, and Lin, Zhang, Gursoy, and Fu were referred to in order to design seven questionnaire items that pertain to environmental intimacy. These items are: I feel that the natural landscape of organic agriculture is beautiful (EVI1); I feel that the surrounding environment and ecology are excellent (EVI2); I enjoy the fresh and natural air (EVI3); I like the aura of rustic life (EVI4); I enjoy being free in nature (EVI5); I like organic environments (EVI6) and I am willing to share my organic agriculture-tourism experiences with others (EVI7) [23,24,46].

Pro-environmental behaviors consist of attitudes related to having a fondness for the environment such as being more proactive in engaging in organic agriculture-touristic activities; being willing to share ideas and methods about protecting organic agricultural environments; and playing a more proactive role in environmental protection. The studies by Burgess, Harrison, and Filius; Stern; Herremans and Reid, and Raworth were referred to in order to design four questionnaire items, which are: (1) I enjoy organic tourism and product experience activities (PEB1); I am extremely willing to purchase organic agricultural products (PEB2); I really want to experience rural life as part of organic agriculture-tourism (PEB3) and I am willing to share ideas and methods about protecting organic agricultural environments (PEB4) [5,6,50,51].

Since organic agriculture-tourism includes tourism, organic agriculture, and organic agricultural products, there were three questionnaire items designed that pertain to loyalty, which are: I have a lot of loyalty to organic agriculture (LO1); I have a lot of loyalty to organic agriculture products (LO2) and I have a lot of loyalty to organic agriculture-tourism (LO3).

3.2. Data Collection

Taiwan's Hualien-Taitung region is surrounded by mountains on three sides, is blessed with fresh air and fertile soil, and is less susceptible to pollution, which makes it ideal for organic farming. By integrating organic agriculture with healthy cuisine and rural homestays, organic agriculture-tourism can be developed in this region. Organic agriculture-tourism enables visitors to leave the hustle and bustle of an urban environment and experience a rustic way of life in a rural area. Such destinations are popular among urbanites who wish to take a long vacation, live more slowly, and engage in lifestyles of health and sustainability (LOHAS). These factors have led to the booming development of the organic agriculture-tourism industry in Taiwan.

In order to validate the aforementioned hypotheses, a questionnaire was designed for data collection. The questionnaire was administered from July 1, 2015, to July 23, 2015. The respondents were visitors who engaged in organic agriculture-tourism in the Hualien-Taitung region. A total of 450 questionnaires were administered, of which 438 were recovered; and after omitting 21 invalid responses, there were 417 valid responses, indicating an effective response rate of 95%. Descriptive statistics analysis was performed on the response data to explore the visitors' perception of relevant

variables. Factor analysis was used to extract the main dimensions of each variable and to perform reliability and validity analyses. Finally, LISREL 8.52 software was employed to solve for the effects between the variables of the linear structural model.

4. Research Results

4.1. Sample Structure Analysis

The sample structure analysis results are shown in Table 1. There were more female respondents (60.2%) than males (39.8%). A majority of the respondents were in the 21–30 years age group (37.3%), followed by the 31–40 years group (26.5%), and then the 41–50 years group (23.3%). In terms of education level, most of the respondents had graduated from college (43.4%), followed by those who had graduated from elementary/middle school (27.3%). Most of them live in the northern region of Taiwan (48.6%), followed by the eastern region (22.7%). In terms of marital status, there were more singles (55.2%) than married respondents (44.8%). Most of the respondents were students (27.0%), followed by military personnel/public servants/teachers (20.8%). Most of the respondents had a monthly income of less than NT\$20,000 (28.0%), followed by the NT\$30,001–40,000 range (19.0%).

Table 1. Descriptive characteristics of participant samples.

Items	Variables	n	%	Items	Variables	n	%
Gender	Male	166	39.8	Marital status	Single	230	55.2
	Female	251	60.2		Married	187	44.8
Age groups	21–30 yrs.	152	37.3	Occupation	Student	113	27.0
	31–40 yrs.	108	26.5		Government employee	87	20.8
	41–50 yrs.	95	23.3		Agriculture	16	3.8
	51–60 yrs.	38	9.3		Business	48	11.5
	Above 61 yrs.	14	3.4		Service	73	17.5
Education	Elementary & middle)	114	27.3	Monthly income, (NT\$)	Unemployed	30	7.2
	High school	60	14.4		Freelance	37	8.9
	College	181	43.4		Others	14	3.3
	Graduate	62	14.9		<20,000	116	28.0
Residence	Northern	203	48.6	20,001–30,000	68	16.4	
	Central	60	14.4	30,001–40,000	79	19.0	
	Southern	57	13.6	40,001–50,000	57	13.7	
	Eastern	95	22.7	50,001–60,000	45	10.8	
	Others	3	0.7	>60,001	50	12.0	

4.2. Factor Analysis, Reliability and Validity Analysis

In this study, factor analysis as well as reliability and validity analyses were performed on relevant variables. The visitors' perceptions about consumer landscape were high and ranged from 4.148 to 4.542, in which the item "fresh and natural air (NA3)" had the highest score, followed by "the existence of an organic, non-toxic, and sustainable environment" (SH3); whereas "the availability of organic agricultural product DIY activities (OA4)" had the lowest score. Factor analysis was performed on the term "consumptive landscape." A principal component analysis was used to extract common factors and varimax rotations were performed on items with a factor loading greater than 0.5. Four dimensions were extracted, namely natural landscapes; rural and nostalgic life; natural, healthy, and slow living lifestyle; and organic agricultural experiences and environment. The total variance explained was 77.27%. The visitors' perceptions of environmental intimacy were high and ranged from 4.315 to 4.44, in which the item "I enjoy the fresh and natural air (EVI3)" had the highest score, followed by "I feel that the natural landscape of organic agriculture is beautiful (EVI1); whereas "I like organic environments (EVI6)" relatively had the lowest score. A single dimension was extracted, with an explained variance of 65.637%. The visitors' perceptions of environmental identity were high and ranged from 4.279 to 4.360, in which the item "organic agriculture-tourism promotes physical health (ENI2)" had the highest score; whereas "organic agriculture-tourism increases visitors' enjoyment

of organic agriculture (ENI4)" relatively had the lowest score. A single dimension was extracted, with an explained variance of 75.102%. The visitors' perceptions of pro-environmental behaviors were high and ranged from 4.270 to 4.291, in which the items "I really want to experience rural life as part of organic agriculture-tourism (PEB3)" and "I am willing to share ideas and methods about protecting organic agricultural environments (PEB4)" had the highest scores; whereas "I enjoy organic tourism and product experience activities (PEB1)" relatively had the lowest score. A single dimension was extracted, with an explained variance of 73.033%. The visitors' perceptions of loyalty were slightly lower and ranged from 3.967 to 3.696, in which the item "I have a lot of loyalty to organic agriculture-tourism (LO3)" had the highest score; whereas "I have a lot of loyalty to organic agriculture products (LO2)" relatively had the lowest score. A single dimension was extracted, with an explained variance of 87.714%.

According to Wu Wanyi, the factor load should be greater than 0.5 [67]. The stability standard of Cronbach's α coefficient proposed by Guelford is generally higher than 0.7; 0.7-0.35 is the confidence level, and less than 0.35 is the low reliability [68]. In addition, the average variance extracted (AVE) of each facet was greater than 0.5, indicating that it had sufficient convergence validity [69] (Fornell and Larcker, 1981). The results of factor analysis and reliability analysis are shown in Table 2. The factors loadings ranged from 0.715 to 0.947 and were all greater than 0.5. The Cronbach's α ranged from 0.820 to 0.930 and were all greater than 0.7. The average variance extracted (AVE) ranged from 0.657 to 0.878 and were all greater than 0.6. These results indicate the strong internal consistency, reliability, and consistency of the factor dimensions.

Table 2. The factor analysis and reliability analysis.

Constructs	Items	M	SD	Factors Loading	EV	Explained Variance V (%)	Cronbach's α	AVE
Natural landscape M = 4.457	NA1	4.422	0.702	0.900	2.388	18.369	0.871	0.796
	NA2	4.408	0.734	0.894				
	NA3	4.542	0.656	0.882				
Rural life M = 4.352	RL1	4.422	0.768	0.909	2.405	18.500	0.876	0.801
	RL2	4.351	0.744	0.898				
	RL3	4.284	0.781	0.878				
Slow and healthy M = 4.458	SH1	4.387	0.734	0.893	2.209	16.992	0.820	0.736
	SH2	4.456	0.705	0.874				
	SH3	4.530	0.716	0.805				
Organic agriculture experience & environment M = 4.288	OA1	4.341	0.771	0.890	2.944	22.646	0.880	0.736
	OA2	4.332	0.746	0.861				
	OA3	4.329	0.777	0.855				
	OA4	4.148	0.787	0.825				
Environmental intimacy M = 4.378	EVI1	4.406	0.669	0.848	4.595	65.637	0.912	0.657
	EVI2	4.380	0.665	0.829				
	EVI3	4.443	0.637	0.828				
	EVI4	4.384	0.669	0.825				
	EVI5	4.370	0.656	0.820				
	EVI6	4.315	0.703	0.800				
	EVI7	4.348	0.655	0.715				
Environmental identity M = 4.331	ENI1	4.344	0.720	0.895	3.004	75.102	0.889	0.751
	ENI 2	4.360	0.720	0.879				
	ENI 3	4.341	0.716	0.869				
	ENI 4	4.279	0.729	0.822				
Pro-environment behaviors M = 4.288	PEB1	4.270	0.736	0.888	2.921	73.033	0.876	0.730
	PEB2	4.286	0.708	0.869				
	PEB3	4.291	0.723	0.831				
	PEB4	4.291	0.679	0.829				
Loyalty M = 3.97	LO1	3.969	0.848	0.947	2.631	87.714	0.930	0.878
	LO2	3.967	0.849	0.947				
	LO3	3.974	0.814	0.916				

Note: M: Mean; SD: Standard deviation; FL: Factor loading; EV: Eigenvalue; V (%): Variance (%); AVE: Average variance extracted.

In terms of the visitors' perception of the organic agriculture-tourism variables, with the exception of loyalty, all the other dimensions had a high mean, which shows that the visitors' loyalty to organic agriculture-tourism had yet to increase.

4.3. Solution of Model

In this study, the latent independent variable was resources in the consumer's landscape; the latent dependent variables were environmental identity, environmental intimacy, pro-environmental behaviors, and loyalty. LISREL 8.52 software was used to solve for the effects between the variables. The results are shown in Figure 1, where the solid lines represent paths that are significant after validation and the numbers in parentheses represent t-values.

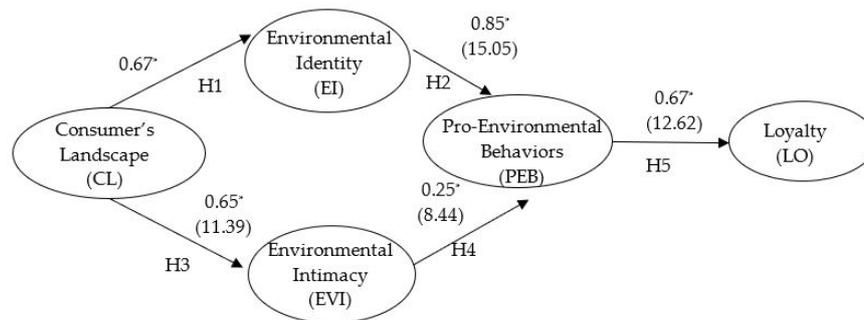


Figure 1. Relationship between the variables of organic agriculture-tourism.

The error variance in model fitting cannot be less than zero, must attain a level of significance, and exhibit a standard error that is not too large. The basic goodness-of-fit index of this study's model, along with its error variance, were greater than zero and their estimated values were significant, which shows that the model had met the aforementioned criteria. The model is shown in Table 3. The composite reliabilities of the latent variables ranged from 0.858 to 0.9285, indicating high reliability.

Table 3. The path coefficients and basic goodness-of-fit index of the model.

Path	Coefficient	t Value	E.V.	E. V. t-Value	C.R.
CL→NL	0.76	16.53	0.43	10.27	0.882
CL→RL	0.81	18.33	0.34	8.79	
CL→SH	0.83	18.83	0.32	8.38	
CL→OA	0.83	19.20	0.31	8.51	
EVI→EVI1	0.83	–	0.30	10.12	0.907
EVI→EVI2	0.80	18.65	0.36	12.11	
EVI→EVI3	0.76	17.31	0.42	12.66	
EVI→EVI4	0.74	16.92	0.45	12.93	
EVI→EVI5	0.75	16.99	0.44	12.91	
EVI→EVI6	0.77	15.78	0.35	11.06	
EVI→EVI7	0.65	15.06	0.55	13.85	
EI→ENI1	0.70	–	0.46	13.31	0.887
EI→ENI2	0.83	16.84	0.30	11.95	
EI→ENI3	0.88	17.94	0.21	10.28	
EI→ENI4	0.81	16.39	0.35	12.55	
PEB→PEB1	0.73	–	0.35	12.29	0.858
PEB→PEB2	0.78	16.74	0.28	11.58	
PEB→PEB3	0.77	17.97	0.33	12.75	
PEB→PEB4	0.63	14.99	0.44	13.81	
LO→LO1	0.92	–	0.13	7.24	0.928
LO→LO2	0.91	31.51	0.14	7.77	
LO→LO3	0.83	25.56	0.28	12.13	

Note: CL: Consumer's landscape; NL: Natural landscape; RL: Rural life; SH: Slow and healthy; OA: Organic agriculture experience and environment; EVI: Environmental intimacy; EI: Environmental identity; PEB: Pro-environment behaviors; LO: Loyalty; E.V.: Errors variation; C.R.: Composite reliability.

Concerning the goodness-of-fit indices of the model, the chi-square statistic was 558.89 (df = 185), the chi-square ratio was 3.02, the goodness-of-fit index (GFI) was 0.89, the adjusted goodness-of-fit index (AGFI) was 0.85, the residual mean root (RMR) was 0.13, the root mean square error of approximation (RMSEA) was 0.07, the normalized fit index (NFI) was 0.97, the non-normalized fit index (NNFI) was 0.97 and the comparative fit index (CFI) was 0.98. All of the aforementioned indices were within an acceptable range, which indicated that the overall goodness-of-fit of the model was good.

4.4. Test of Hypotheses

The tested results in Figure 1 showed that H1 (Resources in the consumer's landscape influence environmental identity) had a coefficient of 0.67 and a t-value of 12.62, attaining an acceptable level of significance. Therefore, H1 is supported. H2 (Environmental identity influences pro-environmental behaviors) had a coefficient of 0.85 and a t-value of 15.05, attaining an acceptable level of significance. Therefore, H2 is supported. H3 (Resources in the consumer's landscape influence environmental intimacy) had a coefficient of 0.65 and a t-value of 11.39, attaining an acceptable level of significance. Therefore, H3 is supported. H4 (Environmental intimacy influences pro-environmental behaviors) had a coefficient of 0.25 and a t-value of 8.44, attaining an acceptable level of significance. Therefore, H4 is supported. H5 (Pro-environmental behaviors influence loyalty) had a coefficient of 0.52 and a t-value of 10.39, attaining an acceptable level of significance. Therefore, H5 is supported.

Resources in the consumer's landscape influence pro-environmental behaviors that had a total effect size of 0.7284. These effects were achieved through two paths—via an environmental identity, which had an effect size of 0.5659 and accounted for 77.69% of the total effect; and via environmental intimacy, which had an effect size of 0.1625 and accounted for 22.31% of the total effect. This shows that the resources in the consumer's landscape influenced pro-environmental behaviors via environmental identity and environmental intimacy, and subsequently influenced loyalty. In particular, the mediating effect of environmental identity was greater. Since resources in the landscape of organic agricultural consumption can indeed help to increase visitors' pro-environmental behaviors and loyalty, there is a need to improve visitors' perception of resources in the consumer's landscape. This can be achieved by enhancing organic agricultural experiences and environments. Furthermore, enhancing environmental identity and environmental intimacy can also increase visitors' pro-environmental behaviors and loyalty. (The tested results of hypotheses are shown in Table 4).

Table 4. Tested results of hypotheses.

Hypotheses	β	t	p	Test	Test Result
H1	0.67	12.62	0.000	$p < 0.05$	Accept
H2	0.85	15.05	0.000	$p < 0.05$	Accept
H3	0.65	11.39	0.000	$p < 0.05$	Accept
H4	0.25	8.44	0.000	$p < 0.05$	Accept
H5	0.52	10.39	0.000	$p < 0.05$	Accept

Among the consumer landscapes, slow and healthy is the highest, which shows how tourists interpret the significance of tourism resources in their life, and then affects their consumer behavior, which highlights the importance of consumer landscape in resource construction. The consumer landscape built by organic agricultural tourism has a great impact on environmental identity and environmental intimacy, and has achieved the goal of balanced development of sustainable development of tourism resources, tourist experience and environment. As far as sustainable environmental development is concerned, although environmental intimacy is less than environmental identity, it has a great impact on pro-environment behavior. However, from the perspective of tourist experience, the construction of consumer landscapes can greatly enhance the sense of environmental intimacy and help deepen the tourist experience, thus affecting the degree of preference for tourist

destinations, increasing the tourism benefits and value of tourists, and highlighting the importance of shaping environmental intimacy.

5. Discussion

The consumer's landscape in organic agriculture-tourism is based on sustainable environments, in which environmental education is enhanced through tourism, thus enabling visitors to perceive the stimulus of landscape resources, acquire knowledge and understand the importance of environmental protection. As a result, meaningful pro-environmental landscape images are formed by visitors which greatly influences their pro-environmental behaviors. Lee and Jeong defined a pro-environmental destination image (PEDI) as a visitor's overall and positive environmental image of a certain destination [70]. PEDI includes three images: the green destination, environmental-friendly destination, and eco-tourism destination [71], and represents visitors' perception, affection, and overall vision of a destination's environment. Utilizing environmental-friendly measures, PEDI promotes landscape protection, ecological promotion and publicity, and waste recycling and reuse [70]. Zhang et al. pointed out that PEDI affects pro-environmental behaviors. The results of this study agree with these aforementioned findings [16]. Meanwhile, our results also covered the application of and research about the consumer's landscape in tourism and pro-environmental behaviors, which could serve as a reference for future studies on the topic.

The concept of intimacy was used to study closeness in human-environment relations, and the innovative concept of environmental intimacy was proposed. Our results found that the consumer's landscape had a positive influence on environmental intimacy, while environmental intimacy had a positive influence on pro-environmental behaviors. This shows that the consumer's landscape in organic agriculture-tourism allows visitors to perceive and feel the beauty of natural and ecological environments through their environmental identity, develop a fondness for the environment, feel free and at ease when being close to the environment, and be willing to share their environmental experiences and concerns with others. Relevant studies have shown that humans exhibit more pro-environmental behaviors when they have a higher appreciation of the natural environment [22,26]; spend more free time in the natural environment; and develop effective bonds with nature [10,20,21,26]. The results of this study agree with the aforementioned findings and could serve as a reference for subsequent studies pertaining to the role of environmental intimacy in consumption and pro-environmental behaviors.

Our results showed that the consumer's landscape had a positive influence on environmental identity, while environmental identity had a positive influence on pro-environmental behaviors. This shows that the consumer's landscape in organic agriculture-tourism can indeed allow visitors to perceive the importance and value of the environment through touristic activities, thereby enhancing their environmental identity and pro-environmental behaviors. The results of this study agree with a relevant study about how visitors with a stronger bond with nature have a higher environment identity [72]. Visitors' bonds with nature encourage biospheric value, which in turn evokes eco-friendly behaviors [20], enhances environment identity, and develops pro-environmental behaviors [6,16,17].

Loyalty is crucial for the sustainable development of organic agriculture-tourism. Previous studies seldom explored the relationship between pro-environmental behaviors and loyalty. The results of this study indicated that pro-environmental behaviors had a significant and positive influence on loyalty, which follows a relevant study where environmental responsibility, environmental concern, and green consumption positively influenced loyalty [63]. Dabija, Bejan, and Grant also showed that green consumption, environmentally-friendly tendencies, and responsible consumption affects loyalty [64]. Therefore, enhancing visitors' pro-environmental behaviors can help to shape their loyalty regarding organic agriculture-tourism.

6. Conclusions and Implications

6.1. Conclusions

This study employed the M-R model, which is an integrated model that describes the influence of consumer's landscape on visitors' pro-environmental behaviors and loyalty. These results showed that the consumer's landscape in organic agriculture-tourism did generate positive effects on environmental identity and environmental intimacy, that environmental identity and environmental intimacy generated positive effects on pro-environmental behaviors, and, in turn, influenced visitors' loyalty regarding organic agriculture-tourism. This shows that organic agriculture-tourism is a form of tourism that considers the balanced development of organic agriculture, tourism, and environmental sustainability, and should be further encouraged. In terms of the influence of organic agriculture-tourism landscapes on pro-environmental behaviors, from the perspective of the development of organic agriculture-tourism and a sustainable environment, the aforementioned results are innovative and provide value to academic research and practical applications. Hence, these results can serve as a reference for future studies related to organic agriculture-tourism.

6.2. Implications

The results of this study can be used to aid in the development of organic agriculture-tourism. Four dimensions pertaining to the landscapes of consumption were extracted, namely "natural landscapes"; "rural and nostalgic life"; "natural, healthy, and slow living lifestyle"; and "organic agricultural experiences and environment." The implications of a landscape include natural and cultural aspects, as well as tangible and intangible components [27]. Visitors' experiences and interpretations of a landscape can generate meaningful landscape images of an environment [19,31]. These findings prove that organic agriculture-tourism advocates for the protection of the environment and natural resources, and also includes the design of activities, organic products, and infrastructure that are related to environmental sustainability [3]. The consumer's landscape in organic agriculture is an essential resource for organic agriculture-tourism. In this study, visitors enjoyed "natural landscapes" and a "natural, healthy, and slow living lifestyle," which shows that they were able to enjoy the natural landscapes as well as the natural, healthy, and slow living lifestyle of rural villages through organic agriculture-tourism. These experiences serve as the basis of the development of organic agriculture-tourism and should be continuously conserved and reinforced. The other items of "rural and nostalgic life" and "organic agricultural experiences and environment" would need the support of travel-related products and design of novel activities in order to deepen the visitors' experiences and enhance their perception of the items' values.

In terms of environmental intimacy, the visitors "enjoyed the fresh and natural air" and "felt that the natural landscape of organic agriculture was beautiful"; while the item, "I like organic environments" had a relatively lower score. This shows that a natural and organic environment is important for preserving intimacy, while the visitors' fondness for organic environments needed to be enhanced. Bastian et al. also showed that landscapes and natural attractions are the main motivations behind visitors' engagement in travel and experiences [73]. In this sense, visitors' in-depth exposure and experience of a destination would generate their fondness of, attachment to, and identity with the destination [1]. Therefore, converting natural and organic environments into touristic and experiential activities that attract visitors (such as organic farming, organic agricultural product DIY activities, and visits to organic product tourism factories) can increase their exposure to the natural environment as well as increase their pro-environmental behaviors.

In terms of environmental identity, the visitors scored the item, "organic agriculture-tourism promotes physical health" higher; whereas "visitors enjoy organic agriculture-tourism" relatively had the lowest score. In this sense, measures and activities where visitors can acquire knowledge about the benefits of organic environments and products on physical health, as well as DIY experiential activities should be included in environmental education, in order to increase visitors' fondness for

and awareness of organic agriculture. Loureiro agreed that touristic experiences such as enjoying sceneries and engaging in village activities (winemaking, fruit picking, sausage making, and handicraft) are essential for rural villages [74]. As organic agriculture-tourism is an in-depth form of tourism that combines environmental sustainability, organic farming, touristic experiences, and learning, consumers' tourism landscapes can be integrated into the visitors' experiences. Experiential activities such as enjoying sceneries, tasting local agricultural products, engaging in agricultural activities, participating in handicraft production, and engaging in the cultural activities of a village can allow visitors to comprehend the importance and diversity of organic and non-toxic environments, enhance their environmental identity, and enhance their pro-environmental behaviors.

In terms of environmental identity, the visitors scored the items, "I really want to experience rural life as part of organic agriculture-tourism" and "I am willing to share ideas and methods about protecting organic agricultural environments" higher; whereas "I enjoy organic tourism and product experience activities" relatively had the lowest score. Experiential activities are an essential part of organic agriculture-tourism; therefore, we suggest organic product tourism factories to organize tours for visitors and also develop agricultural product DIY activities. This not only enables visitors to understand how organic agricultural products are made but can also encourage them to purchase such products and change their mindset to identify with the eco-friendliness of organic agricultural products and healthy travel. Consequently, they may be more willing to continue their engagement with organic agriculture-touristic activities and share their experiences with others, which are beneficial for sustainable development.

In terms of loyalty, the visitors were the most loyal to organic agriculture-tourism; whereas they were least loyal to organic agricultural products. The Hualien-Taitung region is also known as "Taiwan's back garden" and is regarded as "Taiwan's last piece of pure land" among visitors. We suggest organic agriculture-tourism operators in this region consolidate relevant natural and humanistic resources around the region, so as to shape the brand image of the environmental sustainability of organic agriculture; develop attractive and distinct travel experiences; and increase visitors' loyalty to organic agriculture-tourism. Since health is of great value to the public, tourism operators in the Hualien-Taitung region should strengthen and promote organic agricultural products and develop organic agricultural product-based souvenirs. Such products can be certified as traceable agricultural products after rigorous verification processes, thus increasing visitors' trust and identity with organic agriculture, as well as increasing their loyalty to organic agricultural products.

Our findings validate that the consumer's landscape increases visitors' environmental identity and environmental intimacy, which generates pro-environmental behaviors. We recommend that authorities involved in the development of organic agriculture-tourism should emphasize the creation of pro-environmental behaviors, environmental image exchange, and environmental awareness education, so as to ensure that visitors and inhabitants can fully understand and distinguish the eco-friendly components of a tourism destination. Through this approach, visitors can absorb and transform components that benefit the environment; increase their environmental identity and environmental intimacy; develop pro-environmental behaviors; and ultimately enhance their loyalty to organic agriculture-tourism.

6.3. Further Research

This study established a model that describes how the consumer's landscape in organic agriculture-tourism influences pro-environmental behaviors. These results can serve as a reference for relevant studies on organic agriculture-tourism. The present study was limited to organic agriculture-tourism in the Hualien-Taitung region, and the research scope could be expanded in future studies. Experiential activities can influence visitors' observations, thoughts, and feelings toward landscape resources; enhance their understanding of and affective bonds with a certain place; and possibly enhance their attachment to the said place. The establishment of the brand equity of organic agriculture is essential for the sustainable development of organic agriculture. Subsequent

studies should further explore the relationships between organic agriculture-touristic experiences, attachment, and brand equity.

Author Contributions: Conceptualization, C.-C.S.; data curation, L.-L.X.; formal analysis, C.-C.S.; investigation, L.-L.X.; methodology, Y.-R.C.; project administration, L.-L.X.; supervision, C.-C.S. validation, Y.-R.C.; writing—original draft, L.-L.X.; writing—review and editing, C.-C.S. and Y.-R.C. All authors have read and agreed to the published version of the manuscript.

Funding: This study is a Project Supported by Scientific Research Fund of Zhejiang Provincial Education Department: no. Y201940993: Study on the Protection Mechanism of Rural Culture based on Tourists' Reception of Rurality; K. C. Wong Magna Fund in Ningbo University and Higher Education Sprout Project, Ministry of Education, Taiwan.

Acknowledgments: We would like to express our sincere appreciation to the reviewers.

Conflicts of Interest: The authors declare no conflicts of interest.

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