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Pro-Environmental Intentions among Food Festival Attendees: An Application of the Value-Belief-Norm Model

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Abstract: Although festival organizers have significantly increased their adoption of green practices, there has been relatively little research on the pro-environmental decision-making process in festival settings. Drawing from the value-belief-norm-theory, the purpose of this study is to investigate the pro-environmental decision-making processes of attendees of eco-friendly food festivals. A structural analysis of responses collected from 601 surveys revealed that affective triggers and personal norms played critical roles in the development of respondents' pro-environmental intentions in festival settings. This study provides discussions and implications for research and practices related to green festivals.

Keywords: pro-environmental behavior; cognitive; affective; personal norm; festival

1. Introduction

Part of the complexity of today's global economy stems from unprecedented population growth and increased burdens on energy, food, and natural resources due to such growth [1,2]. Increased consumption significantly affects environmental stability, and most consumers are aware of their behavioral impact on the environment [3]. In response to such awareness, initiatives promoting sustainability and environmental protection have received considerable attention and begun to shape corporate, consumer, and personal behaviors [4]. In that sense, organizations and consumers alike have sought to address sustainability-related challenge facing today's firms [5].

Efforts toward achieving sustainability seek to improve human welfare by preserving the source of raw materials [6]. Similar to players in the hotel industry [7], the restaurant industry [8], and the convention industry [9], festival organizers have increasingly adopted sustainable practices, also known as green practices [10]. Festivals form part of the meeting and events industry, the second-most wasteful industry in the United States after construction [11], in which the processes of organizing and producing events are resource-intensive [12]. At food festivals, in particular, food waste due to storages and food displays, as well as plastic bags, cardboard, and Styrofoam, can harm the environment [13]. Organizers' responses to those risks reflect findings presented in a recent consumer report that 88% of festival attendees consider festival organizers to be responsible for minimizing the environmentally harmful effects of festivals, whereas only 57% and 42% indicated that such responsibility falls to individual festival goers and local authorities, respectively [14]. However, given the increased demand for green practices at festivals, especially food festivals, attendees are increasingly expected to pay higher fees.

Although festival organizers have significantly increased their adoption of green practices in response to environmental risks and demand for such practices, empirical research on pro-environmental decision-making processes in organizing and producing festivals remains limited. In recent studies [12], scholars who have examined festival attendees' perceptions of green practices, commitment to such practices, and the underlying dimensions of those beliefs and behaviors have shown that a festival's use of sustainable sources foods, adoption of eco-friendly practices, and dedication to green design and green management all influence the perceived value of festivals among potential attendees and how much they will spend to attend them. However, there is still a remaining need for research examining pro-environmental decision-making process in festival settings.

The purpose of this study is to investigate the pro-environmental decision-making processes of attendees of eco-friendly food festivals. Utilizing value-belief-norm theory [15] to construct a framework for the study, existing literature suggests that norms trigger individuals' behaviors informed by a sense of environmental responsibility. This study contributes to the scant literature on food festival attendees' pro-environmental behavior intentions by examining ways to adopt the value-belief-norm theory. Moreover, implications of the study's findings for the festival settings are discussed.

2. Literature Review

2.1. Sustainability in the Hospitality Industry

As the human population expands and resources diminish, consumers provide a challenging business environment that demands sustainability in various aspects of the hospitality industry [4]. For Sloan, et al. [16], sustainability refers to the ability to develop and manage businesses that can meet the needs of today's generation without compromising the ability of future generations to meet their needs. To achieve sustainability, players in any industry require a general but up-to-date understanding of sustainability, as well as climate change, air and water pollution, ozone depletion, deforestation, the loss of biodiversity, and global poverty. However, such an understanding is especially crucial for actors in the hospitality industry, which is known for its environmental impacts, particularly in terms of water and energy use [17,18]. Taking advantage of that knowledge, moreover, can give firms in the hospitality industry a competitive edge, as a variety of innovative ways of engaging in green practices and sustainability in the industry have demonstrated [19].

Efforts toward achieving sustainability within the resource-intensive hospitality subindustries of hotels, restaurants, and events have varied significantly. In the hotel industry, for example, industry players have increasingly adopted measures to achieve sustainability for at least the past decade [20,21]. An environmentally responsible hotel is one that adopts and enacts ecologically sound programs and practices for water and energy conservation, solid waste reduction, and lower costs [22]. Amid the industry's shift in focus when on matters pertaining to sustainability, research on sustainability in hotels has also expanded to examine, for instance, water conservation, the sustainable use of materials, energy efficiency, recycling, and sustainable purchasing procedures [19,23]. In one such study, Berezan, et al. [24] investigated the relationship of sustainable hotel practices, customer satisfaction, and consumers' behavioral intentions in a sample of tourists in Mexico. They found that green hotel practices positively affected customer satisfaction, although certain recycling policies could negatively affect customers' intentions to return for another stay. Criticism of one such policy requiring guests to collect and dispose of their recyclables themselves suggests that some hotel customers believe that collecting and eliminating garbage is not their responsibility, but that of the hotel.

2.2. Sustainability in the Festival Setting

Events place demands on the water, energy, and natural resources of the hosting communities [25]. Sustainable practices in the event industry have, therefore, received increasing attention [10]. In particular, event organizers have often adopted a sustainability-focused approach for meeting objectives concerning the three pillars sustainability—economic, social, and environmental

sustainability—which collectively inform the triple bottom line [26–28]. By shifting the focus of organizations from generating short-term profit to upholding those three pillars as a means in which to assure sustainable long-term performance [29], the approach provides a practical framework for measuring and reporting the performance of companies in terms of those three areas [30].

This study draws upon the value-belief-theory [31] as its theoretical basis. The value-belief-norm theory [15] was developed to explain the importance of personal environmental norms in an individual's behavioral intentions toward the environment [2,32–34]. Sustainability-related behaviors are more specific than general decision-making behaviors; where the latter are typically integrated into life choices, sustainability is a concept more aligned with personal values [35].

The value-belief-norm theory has frequently been recognized in the literature discussing environmental behavior [33,36–38]. Within this framework, scholars have sought to identify what influences pro-environmental behaviors in hospitality and tourism contexts. Researchers who have modeled associations among cognitive triggers [36,39,40], affective triggers [41,42], personal norms [2,43], and normative triggers [44–46] in the formation of visitor intentions to behave in pro-environmental ways have suggested that cognitive, affective, and normative triggers are critical in activating norms. In particular, affective triggers and personal norms included mediating impacts, and anticipated feelings and moral obligations were particularly important in determining intentions. More recently, Han and Hyun [20] have suggested that travelers' pro-environmental intentions during hotel stays derive from normative social, normative personal-moral, affective, and habitual processes, whereas Zhang, et al. [47] found that attitude, subjective norms, and perceived behavior control affected the pro-environmental intentions of an urban park's. Landon, Woosnam and Boley [2] examined dimensions of visitors' pro-sustainable behavior intentions. They found that biospheric values, the New Ecological Paradigm, awareness of consequence, and personal norms influence visitors' pro-environmental intentions.

In the context of festival settings, occurring within the events industry, festivals place demands upon host communities in terms of food, water, and energy [13], and the resources that they use can cause environmental damage [48]. In response, festival organizers have begun seeking ways to promote green practices at their events [49]. Some food festivals, for example, have started to use locally sourced organic products and offer vegetarian and vegan dishes to reduce their environmental impact [50,51]. In their study of food festival attendees' perceptions and attitudes toward green practices in general, Wong, Wan, and Qi [12] found a positive relationship between attendees' commitments to green eating, green leisure activities, green design, and green waste management and their perceptions of the value of attending and spending at the festivals. Yang, Li and Zhang [25] observed that festival atmosphere was negatively associated with consumers' pro-environmental or sustainable purchasing intentions and consumption in China. Despite such studies, there is little research in terms of investigating pro-environmental decision-making processes in festival settings. Figure 1 provides our research model, which demonstrates the manners in which cognitive triggers, affective triggers, personal norms, and normative norms can be used to understand the pro-environmental intentions of attendees of food festivals. Therefore, this study proposes the following hypotheses:

Hypothesis 1 (H1). *Cognitive triggers positively affect the personal norms of festival attendees.*

Hypothesis 2 (H2). *Cognitive triggers positively affect the normative triggers of festival attendees.*

Hypothesis 3 (H3). *Cognitive triggers positively affect the pro-environmental intentions of festival attendees.*

Hypothesis 4 (H4). *Affective triggers positively affect the personal norms of festival attendees.*

Hypothesis 5 (H5). *Affective triggers positively affect the normative triggers of festival attendees.*

Hypothesis 6 (H6). *Affective triggers positively affect the pro-environmental intentions of festival attendees.*

Hypothesis 7 (H7). *Personal norms positively affect the pro-environmental intentions of festival attendees.*

Hypothesis 8 (H8). *Normative triggers positively affect the pro-environmental intentions of festival attendees.*

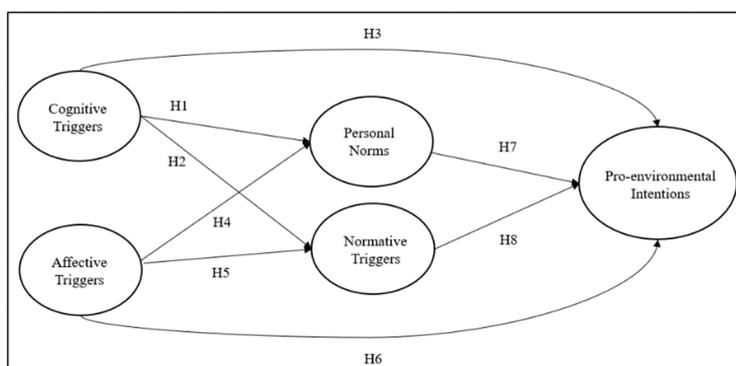


Figure 1. Proposed research model.

3. Methodology

3.1. Measurements and Questionnaire Development

The survey questionnaire contained three parts: an introductory letter, items representing variables, and items soliciting respondents' sociodemographic information. We adopted and adapted measurements from other studies. Table 1 provides our variables' definitions. First, in terms of cognitive triggers, cognitive triggers were operationalized as awareness of environmental problems, ascribed responsibility, biospheric values, and ecological concern [35,52]. Therefore, we measured cognitive triggers with four questionnaire items developed by Ryan and Spash [52] and Kim and Han [53]. One such example was "The effects of pollution on public health are worse than we realize". Second, affective triggers were operationalized as anticipated guilt and pride [39]. Affective triggers were measured with three items developed by Han [36] and Onwezen, Antonides, and Bartels [42]. One such example was "It is worthless for one individual to do anything about pollution". In addition, according to previous studies, normative triggers were operationalized as a broad range of descriptive social norms and injunctive social norms [42]. In order to measure normative triggers, we used three items developed by Smith et al. [46]. One such example was "Most food festivals incorporate sustainability initiatives (like recycling)". Lastly, personal norms were operationalized as inherently motivated by self-expectations [54]. Personal norms were measured with four items developed by Han [36] and Onwezen, Antonides, and Bartels [42], and pro-environmental intention was measured with six items developed by Abdul-Muhmin [55], Han, et al. [56], and Zeithaml, et al. [57]. One such example was: "I feel an obligation to behave in a pro-environmental way while attending a festival". Respondents evaluated all items on a seven-point Likert scale (1 = very strongly disagree, 7 = very strongly agree) and answered questions soliciting their sociodemographic information.

Table 1. Definitions of variables.

Variables	Description
Cognitive triggers	Refer to awareness of environmental problems, ascribed responsibility, biosphere value, ecological concern [35,52,53,58]
Affective triggers	Refer to anticipated guilt and pride [39,40,45]
Normative triggers	Refer to a broad range of descriptive social norms and injunctive social norms [42,45,46,59]
Personal norms	Are inherently motivated by self-expectations [42,54]

3.2. Data Collection Procedure

Before data collection, scholars in tourism presented the survey questionnaire, which we intentionally kept brief to minimize the impact of common method bias [60]. Focuses of the presentation were the clarity, accuracy, and readability of items and questions. In addition, academic experts carefully pre-tested the original questionnaire; no significant changes were made based on the comments. After finalizing the questionnaire, we performed a pilot test with participants ($n = 25$) recruited from an online research company to assess the internal consistency of each construct.

We developed a sample of festival attendees using Amazon Mechanical Turk (MTurk), a cloud computing platform run by Amazon that pays users to complete tasks posted on the website [61]. Data were collected in March and April of 2018. In exchange for completing the online survey, each respondent in our study received a USD0.50 credit upon submitting a completed questionnaire.

This study focused on attendees of food festivals. The survey questionnaires were sent randomly to selected American consumers in the company database. Only those who had visited any festivals within the past four weeks were asked to fill out a questionnaire. In addition, survey participants were given a brief description about festivals. For example, "A festival is an event ordinarily celebrated by a community and centering on some specific characteristic. Please think of the last festival that you attended". If the respondents passed our pre-conditions, they answered our next questions.

Following Podsakoff, Mackenzie, Lee and Podsakoff [60] recommendation, the survey was designed to minimize measurement errors due to the proactive use of common method variance. Each section of the questionnaire was separated from the other sections by a page to ensure clarity, and respondents were informed that there were no right or wrong answers. Furthermore, we used Harman's single-factor test in an exploratory factor analysis [62]. A total of four factors were identified in exploratory factor analysis results and each of them described less than 31% of the total variance between the variables, indicating that there is no common method variance [62].

Of 658 questionnaires received, 57 contained missing or incomplete responses. After removing those questionnaires from the sample, 601 valid questionnaires remained for analysis. The sample size satisfied the minimal sample size threshold of 300 individuals for structural equation modeling (SEM) [63].

In our study, we used SPSS and AMOS Version 23.0 for the data analysis. To analyze the data, descriptive statistics, confirmatory factor analysis, and structural equation modeling were utilized. More specifically, to test our model, we applied SEM in a two-stage procedure. First, we performed confirmatory factor analysis (CFA) to test the construct validity of the model within the sample. Second, we assessed the structural model [64]. We used SEM instead of regression analysis, given the former's ability to control measurement errors simultaneously [65].

4. Results

4.1. Profile of the Sample

Table 2 presents the general sociodemographic profile of the respondents. According to the demographic data, the majority of respondents were 25–30 years old (48.6%), 37.6% were men, and 60.6% were women. By level of education, 69.4% of respondents had attended at least primary school, and 19.1% and 10.1% had earned graduate degrees or had finished some college, respectively. In terms of race, 37.9% of respondents identified as Asian American, and 28.8% identified as Caucasian.

Table 2. Respondents' demographic profiles ($n = 601$).

Characteristics	Frequency	%
Gender		
Male	226	37.6%
Female	364	60.6%
Age		
Under 24	123	20.5%
25 to 30	292	48.6%
31 to 39	118	19.6%
40 to 49	49	8.2%
50 to 59	12	2.0%
60 or older	7	1.2%
Race		
Caucasian	173	28.8%
African American	42	7.0%
Hispanic-Latino	26	4.3%
Asian American	228	37.9%
Other	123	20.5%
Education Level		
High school or less	417	69.4%
Some college	60	10.0%
Graduate degree	115	19.1%
Annual Household Income		
\$35,000 or less	187	31.1%
\$35,001–\$55,000	152	25.3%
\$55,001–\$75,000	120	20.0%
\$75,001–\$95,000	81	13.5%
More than \$95,000	18	7.2%

4.2. Confirmatory Factor Analysis

To accurately evaluate the measurement model, we employed a maximum likelihood (ML) estimation approach. Results confirmed that the measurement structure of the theoretical framework had an acceptable fit for the data ($\chi^2 = 751.649$, $df = 160$, $p < 0.001$, RMSEA = 0.055; CFI = 0.929; TLI = 0.907). Table 3 organizes the results of the CFA, which revealed that the final measurement model fit relatively well; all model fit indices were within the range of recommended values across all samples, as shown in Tables 3 and 4.

We assessed convergent validity by reviewing factor loadings to determine whether different observed variables used to measure the same factor were highly correlated. As shown in Table 1, all factor loadings for the observed variables measuring the same construct were statistically significant, meaning that they effectively measured their corresponding factors and, in turn, that the results demonstrated convergent validity. In SEM, convergent validity can be assessed by reviewing factor loadings ($p < 0.05$); in our study, the factor loadings ranged from 0.76 to 0.86, which provides evidence of convergent validity [66].

Table 3. Confirmatory factor analysis results.

Measures	Standardized Loading	Composite Reliability
CT1: The effects of pollution on public health are worse than we realize.	0.788	0.778
CT2: I believe that every festival attendee is partly responsible for the environmental problems caused by the festival industry.	0.722	
CT3: The balance of nature is very delicate and easily upset.	0.723	
CT4: Humans are severely abusing the environment.	0.761	
AT1: It is worthless for one individual to do anything about pollution.	0.867	0.859
AT2: Since one person cannot have any effect on pollution and natural resource problems, it does not make any difference what I do.	0.825	
AT3: Claims that current levels of pollution are changing Earth's climate are exaggerated.	0.766	
NT1: Most food festivals incorporate sustainability initiatives (like recycling).	0.712	0.766
NT2: Most festival attendees engage in energy / water conservation while attending a festival.	0.773	
NT3: Typical festival attendees approve of those who do not engage in water conservation while attending a festival.	0.718	
PT1: I feel an obligation to behave in a pro-environmental way while attending a festival.	0.814	0.848
PT2: Regardless of what other people do, because of my values/principles, I feel that I should act in an environmentally friendly way while attending a festival.	0.857	
PT3: I feel that it is important to make festivals environmentally sustainable, reducing the harm to the host community and the wider environment.	0.810	
PT4: I feel it is crucial that attendees in general act in environmentally friendly ways while attending a festival.	0.811	
PEI1: I would be willing to accept inconveniences in order to protect the environment (e.g., sorting my garbage into different containers).	0.810	0.813
PEI2: I would be willing to walk or use mass transit instead of a car to my next festival in order to protect the environment.	0.732	
PEI3: I will actively practice environmentally responsible activities (such as recycling).	0.817	
PEI4: I will try to save water and electricity.	0.823	
PEI5: I will recommend other attendees to practice environmentally responsible activities.	0.826	
PEI6: I will encourage other attendees to engage in eco-friendly behaviors.	0.814	

Note: CT = Cognitive triggers; AT = Affective triggers; NT = Normative triggers; PT = Personal norms; PEI = Pro-environmental intentions.

We assessed discriminant validity by inspecting the correlations among constructs. Table 4 shows the results of the correlations. Estimated correlations between constructs were not excessively high, and no pairs approach 1.00 for 95% CI. Such results indicate the discriminant validity of the measurement model [64].

Table 4. Correlations' estimates, means, and standard Deviations ($n = 601$).

	1	2	3	4	5	6	M	SD
1. CT	1						5.121	1.425
2. AT	0.397	1					4.016	1.923
3. NT	0.602	0.571	1				4.568	1.571
4. PT	0.766	0.290	0.600	1			5.077	1.557
5. PEI	0.747	0.275	0.613	0.857	1		5.018	1.561

Note: CT = Cognitive triggers; AT = Affective triggers; NT = Normative triggers; PT = Personal norms; PEI = Pro-environmental intentions.

4.3. Structural Model

To test SEM while accommodating the use of ML estimation, data needed to have a multivariate normal distribution; otherwise, non-normality could have inflated the chi-square (χ^2) value and caused the underestimation of the fit indices [67].

We also employed bootstrapping, a practice of estimating properties of an estimator by measuring them while sampling from an approximate distribution [68]. Bootstrapping is not only an effective way to accurately measure parameter estimates but is also more precise than standard confidence intervals obtained by using sample variance and assumptions of normality [69]. In all, we performed 2000 bootstrap samples based on the original sample of 601 respondents' questionnaires.

Next, we used SEM analysis involving ML estimation to test the hypothesized relationships represented in our model. Figure 2 provides the results of path analysis. The overall model fit indices indicated that the proposed model adequately represented the hypothesized construct: $\chi^2(161) = 722.217$, $CMIN/df = 4.796$, $CFI = 0.927$, $TLI = 0.905$, $RMSEA = 0.052$. As shown in Table 4, results revealed that cognitive triggers were significantly affected personal norms (H1: $\beta = 0.940$, $p < 0.05$), which supported H1, and that cognitive triggers also significantly influenced normative trigger (H2: $\beta = 0.609$, $p < 0.05$). However, cognitive triggers did not significantly affect pro-environmental intentions (H3: $\beta = 0.109$, $p > 0.05$). By contrast, affective triggers significantly affected personal norms (H4: $\beta = 0.301$, $p < 0.05$), normative triggers (H5: $\beta = 0.486$, $p < 0.05$), and pro-environmental intentions (H6: $\beta = 0.228$, $p < 0.05$). Although results also indicated a significant relationship between personal norms and pro-environmental intentions (H7) ($\beta = 0.957$, $p < 0.05$), H8 found no support. Table 5 presents the results of SEM with estimated path coefficients.

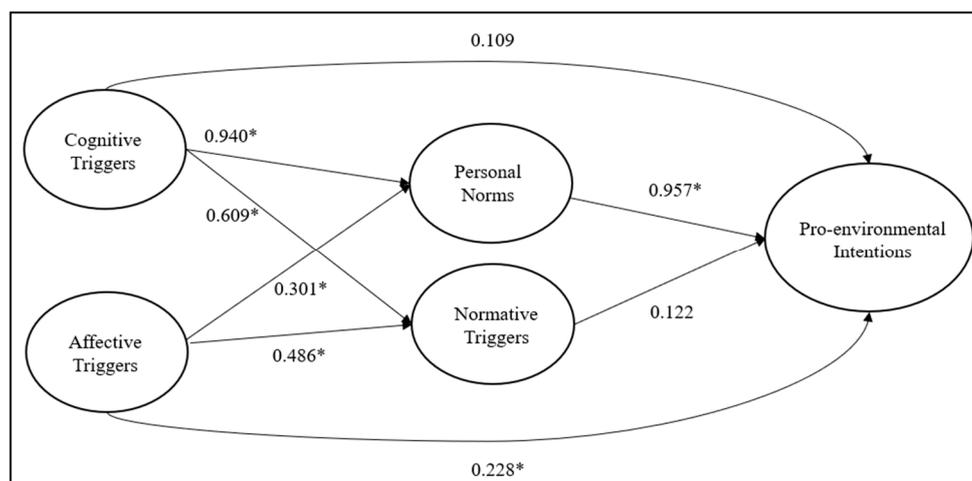


Figure 2. Results of path analysis, * $p < 0.05$.

Table 5. Structural equation modeling (SEM) with estimated path coefficients and test results ($n = 601$).

Paths	Standardized Estimate	<i>t</i> Value	Results
H1. CT → PT	0.940	18.3230 *	Accepted
H2. CT → NT	0.609	13.032 *	Accepted
H3. CT → PEI	0.109	0.013	Rejected
H4. AT → PT	0.301	3.055 *	Accepted
H5. AT → NT	0.486	11.040 *	Accepted
H6. AT → PEI	0.228	2.860 *	Accepted
H7. PT → PEI	0.957	9.355 *	Accepted
H8. NT → PEI	0.122	1.489	Rejected

Note: CT = Cognitive triggers; AT = Affective triggers; NT = Normative triggers; PT = Personal norms; PEI = Pro-environmental intentions, * $p < 0.05$.

5. Discussion

Although green practices and other sustainability-oriented efforts have become important in the tourism and hospitality industry, research investigating pro-environmental decision-making processes in the context of festivals remains scant. Drawn from the value-belief-norm theory, the purpose of this study was to investigate attendees' pro-environmental decision-making processes concerning eco-friendly food festivals. We chose to study food festivals due to their growing popularity among events, and to our knowledge, our study represents the first to empirically investigate consumers' pro-environmental intentions in a festivals context. Since the results could provide implications for festivals, which form part of the second most wasteful industry in the United States, we have provided a brief discussion of possible implications for not only green festivals practices but also research on such festivals. Additionally, we highlight avenues for future research on the relationship of green advertising and the hospitality industry.

Our findings revealed that feeling a moral obligation to engage in eco-friendly behavior related the most strongly to having pro-environmental intentions in food festival settings, followed by affective triggers. The result somewhat aligns with findings from other studies that found that affective triggers are the most influential factor of eco-friendly intention in various industries, including the hospitality and tourism industry [37,41]. Since cognitive triggers and normative triggers did not significantly influence pro-environmental intentions regarding food festivals, our findings suggest that affective triggers are more important than cognitive ones for understanding the pro-environmental intentions of food festival attendees. In other words, individuals experience favorable or unfavorable emotions while performing certain behaviors and anticipate positive and negative feelings that they will experience by doing so [42].

Our findings also suggest that personal norms play a critical role in affecting pro-environmental intentions in festival settings. This result corroborates findings from other studies that personal norms, at least when activated, influence pro-environmental behavior [15,39,70,71]. Together, the findings from our study indicate that the contribution of personal norms to environmentally responsible behavior is evident in festival settings.

5.1. Implications

From a theoretical perspective, in previous studies on festivals, scholars have little focused on investigating pro-environmental decision-making processes. Moreover, in relation to the value-belief-norm theory, our research has extended the conceptual model of pro-environmental intentions into the context of food festivals. In addition, this study extended the value-belief-norm theory by utilizing a conceptual model of pro-environmental decision-making processes in the context of festival setting and social norms (i.e., injunctive and descriptive norm claims).

From a practical perspective, our findings suggest that affective triggers shape the attention of festival attendees [72], which should be revealing for festival organizers planning to appeal to pro-environmental intentions in green festival marketing campaigns. In particular, the findings imply that such campaigns with affective triggers can promote prospective attendees' perceptions of the festivals.

Second, festival organizers need to increase their ability to leverage personal norms to evoke festival attendees' pro-environmental intentions, which requires a strategic perspective on festival advertising and management. Festival attendees have begun to pay close attention to the environmental effects of their behaviors [10,25]. Thus, it is essential for festival management to understand the strategic roles that the personal norms of festival attendees can play in attracting potential attendees, particularly given their ability to efficiently and effectively influence behavior in green contexts.

5.2. Limitations and Future Study

Among the major limitations of our study, the questionnaire measured respondents self-expressed behavioral and purchase intentions, not their actual behaviors or purchases, which are clearly different.

Given the comparative nature of our research, however, differences in intentions and actual behaviors did not significantly jeopardize our conclusion that some items presented in the survey were more effective than others. Another limitation was our exclusive focus on food festivals, which researchers should consider carefully before generalizing our findings to develop models for other contexts (e.g., music festivals).

Our results suggest that, in the future, researchers should consider the impact of demographic and psychographic factors (e.g., visitors' experience, place attachment, emotional solidarity, and community commitment) [73]. Furthermore, because environmental issues span national boundaries, it is also essential to account for culture. Although researchers have taken preliminary steps to that end, cross-cultural testing of relationships among structure factors remains in its infancy in marketing research. Additionally, in the future researchers should consider using various control variables, including pre-existing attitudes, knowledge of the environment, and experience.

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