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The effect of environmentally friendly perceptions on festival visitors' decision-making process using an extended model of goal-directed behavior

Hak Jun Song [a,1], Choong-Ki Lee [b,*], Soo K. Kang [c,2], Sug-jin Boo [d]

[a] Department of Hotel & Convention Management, College of Tourism & Fashion, Pai Chai University, 14 Yeon-Ja 1 Gil, Seo-gu, Daejeon 302-735, South Korea
[b] College of Hotel and Tourism Management, Kyung Hee University, 1 Hoegi-dong, Dongdaemun-gu, Seoul 130-701, South Korea
[c] Hospitality Management, Colorado State University, 214E Gifford, Fort Collins, CO 80523-1571, USA
[d] Dept. of Tourism and Leisure Management, Chungwoon University, South Korea

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ABSTRACT

This study examined the effect of environmentally friendly perceptions on the behavioral intention of visitors at the Boryeong Mud Festival in South Korea. The results of the on-site survey ($N = 400$) reveal that three environmentally friendly perceptions formed positive and significant causal relationships with the constructs in the extended model of goal-directed behavior (EMGB). Attitude, subjective norm, and positive anticipated emotion affected desire, which, in turn, influenced the behavioral intention. Three elements, volitional, non-volitional, and emotional aspects, were proven to be crucial in comprehending the perceptions and behaviors of the nature-based festival attendees. The findings of this study will shed light on a better understanding of the decision-making processes of festival visitors when environmental issues are incorporated.

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1. Introduction

The development of science, technology, and industrialization has resulted in serious environmental problems such as pollution and environmental degradation caused by the increased consumption of natural resources and energy. Although these changes have also brought comfort and convenience, environmental issues such as damage to or destruction of natural resources are worldwide concerns (Han, Hsu, & Sheu, 2010; Paco & Raposo, 2009). A person's strong consciousness about natural resources is positively associated with their environmental concerns, attitude, and eco-friendly behaviors (Kinnear & Taylor, 1973; Paco & Raposo, 2009; Straughan & Roberts, 1999). Bamberg (2003), and Kim and Choi (2005) asserted that customers who are concerned about environmental problems are more likely than others to purchase environmentally friendly products.

Consumers' environmentally friendly practices have expanded to include leisure and cultural activities such as dining, traveling, and vacationing. Therefore, there has been an influx of studies conducted on environmentally friendly tourism behaviors. These environmentally friendly tourism behaviors are considered important in examining visitors' behaviors at nature-based destinations. In parallel with the increasing significance of festivals, much research was initially dedicated to exploring the economic impacts of festivals (e.g., Formica & Murrmann, 1998; Kim, Scott, Thigpen, & Kim, 1998; Thrane, 2002) and the motivations behind festival attendance (e.g., Crompton & McKay, 1997; Lee, Lee, & Wicks, 2004; Nicholson & Pearce, 2001). In conjunction with the economic benefits that local festivals brought into the communities, the importance of the environmental impact has been recently addressed when developing events and festivals that involve natural resources. The main emphasis lies on a new wave of festivals utilizing innate natural resources in a sustainable way without compromising the environment with an invasion of visitors.

As a study site for this research, the Boryeong Mud Festival is an annual festival that takes place every summer in Boryeong, South Korea (hereafter Korea), and is considered to be one of the most successful local festivals in Korea. In 2010, the number of total visitors to the Boryeong Mud Festival was approximately 2.7 million, with 183,000 foreign visitors (Organizing Committee of Boryeong Mud Festival, 2010). The theme of the festival is mud, and a 'Mud Experience Land' was created during the festival. The festival programs include a mud marathon, mud skiing, mud wrestling, a mud skincare center, a mud pool, a mud bath, and mud slides (see Figs. 1 and 2).

* Corresponding author. Tel.: +82 2 961 9430; fax: +82 2 964 2537.
E-mail addresses: bloodia@pcu.ac.kr (H.J. Song), cklee@khu.ac.kr (C.-K. Lee), soo.kang@colostate.edu (S.K. Kang), rivaboo@chungwoon.ac.kr (S.-j. Boo).
[1] Tel.: +82 42 520 5348.
[2] Tel.: +1 970 491 0293; fax: +1 970 491 7252

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Fig. 1. Main view of the mud festival arena (Boryeong Mud Festival, 2011).

Mud performs the important environmental function of purifying contaminated water and air. Because of mud's sensitivity to marine environments, ecosystems, and coastal habitats (Amanullah & Yu, 2005), it is important to utilize the mud in a festival in a sustainable way that preserves the marine environment and resources. The organizing committee of the mud festival has planned and executed the festival without compromising the environment by prohibiting direct access to offshore fields. Instead, they construct artificial beachside settings for most of the programs and activities in an attempt to reduce environmental damage.

Despite the increased importance of environmentally friendly perceptions, little research has been conducted on how tourists' environmentally friendly attitudes and behaviors significantly influence their decision-making process when visiting a nature-based festival. Therefore, the current study proposes an extended model of goal-directed behavior (EMGB) incorporating the following three environmentally related constructs of environmental concerns, perceived customer effectiveness, and environmentally friendly tourism behaviors to understand the nature-based festival visitors' behavioral intention formation process. Specifically, the purpose of this study is to examine the effects of the three environmentally friendly perceptions on visitors' behavioral intentions at the Boryeong Mud Festival in Korea. The behavioral intention of festival attendees was measured by using the extended model of goal-directed behavior. Theoretically, the findings of this study will contribute to enhancing our understanding of visitors' intention formation to revisit a nature-based festival by extending the model of goal-directed behavior (MGB)

Fig. 2. Giant mud bath experience (Boryeong Mud Festival, 2011).

with the addition of three environmentally related constructs. Consequently, the study's results also provide festival managers and operators with crucial marketing strategies for attracting nature-based festival visitors and satisfying them within the eco-friendly consumption context.

2. Literature review

2.1. Attitude-behavior models (TRA, TPB, MGB, and EMGB)

Numerous attitude theories have been employed as a theoretical basis to test intervening variables in the travel and tourism literature. One of the seminal attitude theories is the theory of reasoned action (TRA), which suggests that behavioral intention mediates the relationships between attitude, subjective norm, and behavior (Eagly & Chaiken, 1993; Fishbein & Ajzen, 1975; Perugini & Bagozzi, 2001). To address the limitations of TRA, Ajzen (1985) proposed the theory of planned behavior (TPB) by adding the concept of perceived behavioral control (PBC) to the TRA. The TPB emphasizes that human behaviors are governed not only by personal attitudes and social pressures (subjective norms) but also by a sense of behavioral control (PBC) (Ajzen, 1991; Eagly & Chaiken, 1993).

Furthermore, Perugini and Bagozzi (2001) proposed the MGB as an endeavor to enhance the capacity and address the limitations of the TPB by incorporating motivational and affective processes and past behavior. Perugini and Bagozzi (2001) stated that there are three notable variables in the MGB. First, desire can be a critical factor in explaining a person's decision formation. Incorporating desire as a mediator into the MGB between attitude, subjective norm, perceived behavioral control, two anticipated emotions, the frequency of past behavior, and intention represents the motivational aspect of human behavior, which would improve the predictive ability of the model (Carrus, Passafaro, & Bonnes, 2008; Perugini & Bagozzi, 2001; Taylor, Bagozzi, & Gaither, 2005).

Second, anticipated emotion to a specific behavior can be an imperative variable in the decision-making processes to consider the emotional aspect of human behavior (Conner & Armitage, 1998). Third, past behavior or habit can be also a significant determinant to explain the habitual aspect of human behavior (Bentler & Speckart, 1981; Ouellette & Wood, 1998). Therefore, desire, anticipated emotion, and past behavior broaden the representation of goal-directed behaviors in the MGB, which is an extended model from the original TPB. Because of its superior predictive ability, the MGB has received attention as a means to understand a variety of human behaviors, such as brand-related behavior, alcohol consumption, digital piracy, and information search (Bagozzi & Dholakia, 2006; Prestwich, Perugini, & Hurling, 2008; Taylor, 2007; Taylor, Ishida, & Wallace, 2009).

Some researchers (Ajzen, 1991; Conner & Abraham, 2001; Oh & Hsu, 2001) have emphasized the necessity for a revision of the existing socio-psychological theories to include new constructs that are considered critical in a certain context or that alter existing paths among latent variables. Ajzen (1991) suggested some criteria for incorporating additional variables. New variables introduced to the original model should be imperative factors that affect decision-making and behavior. They should be also conceptually independent from the existing factors in the theory. Finally, they should potentially be appropriate for a specific behavior.

Many researchers extended or modified the TPB and the MGB by including new constructs (Han et al., 2010; Lee & Back, 2007; Lee, Song, Bendle, Kim, & Han, 2012; Perugini & Bagozzi, 2001). For example, the EMGB has been developed by adding extra key variables to the original MGB to explain the variance of intention and behavior (Ajzen, 1991; Lee et al., 2012; Taylor, 2007). Perugini and Bagozzi (2001) described this process as the broadening and deepening of a theory, which can improve the predictive power of human behaviors in specific contexts by providing a better understanding of the theoretical mechanism of socio-psychological theories.

2.2. Hypothetical relationships

2.2.1. The relationships among environmental concerns, perceived customer effectiveness, and environmentally friendly tourism behaviors

The current study introduced three environmentally related constructs (i.e., environmental concerns, perceived customer effectiveness, and environmentally friendly tourism behaviors) to the original MGB to expand its applicability and to build stronger predictive power into understanding the nature-based festival attendees' decision-making process. These three constructs have been identified as key elements to evaluate the consumers' environmentally friendly decision-making process (e.g., Han et al., 2010; Kalafatis, Pollard, East, & Tsogas, 1999; Laroche, Bergeron, & Barbaro-Forleo, 2001; Paco & Raposo, 2009; Roberts, 1996; Straughan & Roberts, 1999; Vlosky, Ozanne, & Fontenot, 1999).

Specifically, environmental concerns are an individual's unfavorable perceptions about any environmental problems, such as depleted natural resources, pollution, and the destruction of the environment and nature (Han et al., 2010; Paco & Raposo, 2009). Crosby, Gill, and Taylor (1981) defined environmental concerns as having a strong attitude toward protecting the environment. As people have become more conscious of ecological problems (Han et al., 2010; Kalafatis et al., 1999), the level of one's environmental concern influences an individual's attitudes and behaviors in his or her everyday life (Kinnear & Taylor, 1973; Paco & Raposo, 2009). Numerous studies (Bamberg, 2003; Kim & Choi, 2005; Straughan & Roberts, 1999) also supported the claim that customers with more conscious environmental concerns are more likely to be involved with eco-friendly behaviors, including purchasing environmentally friendly products, in an attempt to relieve environmental concerns.

Perceived customer effectiveness can be defined as an individual's perceptions about the effectiveness of his or her environmentally friendly efforts in resolving environmental problems (Antil, 1978; Roberts, 1996; Straughan & Roberts, 1999). Roberts (1996) stated that perceived customer effectiveness is a useful construct to understand customer's environmentally conscious behaviors because eco-friendly consumption behaviors are usually related to people's belief that their environmentally friendly actions and efforts make a contribution to solving ecological problems. In other words, customers who feel that their efforts and actions can be effective in resolving environmental problems tend to engage in more intense eco-friendly behaviors with a high level of concern about the environment (Straughan & Roberts, 1999). Therefore, perceived customer effectiveness has been identified as a significant factor influencing the consumers' decision-making process along with environmentally conscious behaviors (Kim & Han, 2010; Roberts, 1996). Kim and Han (2010) stated that as individuals consider their endeavors can reduce environmental problems, they perform environmentally conscious behaviors in purchasing eco-friendly products and services. Specifically, they employed a modified TPB model incorporating environmental concerns, perceived customer effectiveness, and environmentally conscious behaviors to understand the customers' decision formation when paying comparable hotel prices for a green hotel. The findings of the study indicated that environmental concerns and perceived customer effectiveness are significant in predicting environmentally conscious behaviors, which in turn affect the intention to pay. Based on the literature reviewed above, this study

posits the following hypotheses with the concept of environmentally friendly tourism behaviors in a nature-based festival setting:

H1. Environmental concerns have a positive influence on environmentally friendly tourism behaviors.

H2. Perceived customer effectiveness has a positive influence on environmentally friendly tourism behaviors.

2.2.2. The relationship between attitude and desire

An attitude toward a behavior refers to the degree to which an individual has a favorable/unfavorable evaluation of performing a specific behavior (Ajzen, 1991). Therefore, attitude exerts a positive impact on an individual's behavioral intention (e.g., Ajzen, 1991; Baker, Al-Gahtani, & Hubona, 2007; Cheng, Lam, & Hsu, 2006). In other words, an individual tends to have a positive attitude when the outcomes of a specific behavior are positively evaluated; therefore, one is likely to have a strong attitude to perform such a behavior (Ajzen, 1991).

In the MGB, the desire to perform the act was added to strengthen the predictive power in explaining intention (Bagozzi, 1992) as the main source of the motivation to act (Malle, 1999; Malle & Knobe, 1997; White, 1991). From a theoretical perspective, the role of desire as the major predictor of intention and its ability to mediate most of the effects of attitudes, subjective norm, perceived behavioral control, and anticipated emotions represent one of the most interesting features of the MGB (Bagozzi, 1992; Hunter, 2006; Leone, Perugini, & Ercolani, 1999). Therefore, an individual's attitude affects intention indirectly only through desire in the MGB (Perugini & Bagozzi, 2001; Prestwich et al., 2008). Specifically, it was found in the casino-related EMGB study (Song, 2010) that the construct of desire is a mediating variable that is influenced by attitude and affects behavioral intention. Based on the literature review, the following hypothesis is presented:

H3. Attitude has a positive influence on desire.

2.2.3. The relationship between subjective norm and desire

Subjective norm is defined as a perceived social pressure to perform or not to perform a particular behavior (Ajzen, 1991). When undertaking a specific behavior, an individual is likely to consider and comply with the opinions of other people, such as friends, family, and colleagues (Bearden & Etzel, 1982; Cheng et al., 2006). This is known as the subjective norm. In the MGB, subjective norm would not directly fortify an individual's behavioral intention but would indirectly affect the behavioral intention through desire (Perugini & Bagozzi, 2001; Prestwich et al., 2008). Specifically, Lee et al. (2012) confirmed that subjective norm affects behavioral intention indirectly through desire in the EMGB study, which added two additional constructs (i.e., non-pharmaceutical interventions and the perception of 2009 H1N1 influenza) to the MGB in order to understand traveler's decision-making process under the condition of 2009 H1N1 influenza. Based on the literature review, this study posits the following hypothesis:

H4. Subjective norm has a positive influence on desire.

2.2.4. The relationship between anticipated emotions and desire

When a behavior is more normally described as a means to attain a goal, general anticipated affective reactions allied to goal attainment or non-attainment seem more suitable (Leone, Perugini, & Ercolani, 2004). In this sense, the MGB includes positive/negative anticipated emotions of goal success as well as goal failure. Gleicher et al. (1995) identified these anticipated emotions as prefactuals that affect intention and behavior. Numerous researchers have suggested that anticipated affective reactions to the performance or non-performance of a behavior may be important determinants of intention (e.g., Conner & Armitage, 1998; Triandis, 1977; van der Pligt & De Vries, 1998). In a situation of uncertainty, people may feel pre-positive or -negative emotions toward future behaviors. The dual balance of positive anticipated emotion concerning goal attainment and negative anticipated emotion related to goal failure performs a role to predict desire, which eventually leads to goal pursuit (Perugini & Bagozzi, 2001). Therefore, positive and negative anticipated emotions serve to predict desire in the MGB. Leone et al. (2004) stated that anticipated emotions affect behavioral desire because the emotion constructs represent the hedonic motive of promoting a positive situation of affairs and avoiding a negative situation of affairs. These two anticipated emotions indicate that an individual usually simultaneously considers the emotional consequences of both achieving and not achieving a goal (Bagozzi, Baumgartner, & Pieters, 1998; Carver & Scheier, 1990). Based on the literature review, this study proposes the following hypotheses:

H5. Positive anticipated emotion has a positive influence on desire.

H6. Negative anticipated emotion has a negative influence on desire.

2.2.5. The relationships among perceived behavioral control, desire, and behavioral intention

Many studies have identified various antecedents of behavioral intention in the tourism literature (e.g., Lam & Hsu, 2004, 2006; Lee, Petrick, & Crompton, 2007; Yuan & Jang, 2008). Among these variables, perceived behavioral control as a non-volitional dimension refers to an individual's confidence or ability to perform a specific behavior and it is considered to be an imperative factor of behavioral intention and actual behavior. Generally, the strength of an individual's intention to undertake a specific behavior is significantly decided by the situation when s/he has sufficient resources or opportunities to perform that behavior (Ajzen, 1991; Ajzen & Madden, 1986). Lokhorst and Staats (2006) enunciated that there might be some intention to perform actual behaviors when one feels that s/he is able to perform the behavior although attitudes and subjective norms are entirely neutral. Therefore, it is assumed that perceived behavioral control, reflecting the perceived ease or difficulty of performing a certain behavior (Ajzen, 1991), reinforces an individual's desire, behavioral intention to perform a certain behavior, and actual behavior in the MGB (Carrus et al., 2008; Perugini & Bagozzi, 2001; Prestwich et al., 2008). However, the hypothetical relationship between perceived behavioral control and actual behavior is not considered in this study because the ultimate variable of the current study is a behavioral intention, not an actual behavior. Therefore, perceived behavioral control is hypothesized to influence the desire and behavioral intention to revisit the nature-based festival in this study. This study posits the following hypotheses:

H7. Perceived behavioral control has a positive influence on desire.

H8. Perceived behavioral control has a positive influence on behavioral intention.

2.2.6. The relationship between environmentally friendly tourism behaviors and desire

Andereck (2009) stated that people who had a stronger orientation toward nature and practiced environmentally friendly behaviors expressed a more positive desire in using environmentally friendly products or services than those not environmentally oriented. Within the same context, those with

a more environmentally conscious mind are more likely to purchase environmentally friendly tourism products and services. Therefore, environmentally friendly tourism behaviors drawn from consumer behaviors are defined as the tourists' behaviors to purchase environmentally friendly tourism products and services. In other words, the characteristics of environmentally friendly behaviors that serve as important clues for understanding peoples' behaviors in the field of consumer marketing can be specified to the environmentally friendly tourism behaviors of festival visitors.

Specifically, festival visitors who have a stronger orientation toward nature are more likely to practice environmentally friendly tourism behaviors (e.g., trying to purchase environmentally friendly tourism products and services, thinking about how the tourists' behaviors could impact natural environments) and, furthermore, could have a more positive desire to revisit a nature-based festival. In this regard, the hypothetical relationship between environmentally friendly tourism behaviors and desire is proposed as follows:

H9. Environmentally friendly behaviors have a positive influence on desire.

2.2.7. The relationships among past behavior, desire, and behavioral intention

Past behavior has been identified as a significant predictor of future behaviors in meta-analysis studies (e.g., Hagger, Chatzisarantis, & Biddle, 2002). According to Conner and Armitage (1998), and Leone et al. (2004) past behavior is regarded as a proxy of habit and is therefore expected to influence both desire and intention. In particular, past behavior diminishes the perceived risk associated with decisions when certain products or services are purchased. Consequently, it can positively influence the intention to consume a service or a product again (Sonmez & Graefe, 1998). In the MGB, it is hypothesized that frequency of past behavior influences desire, intention, and behavior (Perugini & Bagozzi, 2001, 2004). However, the final dependent variable in this study is behavioral intention, not actual behavior. Therefore, the hypothetical relationship with past behavior is proposed as follows:

H10. The frequency of past behavior has a positive influence on desire.

H11. The frequency of past behavior has a positive influence on behavioral intention.

2.2.8. The relationship between desire and behavioral intention

The motivational content embedded in desire, as indicated in "someone intends to do something only if he is motivated to do it," is known to signify the role of desire in predicting intention (Davis, 1986, p. 74). Numerous studies (Bagozzi, 1992; Perugini & Bagozzi, 2001) enunciated that desire is a stronger predictor of intention than attitudes, social norm, or perceived behavioral control and has a positive relationship with intention. For example, Lee et al. (2012) confirmed that desire, the most important determinant of intention, predicts tourists' travel intention, followed by perceived behavioral control, non-pharmaceutical interventions, and frequency of past behavior in the investigation of perceptions about the 2009 H1N1 influenza. Therefore, it is hypothesized that desire has a positive effect on the intention to revisit the mud festival based on the assumption that the relationship between desire and behavioral intention in the travel decision-making process can be applied to the nature-based festival context:

H12. Desire has a positive influence on behavioral intention.

In summary, this extended MGB can serve as a new theoretical framework to explain the behavioral intention of the nature-based festival visitors. Therefore, this study proposes the theoretical model as shown in Fig. 3.

3. Methodology

3.1. Measurements

All constructs in this study except the frequency of past behavior were measured with multiple items, as recommended by Churchill (1979) and Kline (2005). Using multiple indicators to measure theoretical constructs can enhance validity, thereby covering various

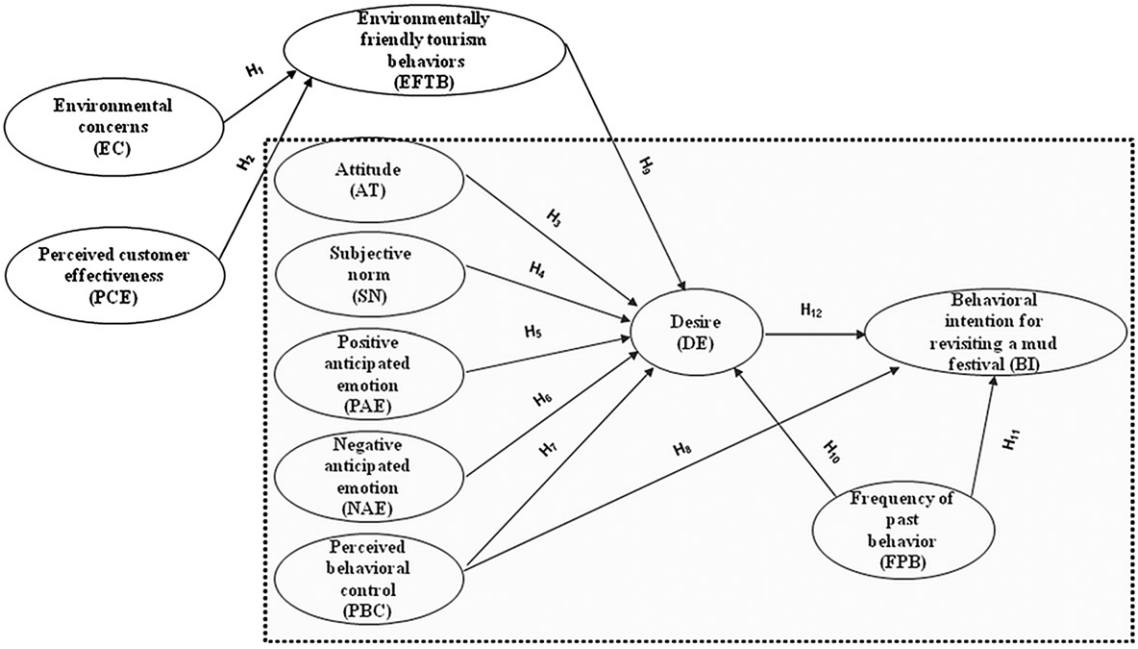

Fig. 3. A proposed research model. Note: The shaded area indicates the original antecedents of the model of goal-directed behavior. The three ovals outside the shaded area are the newly added constructs in this study.

facets of the construct. An extensive literature review on tourist behaviors, environmentally friendly behaviors, and human behavior theories was conducted to elicit a preliminary list of measurement items for this study (Ajzen, 1985, 1991; Ajzen & Madden, 1986; Albayrak, Caber, & Aksoy, 2010; Bagozzi et al., 1998; Bentler & Speckart, 1981; Carrus et al., 2008; Kim & Han, 2010; Lam & Hsu, 2004, 2006; Oh & Hsu, 2001; Perugini & Bagozzi, 2001, 2004).

To test face validity of the study instrument, four tourism scholars and festival managers were asked to review and refine the preliminary generated items to ensure that these items were appropriate to assess the measurement items for the Boryeong Mud Festival. Furthermore, a pretest was also conducted with 20 festival attendees who had visited the festival and 5 graduate students majoring in tourism management. Items that had been identified as ambiguous were reworded for clarity.

Three newly added constructs, environmental concerns, perceived customer effectiveness, and environmentally friendly tourism behaviors, were selected from the tourism literature (e.g., Albayrak et al., 2010; Kim & Han, 2010). Each construct was operationalized with four questions (e.g., "Non-recyclable products should be taxed to reduce waste"; "It is valuable for the individual consumer to do anything about pollution"; "I try to purchase environmentally friendly tourism products and services if possible") (see Table 2).

The original MGB constructs were modified to fit the context of the mud festival setting as follows. First, the respondents' attitudes associated with the mud festival were operationalized with four items (e.g., "I think that visiting the mud festival is a [positive, valuable, beneficial, and necessary] behavior"). By the same context, the subjective norm was operationalized with four items (e.g., "Most people who are important to me [agree with, support, understand, and recommend] that I visit the mud festival"). Anticipated emotions were evaluated with eight items (4 items on positive emotions and 4 items on negative emotions) (e.g., "If I revisit the mud festival, I will be excited," and "If I can't revisit the mud festival, I will be angry"). Lastly, the perceived behavioral control was composed of four items (e.g., "I am confident that if I want, I can visit the mud festival," "I am capable of attending the mud festival," "I have enough resources (money) to visit the mud festival," and "I have enough time to visit the mud festival").

Desire is operationalized with four items (e.g., "I [would like to, hope to] revisit the mud festival," and "I [want to have fun or experience an unforgettable memory] when I revisit the mud festival"). Frequency of past behavior was asked with a single item (i.e., "How many times have you been to a mud festival?"). Behavioral intention to revisit the mud festival was operationalized with four items (e.g., "I will make an effort to revisit the mud festival in the near future"). All items except the frequency of past behavior were assessed on a 5-point Likert scale, ranging from strongly disagree (1) to strongly agree (5). Specifically, the frequency of past behavior was coded as a continuous variable (Lee et al., 2012).

3.2. Data collection

An on-site intercept survey was conducted for Korean visitors who attended the Boryeong Mud Festival in 2010 since they represented 93.7% of total visitors. Ten trained undergraduate students who majored in Tourism and Hospitality Management served as field researchers to collect the data. To obtain a representative sample, the field researchers distributed the questionnaires on both weekdays and weekends at five sites (two main exits and three main stages) throughout the entire festival period between July 11 and July 19, 2010.

Only respondents who had experienced at least three activities and programs (i.e., mud-related activities, exhibitions, experiential programs, and night programs) at the festival were invited to participate in the survey. Upon their consent, a self-administered questionnaire was completed by the respondents. Considering the hot weather during the festival, cold soft drinks were given to respondents who completed the questionnaire. The field researchers contacted 612 visitors, of which 442 participated in the survey, representing a response rate of 72.2%. Throughout the data refinement process, 42 questionnaires were eliminated due to partial and inconsistent responses. Finally, 400 questionnaires were coded for analysis.

The gender ratio of the respondents was 55.7% (male) and 44.3% (female) in this study. Slightly more than one-third (36.6%) of the respondents were university students or held bachelor's degrees, followed by those who obtained a two-year college degree (34.5%). The most frequently reported age group of the respondents was 20–29 years (58.4%), followed by 30–39 years (15.9%), reflecting that festival programs with fun activities might attract more young visitors than mature visitors. Also, approximately two-thirds (62.4%) of the respondents reported a monthly income of less than US $1660.

3.3. Data analysis

The data collected were analyzed with structural equation modeling (SEM) using SPSS (SPSS, 2001) and EQS (Bentler & Wu, 1995). As a first step, an exploratory factor analysis (EFA) was executed to identify the underlying structure of factors and systematically purify measured indicators of constructs. As a second step, the two-stage testing procedure recommended by Anderson and Gerbing (1988) was adopted as follows: (1) a measurement model for the EMGB variables was estimated using confirmatory factor analysis (CFA); and (2) the structural relationships among the EMGB constructs were examined for model evaluations, modeling comparison, and research hypotheses testing.

4. Results

4.1. Measurement model

In this study, Mardia's standardized coefficient was employed to check the assumption of the multivariate normality of the data. Mardia's standardized coefficient (125.498) for the measurement model was greater than the criterion of 5, indicating that the data were multivariate, non-normally distributed (Byrne, 2006). Therefore, the Satorra–Bentler (S–B) Chi-square analysis, also called Robust Maximum Likelihood, was used to estimate the SEM in the study. This method was chosen because it can provide more

Table 1
Goodness-of-fit indices.

	χ^2	*df*	S–B χ^2	Normed S–B χ^2	NFI	NNFI	CFI	RMSEA
Measurement model	1689.66	695	986.263	1.419	0.911	0.968	0.972	0.033
Structural model	1821.395	747	1091.895	1.462	0.903	0.964	0.967	0.035
Suggested value				≤3	≥0.9	≥0.9	≥0.9	≤0.08

Table 2
Results of confirmatory factor analysis.

Factors	Factor loading	*t*-value	Cronbach alpha
Factor 1: Environmental concerns (EC)			0.895
Non-recyclable products should be taxed to reduce waste.	0.836	19.827	
Manufacturers should be required to use recycled materials in their operation.	0.897	23.121	
Commercial advertising should be required to mention the environmental disadvantages of products.	0.847	20.228	
Products that pollute the environment during manufacturing or consumption should be taxed.	0.813	19.548	
Factor 2: Perceived customer effectiveness (PCE)			0.881
It is valuable for the individual consumer to do anything about pollution.	0.784	17.393	
I try to think how my use of products will affect the environment and other consumers when I buy the product.	0.837	20.711	
Because one person can have any effect upon the environment, it is meaningful for me to do anything for environmental protection.	0.872	22.342	
If I purchase products sold by socially responsible companies, it can have a positive effect on society.	0.821	17.478	
Factor 3: Attitude (AT)			0.920
I think visiting the mud festival is a positive behavior.	0.819	17.719	
I think visiting the mud festival is a valuable behavior.	0.927	23.393	
I think visiting the mud festival is a beneficial behavior.	0.917	21.068	
I think visiting the mud festival is a necessary behavior.	0.803	17.718	
Factor 4: Subjective norm (SN)			0.937
Most people who are important to me agree with that I visit the mud festival.	0.892	23.523	
Most people who are important to me support that I visit the mud festival.	0.909	23.520	
Most people who are important to me understand that I visit the mud festival.	0.900	22.608	
Most people who are important to me recommend that I visit the mud festival.	0.855	19.725	
Factor 5: Positive anticipated emotion (PAE)			0.938
If I revisit the mud festival, I will be excited.	0.846	18.809	
If I revisit the mud festival, I will be glad.	0.902	21.498	
If I revisit the mud festival, I will be satisfied.	0.903	24.427	
If I revisit the mud festival, I will be happy.	0.911	24.334	
Factor 6: Negative anticipated emotion (NAE)			0.956
If I can't revisit the mud festival, I will be angry.	0.893	23.602	
If I can't revisit the mud festival, I will be disappointed.	0.928	26.400	
If I can't revisit the mud festival, I will be worried.	0.935	25.255	
If I can't revisit the mud festival, I will be sad.	0.924	28.243	
Factor 7: Perceived behavioral control (PBC)			0.889
I am confident that if I want, I can visit the mud festival.	0.752	16.487	
I am capable of attending the mud festival.	0.929	24.570	
I have enough resources (money) to visit the mud festival.	0.819	15.235	
I have enough time to visit the mud festival.	0.781	17.131	
Factor 8: Environmentally friendly tourism behaviors (EFTB)			0.895
I try to purchase environmentally friendly tourism products and services if possible.	0.828	18.792	
I think about how tourists' behaviors could impact natural environments.	0.921	23.307	
I try to minimize my tourism behaviors to influence natural environments.	0.852	18.057	
I prefer nature-based or eco-tourism.	0.822	19.134	
Factor 9: Desire (DE)			0.909
I would like to revisit the mud festival.	0.876	20.666	
I want to have fun when I revisit the mud festival.	0.866	20.065	
I hope to revisit the mud festival.	0.876	20.818	
I want to experience an unforgettable memory when I revisit the mud festival.	0.848	21.235	
Factor 10: Behavioral intention (BI)			0.928
I will make an effort to revisit the mud festival in the near future.	0.884	21.162	
I have an intention to revisit the mud festival.	0.866	20.114	
I am willing to revisit the mud festival.	0.885	20.741	
I am willing to spend time and money to revisit the mud festival.	0.865	22.477	

Note: All standardized factor loadings are significant at $p < 0.001$.

robust and valid standard errors than other estimating methods by adjusting standard error estimates with a scaling factor based on the data's non-normality (Bentler & Wu, 1995; Byrne, 2006).

The resulting measurement model was derived from the CFA. Table 1 presents a satisfactory level of fit on all goodness-of-fit indices from the CFA. The results confirmed that the proposed measurement model was found to fit data well: $\chi^2 = 1689.66$, S–B $\chi 2 = 986.263$, $df = 695$, normed fit index (NFI) = 0.911, non-normed fit index (NNFI) = 0.968, comparative fit index (CFI) = 0.972, and root mean square error of approximation (RMSEA) = 0.033.

Table 2 shows the Cronbach alpha values generated by the CFA in estimating the reliability of the multi-item scales: environmental concerns (EC) with 0.895, perceived customer effectiveness (PCE) with 0.881, attitude (AT) with 0.920, subjective norm (SN) with 0.937, positive anticipated emotion (PAE) with 0.938, negative anticipated emotion (NAE) with 0.956, perceived behavioral control (PBC) with 0.889, environmentally friendly tourism behaviors (EFTB) with 0.895, desire (DE) with 0.909, and behavioral intention (BI) with 0.928. All of these alpha coefficients were above the cut-off point of 0.7, indicating an acceptable level of reliability for each construct (Nunnally & Bernstein, 1994).

Convergent and discriminant validity statistics are also depicted in Table 3. All average variance extracted (AVE) and composite reliability (CR) values for the multi-item scales were greater than the minimum criterion of 0.5 and 0.7, respectively, indicating a sufficient level of convergent validity for the measurement model

Table 3
Results of the measurement model.

Constructs	EC	PCE	AT	SN	PAE	NAE	PBC	EFTB	DE	BI
Environmental concerns (EC)	1.000									
Perceived customer Effectiveness (PCE)	0.775 (0.601)	1.000								
Attitude(AT)	0.364 (0.132)	0.344 (0.118)	1.000							
Subjective norm(SN)	0.431 (0.186)	0.437 (0.191)	0.725 (0.526)	1.000						
Positive anticipated Emotion (PAE)	0.439 (0.193)	0.421 (0.177)	0.697 (0.486)	0.684 (0.468)	1.000					
Negative anticipated Emotion (NAE)	0.182 (0.033)	0.178 (0.032)	0.221 (0.049)	0.263 (0.069)	0.461 (0.213)	1.000				
Perceived behavioral control (PBC)	0.352 (0.124)	0.404 (0.163)	0.396 (0.157)	0.486 (0.236)	0.348 (0.121)	0.169 (0.029)	1.000			
Environmentally Friendly tourism Behaviors (EFTB)	0.580 (0.336)	0.628 (0.394)	0.274 (0.075)	0.291 (0.085)	0.305 (0.093)	0.303 (0.092)	0.361 (0.130)	1.000		
Desires(DE)	0.446 (0.199)	0.442 (0.195)	0.692 (0.479)	0.704 (0.496)	0.785 (0.616)	0.380 (0.144)	0.346 (0.120)	0.370 (0.137)	1.000	
Behavioralintention (BI)	0.455 (0.207)	0.420 (0.176)	0.630 (0.397)	0.686 (0.471)	0.780 (0.608)	0.494 (0.244)	0.428 (0.183)	0.391 (0.153)	0.808[a] (0.653)	1.000
Cronbach's alpha	0.895	0.881	0.920	0.937	0.938	0.956	0.889	0.895	0.909	0.928
CR	0.913	0.898	0.924	0.938	0.939	0.957	0.893	0.917	0.923	0.929
AVE	0.724	0.687	0.754	0.791	0.793	0.847	0.678	0.734	0.751	0.766

Note 1. a: Highest correlations between pairs of constructs; 2. The numbers in the parenthesis indicate squared correlation among latent constructs; 3. All correlations are significant at $p < 0.01$; 4. Correlation coefficients are estimates from EQS; 5. CR = composite reliability; AVE = average variance extracted; 6. FPB (frequency of past behavior) was not included in the measurement model because it was a single indicator.

(Hair, Black, Babin, Anderson, & Tatham, 2006). Also, the most conservative method using AVE confirmed the discriminant validity because the AVE of each construct was greater than the squared correlation coefficients for corresponding inter-constructs (Fornell & Larcker, 1981).

In terms of comparison between MGB and EMGB (Table 4), the R^2 for desire in the EMGB improved from 0.722 to 0.735 by including three eco-friendly consumption variables (i.e., environmental concerns, perceived customer effectiveness, and environmentally friendly tourism behaviors). The S–B Chi-square difference test (Byrne, 2006) between MGB and EMGB indicated that there is a significant difference between the two models (ΔS–B χ^2 (388) = 480.88, $p < 0.001$). The results showed that the EMGB performs slightly better than the MGB when explaining the construct of desire to revisit the nature-based festival.

4.2. Hypothesis testing

As presented in Fig. 4, the results confirmed that the proposed structural model fits data well: S–B $\chi 2$ = 1091.895, *df* = 747, NFI = 0.903, NNFI = 0.964, CFI = 0.967, and RMSEA = 0.035. In terms of hypothesis testing, hypotheses 1 and 2 posited that environmental concerns and perceived customer effectiveness have a positive effect on environmentally friendly tourism behaviors. Both predictor variables ($\beta_{EC \rightarrow EFTB} = 0.229$, $t = 2.17$, $p < 0.05$; $\beta_{PCE \rightarrow EFTB} = 0.451$, $t = 4.264$, $p < 0.01$) exerted a positive influence on environmentally friendly tourism behaviors. Thus, H1 and H2 were supported.

Furthermore, all predictor variables except negative anticipated emotion (NAE) and perceived behavioral control (PBC) were statistically significant in predicting desire (DE) as follows: attitude (AT) ($\beta_{AT \rightarrow DE} = 0.157$, $t = 2.542$, $p < 0.05$), subjective norm (SN) ($\beta_{SN \rightarrow DE} = 0.241$, $t = 3.448$, $p < 0.01$), positive anticipated emotion (PAE) ($\beta_{PAE \rightarrow DE} = 0.490$, $t = 7.346$, $p < 0.01$), environmentally friendly tourism behaviors (EFTB) ($\beta_{EFTB \rightarrow DE} = 0.126$, $t = 3.019$, $p < 0.01$), and frequency of past behavior (FPB) ($\beta_{FTB \rightarrow DE} = 0.107$, $t = 3.535$, $p < 0.01$), supporting H3, H4, H5, H9, and H10. However, NAE ($\beta_{NAE \rightarrow DE} = 0.053$, $t = 1.306$) and PBC ($\beta_{PBC \rightarrow DE} = -0.055$, $t = -1.320$) were not statistically significant in predicting desire to revisit the mud festival, rejecting H6 and H7.

Other hypotheses related to behavioral intention (BI) were also tested. The relationships between PBC ($\beta_{PBC \rightarrow BI} = 0.162$, $t = 3.745$, $p < 0.01$) and BI and between DE ($\beta_{DE \rightarrow BI} = 0.779$, $t = 16.679$, $p < 0.01$) and BI were positive and significant, supporting H8 and H12. However, the FPB ($\beta_{FPB \rightarrow BI} = -0.024$, $t = -0.733$) was not statistically significant for predicting behavioral intention to revisit the mud festival. Therefore, H_{11} was rejected. Overall, five constructs (AT, SN, PAE, EFTB, and FPB) played an essential role in explaining the formation of the festival visitors' desire to revisit the mud festival, and two constructs (PBC and DE) served as important antecedents in predicting the visitors' behavioral intention to revisit the festival. Additionally, the EFTB was a significant and direct predictor of desire, which in turn indirectly influenced behavioral intention. This finding indicates that visitors' environmentally friendly tourism behaviors can influence their desire along with the aforementioned antecedents that have been tested in the MGB.

4.3. Indirect and total effects

Bollen (1989, p. 376) stated that direct effects are defined as the influences of one variable on another that are not mediated by any other variable, whereas indirect effects refer to the values that are mediated by at least one other variable. The combination of these

Table 4
Comparison between MGB and EMGB.

	χ^2	S–B χ^2	*df*	Normed S–B χ^2	NFI	NNFI	CFI	RMSEA	R^2 for DE	R^2 for BI
MGB	1075.457	599.319	359	1.669	0.922	0.962	0.967	0.042	0.722	0.714
EMGB	1821.395	1091.895	747	1.462	0.903	0.964	0.967	0.035	0.735	0.715
Suggested value				≤3	≥0.9	≥0.9	≥0.9	≤0.08		

Note: DE = desires; BI = behavioral intention.

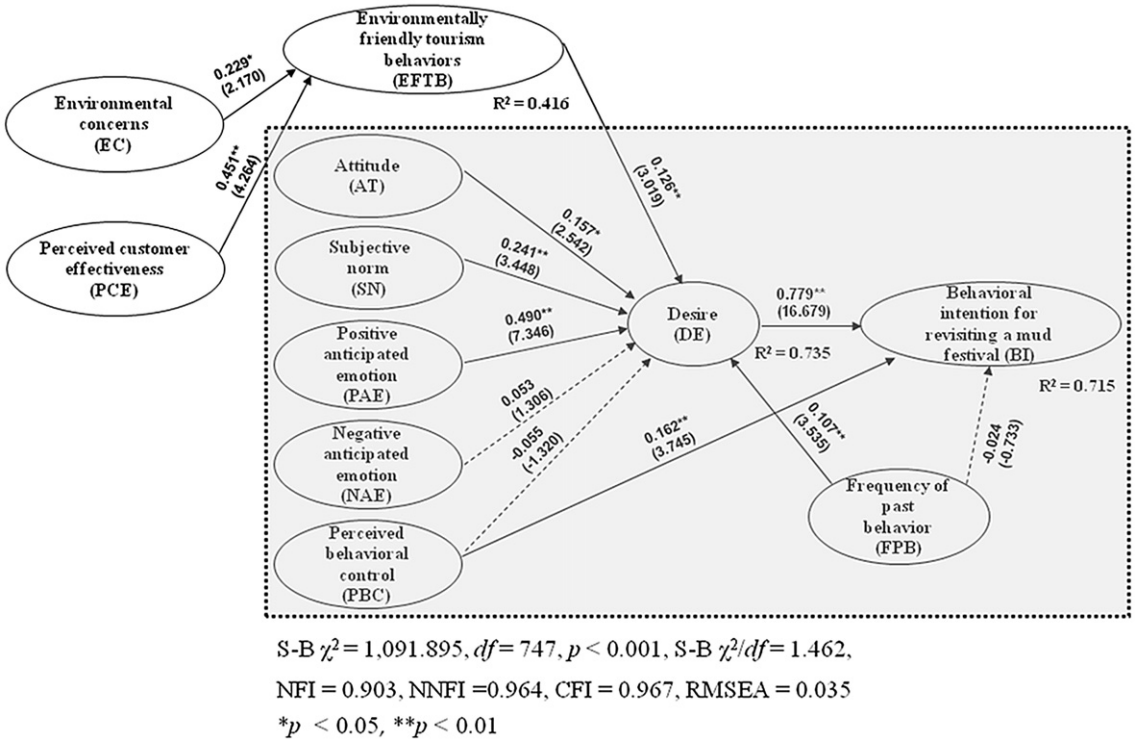

Fig. 4. Results of the extended model of goal-directed behavior. Note: The numbers in the parentheses indicate *t*-values.

Table 5
Results of the structural equation modeling.

	Direct effect			Indirect effect			Total effect		
	EFTB	DE	BI	EFTB	DE	BI	EFTB	DE	BI
EC	0.229*	–	–	–	0.029*	0.022*	0.229*	0.029*	0.022*
PCE	0.451**	–	–	–	0.057*	0.044*	0.451**	0.057*	0.044*
AT	–	0.157*	–	–	–	0.122*	–	0.157*	0.122*
SN	–	0.241**	–	–	–	0.188**	–	0.241**	0.188**
PAE	–	0.490**	–	–	–	0.382**	–	0.490**	0.382**
NAE	–	0.053	–	–	–	0.041	–	0.053	0.041
PBC	–	−0.055	0.162**	–	–	−0.043	–	−0.055	0.119**
EFTB	–	0.126**	–	–	–	0.098**	–	0.126**	0.098**
DE	–	–	0.779**	–	–	–	–		0.779**
FPB	–	0.107**	−0.024	–	–	0.083**	–	0.107**	0.060

*$p < 0.05$, **$p < 0.01$.
Note: EC = environmental concerns; PCE = perceived customer effectiveness; AT = attitude; SN = subjective norm; PAE = positive anticipated emotion; NAE = negative anticipated emotion; PBC = perceived behavioral control; EFTB = environmentally friendly tourism behaviors; FPB = frequency of past behavior; DE = desires; BI = behavioral intention.

two effects forms the total effect, which is more relevant in interpreting the results because it shows all the changes of a dependent variable as one-unit changes in an independent variable. Therefore, the total effect on each dependent variable was examined in this study.

As shown in Table 5, DE is the most powerful antecedent in predicting BI, with the largest total impact (0.779), followed by PAE (0.382), SN (0.188), AT (0.122), PBC (0.119), and EFTB (0.098). In assessing the effect of predicting DE, PAE was the most powerful, with the largest total effect (0.490), followed by SN (0.241), AT (0.157), and EFTB (0.126). In terms of assessing EFTB, PCE (0.451) was a more significant factor than EC (0.229).

5. Conclusions

A festival is a special form of tourism where managers have more control over its planning and development. This unique characteristic indicates that the potential to develop the festival as a sustainable tourism attraction can be maximized when it is planned and designed to contribute to building an environmentally and socially friendly tourism attraction (Kim, Borges, & Chon, 2006). Therefore, well planned and hosted festivals and events can be used as a viable community development strategy.

Little research, however, has been conducted on how an individual's environmentally friendly behavior influences his or her decision-making process in purchasing and consuming tourism products or services in the context of a festival setting. To address this gap, this study employed the EMGB to test to what extent the predictive validity of the antecedents in the MGB can be applied at a nature-based festival setting in Korea. Specifically, the current study explored the influences of visitors' environmental perceptions that may resonate with this study's unique setting, a mud festival, in conjunction with a goal-directed and attitudinal perspective. In other words, the EMGB proposed in this study

synthesized the volitional elements (AT and SN), non-volitional elements (PBC and EFTB), and emotional elements (PAE and NAE) collectively to propose a decision-making mechanism among the nature-based festival attendees. In summary, this study demonstrated the critical role of the EFTB in that it has a positive effect on DE, which is also a significant mediating variable bridging between other antecedents and behavioral intention.

In terms of hypothesis testing, among the antecedents in the EMGB, DE was the most significant impetus in predicting intention, which is consistent with what other studies have reported (e.g., Bansal & Taylor, 1999; Lee et al., 2012). Only the NAE and PBC were insignificant variables among others affecting the mediating variable, DE. The insignificant relationship between NAE and DE is inconsistent with what was reported in the previous studies (Lee et al., 2012; Perugini & Bagozzi, 2001). This finding may suggest that, in a nature festival setting, PAE was a more significant antecedent than NAE in influencing one's desire formation. The emotional delights of being able to attend the mud festival exerted a significant impact in forming one's desire, whereas emotional disappointment for not being able to go to the festival had little impact on one's desire formation.

In addition, the insignificant relationship between the PBC and DE is also worth noting because the PBC has been known to be a simultaneously significant antecedent to DE and BI (Ajzen & Madden, 1986; Park & Petrick, 2009). Ajzen and Madden (1986) enunciated that the PBC could include certain internal factors such as knowledge and planning and external factors such as time and opportunity. Some researchers distinguished the PBC into two elements, perceived control and self-efficacy. Park and Petrick (2009) used the term 'constraint' to denote the PBC concept. Therefore, future studies need to employ different or broader definitions of PBC to validate this study's results.

As for the effects of the FPB on DE and BI, the FPB was only significant in affecting the DE, not the BI. This finding may be ascribed to the fact that visitors with previous experiential tourism activities similar to a mud festival are more likely to develop desire – or motivation – to seek out a similar experience than those without an experience. This similar result was also reported recently in Kaplanidou and Gibson's (2010) work that past behavior/experience with an event was not necessarily a predictor of intention to participate again. These positive and significant relationships among FPB, DE, and BI can shed light on how to promote festivals based on the attendees' visit status. Therefore, this finding can be used as an important marketing cue for the festival planners and organizers to target both first-time visitors and repeat visitors. First, the festival can be advertised as a unique event that everybody wants to experience, emphasizing the "novelty" of experiences such as the mud pool and mudflat skiing to entice first-time visitors. For repeat visitors, the promotional strategies can focus on reminding the visitors of how they enjoyed the previous visit(s) by evoking past memories (e.g., photo or UCC contests) that can serve as a motivation to revisit the festival.

With regard to additionally suggested research hypotheses, all newly tested environmentally conscious perception and behavior constructs formed positive and significant causal relationships as posited. In other words, a consumer's awareness and understanding of ecological problems and environmental concerns can prompt him or her to behave more consciously when purchasing and consuming relevant products and services. Furthermore, the significant relationship between the EFTB and DE is noteworthy in that nature-based festivals such as the mud festival in this study can target tourists who have practiced environmentally conscious behaviors and evoke their desire to participate in such a niche festival event. Theoretically, the importance of including relevant and critical variables when developing and extending a theory in the realm of the consumer decision-making process was also proven to be reliable and valid in this study. These results are aligned with previous studies by confirming the significance of environmentally conscious variables in customers' decision-making processes (e.g., Kim & Han, 2010; Laroche et al., 2001; Paco & Raposo, 2009; Roberts, 1996; Straughan & Roberts, 1999). In the nature-based festival context, one's concerns about ecological problems and the perceived effectiveness of environmentally friendly endeavors can encourage environmentally friendly tourism decision-making when visiting the same type of festival. Based on this study's findings, the stakeholders of the Boryeong Mud Festival may address the seriousness of environmental degradation and problems to current and potential festival visitors and to demonstrate the positive awareness created by visitors' environmentally friendly actions and efforts. Additionally, the festival organizing committee may consider initiating some environmental campaigns to encourage visitors to make a donation toward tidal flat conservation during the festival.

Promoting the mud festival as an environmentally conscious nature festival in Korea will educate potential visitors on the appreciation of environmental preservation and further develop the attendees' environmentally conscious behaviors. As Kim et al. (2006) stated, the environmentally friendly image of a city could lead potential visitors to exhibit more environmentally benign or conscious behaviors at the destination. In summary, these endeavors could be expanded into visitors' daily lives in the form of more eco-friendly activities.

In this study there are some research limitations that might be addressed in future studies. First, the results of the current study may not be generalized to other nature-based festivals because data from this study were collected from only one nature-based festival in Korea. Therefore, additional research using the EMGB in other nature-based festivals is recommended to generalize the findings from this study. Since nature-based festivals have expanded rapidly, cross-cultural studies with different geographical locations would also be useful in enhancing external validity. Second, this study successfully expanded the original MGB in a nature-based festival setting by including eco-friendly consumption constructs. Additionally, future researchers may include more important variables not considered in this model when explaining the festival visitors' intention formation process. Thus, future studies are required to incorporate additional critical constructs in order to understand more clearly visitors' eco-friendly decision formation.

Appendix. Supplementary data

Supplementary data related to this article can be found online at doi:10.1016/j.tourman.2012.01.004.

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