Environmentally Responsible Behavior in National Forest Trails

Subjects: Hospitality, Leisure, Sport & Tourism | Environmental Studies | Behavioral Sciences
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Tourism has been developing rapidly and causing various effects on ecological environment around the world. The impact of forest hiking trails is of particular importance, as they pass through natural areas with greater ecosystem diversity, such as mountains and forests. Therefore, enhancing tourists' environmentally responsible behavior (ERB) on forest trails has become an important issue to be addressed. Scholars have applied different theories to study ERB, including the theory of planned behavior (TPB), attitude behavior context theory, the norm activation model (NAM), and value belief norm theory (VBN). The extant literature on ERB can be categorized into two primary perspectives, namely, rationality- and morality-based approaches.

Keywords: environmentally responsible behavior ; intention ; theory of planned behavior ; norm activation model ; trail tourist

1. Introduction

In recent decades, tourism has been developing rapidly and causing various effects on ecological environment around the world [1][2][3][4][5][6][7]. The impact of forest hiking trails is of particular importance, as they pass through natural areas with greater ecosystem diversity, such as mountains and forests. The mountain terrain is particularly precarious with a more fragile ecological environment, where it is more difficult to collect and transfer litter [8][9][10][11][12][13]. Prior research has reported that tourist hiking activities in trails can cause irreversible environmental damage to the surrounding areas [8][14][15][16][17][18]. Therefore, enhancing tourists' environmentally responsible behavior (ERB) on forest trails has become an important issue to be addressed [14][15][18][19][20][21][22].

Scholars have applied different theories to study ERB, including the theory of planned behavior (TPB) [14][15][23][24][25][26][27][28], attitude behavior context theory [29][30], the norm activation model (NAM) [3][28][31][32][33][34], and value belief norm theory (VBN) [14][35][36]. The extant literature on ERB can be categorized into two primary perspectives, namely, rationality- and morality-based approaches [21][32][37]. Researchers use the rational-choice model to analyze ERB, represented by TPB [22][38][39]. In contrast, other scholars argue that ERB is primarily influenced by morality, and they typically adopt NAM as the theoretical foundation [22][40][41][42]. Despite the different approaches, limited research has been conducted to examine the rationality and morality models comparatively regarding tourists' ERB.

In addition to the theoretical inconsistency, little research has examined trail tourists' ERB, particularly in major destinations such as China [43]. Although China's trail tourists belong to a remarkable segment in terms of size and expenditure, this group has been rarely studied in previous literature [17][43]. Hiking is a popular tourist activity that combines the elements of nature tourism, ecotourism, and adventure tourism. It helps people reduce stress, enhance mental health, and improve quality of life through walking on trails and observing wildlife and sceneries [44][45][46][47]. Most prior studies used traditional tourists as the research object, but trail tourists present unique characteristics. For example, trail tourists are better educated and more environmentally conscious [48]. They value the natural environment and landscape of destinations and support nature conservation [49][50]. Prior research revealed that tourists' past experience predicts their future behavioral intention [28][51][52]; however, trail tourists' ERB, particularly the differences between the beginners and experienced trail tourists, are yet to be explored.

2. Rationality and ERB

The Theory of Reasoned Action (TRA), proposed by Ajzen (1985), explains an individual's motivation in his/her cognizant plan/decision to exert efforts in performing a specific behavior. TRA was further extended by Ajzen by adding the "perceived behavior control" variable to form the theory of planned behavior (TPB) [51][53]. TPB proposes that in normal life, an individual's behavior is immediately determined by behavioral intentions, which are influenced by a combination of

three factors: attitude toward the behavior, subjective norm, and perceived behavioral control. First, attitude (ATT) refers to the degree of personal preference for a certain behavior, that is, the individual's feelings about the behavior, including positive and negative feelings. In TPB, attitude is an important factor that affects behavioral intention. Second, subjective norm (SN) refers to the social pressure that an individual feels when he or she behaves in a certain way. In other words, the individual perceives the attitude and opinion of the reference object (e.g., parents, friends, or colleagues) towards a certain type of behavior, which would influence his/her decision to undertake the type of behavior or not. Third, perceived behavioral control (PBC) refers to the degree to which individuals perceive the ease or difficulty when undertaking a certain type of behavior. As TPB has good predictive and explanatory capability in behavioral research, it is widely used in various research contexts across disciplines, including consumers' choice on green hotels [54], pro-environmental behavior [55], tourism behavior [56], residents' environmental complaints [57], and environmental protection behavior [14][15][23][24][25][26][27][28][58][59]. These studies on TPB support that attitude, subjective norm, and perceived behavioral control have positive impacts on behavioral intention. For instance, Hu et al. (2018) [15], Zarei et al. (2020) [14], and Han et al. (2017) [28] revealed the same findings that tourists' attitude, subjective norm, and perceived behavioral control significantly affect their behavioral intention.

TPB adopts a rational decision-making framework; the basic principle of TPB is that an individual, as an economic person, is likely to choose the rational choice with the least effort and the highest benefit [58]. Based on the TPB model, when an action is evaluated as important and valuable by him-/herself or the people around, the individual develops an intention to engage in that action. Researchers propose that trail tourists tend to participate in ERB when the benefits outweigh the costs, it is easy to do, or they are being affected by their reference group [36][58][60][61].

3. Morality and ERB

Schwartz proposed the norm activation theory (NAM) [40], in which personal norm is the core factor to form a behavioral intention. NAM has been utilized to explain altruistic environmental protection behavior [28][31][33]. NAM is mainly composed of three elements, including awareness of consequences (AC), ascription of responsibility (AR), and personal norm (PN). First, AC refers to an individual's awareness of certain negative consequences caused by undertaking (or not undertaking) a behavior. Second, AR refers to the individual's sense of responsibility for the negative consequences. Third, PN represents people's fulfillment of moral obligation by taking or avoiding certain actions [36][62]. In environmental behavior studies, when people are aware that not performing environmental behavior would cause negative impact on the environment or on others (AC), and they attribute the negative consequences to their own responsibility (AR), they tend to feel the personal moral obligation of conduct, which leads to the individuals' environmental behavioral intention [63].

NAM has been widely adopted to support the link between morality and ERB. NAM is derived from the study of moral decision-making [32], which mainly explains the pro-social and pro-environmental behavior of altruism [37]. NAM proposes that individuals' norms or a sense of moral obligation are essential to encourage individuals' environmental responsibility behavior [59][64], which establishes the close connection between people's moral reasoning and altruistic behavior [65][66]. Recent research analyzes tourists' sense of responsibility and ethical norms of participating in environmental protection behavior [31][32][33][67][68], willingness to pay for carbon [69], and energy-saving behavior [70][71][72]. In the NAM model, the relationships between AC, AR, PN, and BI have been evidenced from previous literature. For instance, the study of Zhang et al. (2016) [31] on predicting Chinses citizens' pro-environmental behaviors revealed that awareness of consequences has a positive influence on citizens' ascription of responsibility and personal norm. Moreover, Wu et al. (2022) [34] also revealed that ascription of responsibility positively affects personal norm, and personal norm positively affects behavioral intention in examining Chinese tourists' environmental behavior at a lake destination.

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