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Sustainable development in nature-based destinations. The social dilemma of an environmental policy

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Abstract

Drawing on value-belief-norm theory and the perspective-taking approach, this paper aims to explain the attitude-behaviour dilemma facing the implementation a pro-environmental action in a nature-based tourist destination. This research seeks to provide a better understanding of the patterns behind a behaviour intention, by focusing on value orientations and awareness of the adverse environmental consequences. Based on a specific pro-environmental policy to foster tourism in the Gili Islands, Indonesia, participants were randomly exposed to three scenarios that might affect their behaviour intention with the destination. The findings revealed that differences can be found in their environmental concern and awareness of adverse environmental consequences as well as in their behaviour intentions subsequent to exposure to different scenarios. The study contributes to the extant literature on identifying cognitive and affective mechanisms that affect behaviour intentions and provides relevant insights for governments and Destination Marketing Organisations to promote a tourist destination implementing a pro-environmental action for a sustainable tourism.

KEYWORDS
attitude-behaviour dilemma, environmental concern, environmental policy, perspective-taking, sustainable tourism, value-belief-norm

1 | INTRODUCTION

Consumers often demonstrate inconsistencies in beliefs, attitudes, and behaviour intentions under a specific pro-environmental action. These inconsistencies exist because pro-environmental actions often present a social dilemma to the consumers (Gupta & Ogden, 2009; Juvan & Dolnicar, 2014; Shepherd et al., 2013; Wu et al., 2013; Wu et al., 2021). Most research has striven to explain this dilemma by employing various theories: the rational choice theory (theory of reasoned action (TRA) and theory of planned behaviour (TPB)), norm theories (norm activation model (NAM) and value-belief-norm (VBN) theory), and the goal-framing theory,

being VBN the framework which has gained more popularity in the last decade.

To date, the value belief norm theory, based on individuals' value orientations has been tested to explain pro-environmental behaviour (Choi et al., 2015; Park et al., 2018). Yet most of the studies have still focused on TPB theory to explain sustainable tourism (Choi et al., 2015). Thus, our study contributes to the tourism and hospitality literature by focusing on the VBN framework for a better understanding of the cognitive structure complexity involved in the decision-making process when deciding to visit and recommend a nature-based destination. Furthermore, the present study strives to overcome some gaps found in previous research.

The main shortcoming is related to the central constructs in the VBN theory. Even though in previous research, environmental concern and awareness of consequences appear treated as interchangeable, the point is they have different meanings affecting their relationship in the causal chain. While awareness of consequences is understood as individuals' beliefs about the adverse consequences of environmental problems, environmental concern refers to an attitude towards environmental issues (Hansla et al., 2008). Thus, the nature of these concepts, beliefs (AC) and attitudes (EC), presupposes that awareness of consequences of environmental problems influence environmental concern and therefore they cannot be treated as interchangeable as occurred in previous studies.

Even though VBN with the NEP awareness of adverse consequences scale has grown in popularity in the 21st century (Denley et al., 2020; Han et al., 2017; Landon et al., 2018), the AC scale as defined by Ryan and Spash (2010) has been insufficiently employed to predict pro-environmental behaviour intention. Furthermore, models using Ryan and Spash's AC scale have not been tested in the tourism and hospitality literature yet. This lack of research leads us to explore the effect of AC on tourist behaviour intention in terms of benefits and costs derived from a pro-environmental action or inaction.

Moreover, in psychology, it is widely recognised how perspective-taking efforts to generate empathy towards nature influence individuals' cognitive representations and therefore their pro-environmental behaviour intentions (Thiermann & Sheate, 2020; Uhl-Haedicke et al., 2019). Batson's Empathy-Altruism Theory on prosocial motivation has clearly revealed that empathy is a strong predictor of altruistic behaviour (Batson, 1994; Batson et al., 1995). From a perspective-taking approach, this study aims to reinforce the interpretation of the cognitive process that leads to a pro-environmental decision by exposing potential tourists to various stimuli that might change their affective reactions and therefore influence their final behaviour.

Based on VBN theory and perspective-taking theory, this study also contributes to the tourism literature by providing an integrated framework to comprehend individuals' cognitive process (attitudes and beliefs) when evaluating a pro-environmental action, while exposed to a perspective-taking, which in turn would influence their behaviour towards a tourist destination.

This study aims to answer the following research questions:

RQ1: do people's environmental concern and awareness of consequences change after being exposed to additional information from different perspective-takings?

RQ2: Does the awareness of adverse consequences and environmental concern influence tourist behaviour intention (visit and recommendation of a nature-based destination)?

RQ3: Does the awareness of adverse consequences influence environmental concern?

RQ4: Do perspective-takings influence the cognitive process that leads to visit intention or recommend a tourist destination?

To address the questions a *t* student test and a variance-based structural equation modelling approach (Partial Least Square-SEM) have been used to test the hypotheses formulated. The findings achieved lead to significant implications for governments and Destination marketing organisations when considering implementing pro-environmental policies and actions to manage tourism destinations and influence tourist behaviour.

2 | LITERATURE REVIEW

2.1 | Value belief norm theory

Theoretical developments in the 1990s were grounded in the value-based theory (Stern et al., 1995; Stern & Dietz, 1994). VBN theory was developed to explain how a range of behavioural indicators explains the pro-environmental intent (Stern, 2000). Stern et al. (1993) recognised that there are three value orientations that serves as guiding principle in life, egoistic, altruistic, and biospheric values that emerged in the individuals or any social entity when evaluating the costs and benefits of a pro-environmental behaviour. Even though the three values are present when assessing a pro-environmental action, individuals with predominant altruistic, egoistic or biospheric values assess the costs or benefits derived from the action predominantly with respect to others, one self, or the biosphere respectively. From VBN theory, two psychometric scales has been conceptualised to measure beliefs and attitudes connected to value orientations: Environmental concern (EC) (Schultz, 2000, 2001) and awareness of environmental adverse consequences (AC) (Stern et al., 1993). The EC scale is based on feelings of interconnectedness and empathy for others, for oneself or for the biosphere. Applications of the EC scale provide empirical evidence that the scale measures the cognitive process leading to a behaviour consistent with the three underlying value orientations (Hansla et al., 2008; Milfont et al., 2006; Snelgar, 2006). In the literature, the EC Scale has been employed to predict behavioural intentions such as political action acceptability and willingness to pay for environmental improvements (Garvill et al., 2003; Nordlund & Garvill, 2003; Steg et al., 2005; Stern et al., 1999).

In the 21st century controversies have arisen regarding the AC Scale as to whether it constitutes a good measure for the three value orientations (Gärling et al., 2003; Snelgar, 2006). In fact, the original AC scale evolved into the scale defined by Ryan and Spash (2010) who noticed that the AC scale measures an alternative cognitive process that explains behaviour in terms of specific beliefs regarding adverse environmental consequences as represented by the benefits or costs of an environmental action and the benefits or costs of an environmental inaction.

Even though, the VBN theory has gained interest in the tourism and hospitality literature the EC scale as operationalised by Schultz has been rarely employed as predictor of sustainable behaviour intention (González-Rodríguez, Díaz-Fernández & Font, 2019). Awareness of adverse consequences construct has been also gained traction to explain sustainable tourism behaviour intention (Denley et al., 2020; Han et al., 2015; Landon et al., 2018; Rahman & Reynolds, 2016). However, the New Environmental Paradigm AC scale has been widely

employed in these studies, and no research applying the AC's scale as operationalised by Ryan and Spash (2010) have been found within the sustainable tourism and hospitality literature.

In addition, Hansla et al. (2008) noticed that although in the literature EC and AC are treated as interchangeable, Schultz's EC scale refers to an attitude towards environmental issues whereas AC refers to beliefs or awareness. Thus, EC should be treated as attitudes that are casually related to values and AC as beliefs. Based on previous works, it might be hypothesised that, first, environmental concern presupposes awareness of the adverse consequences of environmental issues. Second, both AC and EC influence pro-environmental behaviour intention. Third, EC mediates the relationship between AC and behaviour intention.

2.2 | Perspective-taking approach

Discussions about the influence of an induced empathy towards a target by using perspective-taking efforts on observers' cognitive representations emerged in the academic literature in the late twenties (Batson, 1994; Batson et al., 1991). Rooted in Batson's Empathy-Altruism Theory, research into pro-social motivation has clearly revealed that empathy is a strong predictor of altruistic behaviour (Berenguer, 2010; Shen, 2010; Steindl & Jonas, 2012). Empathy is generally defined as the ability to take another's perspective leading to an emotional response consistent with the perceived welfare of others, which results in putting the interest of others before one's own self-interest (Batson et al., 1995; Galinsky et al., 2005). By extending Batson's Empathy-Altruism Theory to include environmental problems, empathy is understood as the capacity to be engaged with nature, which leads to the development of biospheric environmental concerns (Berenguer, 2010; Schultz, 2000; Schultz, 2002). A well-developed perspective taking encourages people to imagine the affective state of a target, such as others, the environment, or animals. Thus, individuals will be more likely to experience greater sympathy and compassion for the target (Davis et al., 1996; Madera, 2018; Thiermann & Sheate, 2020; Uhl-Haedicke et al., 2019) what in turn would influence both their beliefs and attitudes towards a pro-environmental behaviour. Hence, from the perspective-taking framework can be hypothesised that the different instructions or scenarios to which the participants are exposed might influence beliefs (AC), attitudes (EC) and the casual chain explaining sustainable tourism behaviour (visit and recommend a destination).

2.3 | Hypotheses and hypothesised model

Summarising and based on previous work being exposed to different scenarios to reinforce empathy towards nature might cause a dilemma in individuals when assessing a pro-environmental action in terms of beliefs (AC) and attitudes (EC), and therefore may affect their behaviour intentions (visit and recommend a destination). Hence, VBN theory and the perspective-taking approach constitute the framework to support the formulation of the following hypotheses:

Hypothesis H1. *Significant differences exist between the Awareness of environmental adverse consequences before and after being exposure to perspective-takings (Scenarios 2 and 3).*

Hypothesis H2. *Significant differences exist between the Environmental Concern before and after being exposure to perspective-takings (Scenario 2 and 3).*

Hypothesis H3. *Awareness of adverse environmental consequences influences behaviour intention in the three scenarios (Scenario 1, 2 and 3). (a) Awareness of adverse environmental consequences influences visit intention. (b) Awareness of adverse environmental consequences influences recommendation of a destination.*

Hypothesis H4. *Environmental concern influences behaviour intention in the three scenarios (Scenario 1, 2 and 3). (a) Environmental concern influences visit intention. (b) Environmental concern influences recommendation of a destination.*

Hypothesis H5. *Awareness of adverse environmental consequences influences environmental concern in the three scenarios (Scenario 1, 2 and 3).*

Hypothesis H6. *Awareness of adverse environmental consequences influences behaviour intention through Environmental concern in the three scenarios (Scenario 1, 2 and 3). (a) Awareness of adverse environmental consequences influences visit intention through Environmental concern. (b) Awareness of adverse environmental consequences influences recommendation of a destination through Environmental concern.*

Hypothesis H7. *There are significant differences in the relationship between awareness of adverse consequences and behaviour intention across the three scenarios. (a) There are significant differences in the relationship between awareness of adverse consequences and visit intention across the three scenarios. (b) There are significant differences in the relationship between awareness of adverse consequences and positive word-of-mouth across the three scenarios.*

Hypothesis H8. *There are significant differences in environmental concern and behaviour intention across the three scenarios. (a) There are significant differences in the relationship between environmental concern and visit intention across the three scenarios. (b) There are significant differences in the relationship between environmental concern and positive word-of-mouth across the three scenarios.*
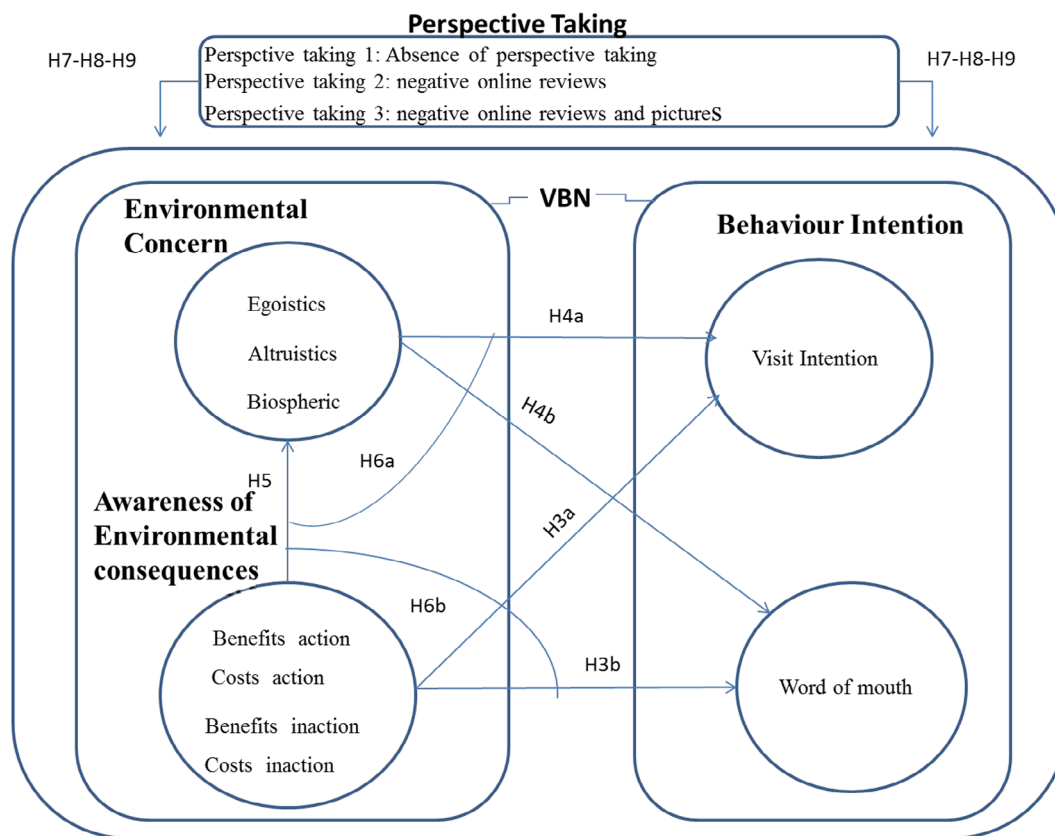
Perspective Taking

H7-H8-H9

Perspctive taking 1: Absence of perspective taking
Perspective taking 2: negative online reviews
Perspective taking 3: negative online reviews and pictureS

H7-H8-H9

FIGURE 1   Research model [Colour figure can be viewed at wileyonlinelibrary.com]

Hypothesis H9. *There are significant differences in the indirect effect of awareness of environmental adverse consequences on behaviour intention through Environmental concern across the three scenarios. (a) There are significant differences in the indirect effect of awareness of environmental adverse consequences on visit intention through Environmental concern across the three scenarios. (b) There are significant differences in the indirect effect of awareness of environmental adverse consequences on word-of-mouth through Environmental concern across the three scenarios.*

Rooted on VBN theory and the perspective-taking approach, the research model is depicted in Figure 1.

3 | METHODOLOGY

3.1 | Participants and design

The target population are potential tourists who have recently travelled. To this end, the screening question for the selection of the sample is: "Have you travelled in the last twelve months?" Data were collated from January to December 2019 using an online questionnaire to be completed via a mobile phone or laptop. The questionnaire

was distributed by using social networks to distribute the online survey (through qualtrics.com) to achieve participants with differences in age, gender, education and nationalities. Anonymity was assured at the beginning of the survey to reduce the number of biased responses (Konrad & Linnehan, 1995). Participants were randomly assigned to one of the three scenarios. In Scenario 1, some pictures and positive online reviews show the beauty of the Gili Islands surroundings. Neither the pictures nor online reviews show any feelings and emotions. In Scenario 2, pictures show horses harmed by being used as a means of transport and the online reviews are characterised by the absence of feelings and emotions, and merely describe the beauty of the islands. In Scenario 3, the perspective-taking is present in both the pictures and online reviews posted. Scenario 3 shows pictures with horses harmed and negative online reviews expressing feelings and emotions about the reviewers' discomfort regarding the animal mistreatment.

Once the records with systematically missing values and incomplete responses were removed, a total of 668 respondents were valid for data analysis. The sample was composed of 224 participants for Scenario 1, 226 respondents for Scenario 2, and 222 participants for Scenario 3.

The design of the questionnaire comprised different blocks. At the beginning of the survey, participants were informed regarding the pro-environmental action in the Gili Islands as follows:

- The Gili Islands (Indonesia) are an archipelago of three small islands: Gili Trawangan, Gili Meno, and Gili Air. The Islands can only

be reached by sea, and are frequented by a variety of fast boats operating various routes from the Islands of Bali and Lombok. The islands are a popular destination for tourists.

- The islands offer huts, hotels, restaurants, and activities for tourists, such as scuba diving, snorkelling, and free-diving due to the abundance of marine life and attractive coral formations.
- **Automobiles and motorised traffic are prohibited** on the islands by local ordinance, and hence the preferred method of transportation is on foot and by bicycle or by a horse-drawn carriage called a *cidomo*.

Having been informed about the pro-environmental action in the Gili Islands, participants were then asked to rate each item of variables regarding environmental concern and awareness of the environmental adverse consequences. The second part of the questionnaire was an attempt to activate different environmental concern and awareness of environmental adverse consequences by exposing participants to different scenarios based on perspective-taking manipulation. The degree of environmental concern and awareness is expected to change as the individual attains knowledge about the pro-environmental action via pictures and previous experiences posted by tourists. Subsequent to exposure to the scenarios, participants completed questions, which included environmental concern items, and items for awareness of the environmental adverse consequences, both in terms of benefits or costs of leading the pro-environmental action of prohibiting motorised vehicles in the Gili Islands and in terms of benefits or costs of governance inaction. Participants then completed behavioural intention items related to their intention to recommend the destination, and their intention to visit the Gili Islands in a future trip.

Finally, demographic questions that identified the respondents' gender, age, education, and income were included in the questionnaire. The sample comprised 46% males and 54% females. The most populated age group was the youngest group of 18 to 30 years old, with 47% of the sample, followed by the age group of 31 to 50 years old with 42%, and 11% for the eldest group (over 50 years old). University graduates accounted for 20% of the sample, with another 33% still studying for their degrees, and another 37% had successfully completed their secondary education as their highest qualification, and another 10% had lower or no qualifications. The distribution by nationalities was as follows: 41% were from Spain, 38% from the UK, 15% from other European countries, and 6% from the rest of the world.

3.2 | Survey instruments and measures

The measurement instruments for the variables employed in this study were adopted from previous studies and based on validated scales. The constructs environmental concern, awareness of environmental adverse consequences, and behaviour intention, were amended to make them appropriate to the present study. The questionnaire was pilot tested by academics from different fields and professionals in the tourism industry. Minor corrections (regarding comprehensibility, readability, wording, and ambiguity) were made to the questionnaire based on the recommendations received (MacKenzie & Podsakoff, 2012; Podsakoff et al., 2003).

The environmental concern scale was operationalised by Schultz (2000) based on individual value orientations by responding to 12 items related to the egoistic (myself, my lifestyle, my health, my future), altruistic (children, all people, people in my community, future generations), and biospheric (plants, marine life, birds, and animals) dimensions as follows:

> People around the world are generally concerned about environmental problems because of. the consequences that result from harming nature. However, people differ in the consequences. that concern them the most. Please rate the following items from 1 (not important). to 7 (of supreme importance) in response to the question: I am concerned about environmental problems because of the consequences for

The awareness scale has been adapted from Ryan and Spash (2010). Participants were asked to rate the following question: "To what extent you agree with the following statements" in a 7-point Likert scale (1 = strongly disagree; 7 = strongly agree). Statements were related to awareness of consequences which were classified according to Ryan and Spash's (2010) interpretations into four dimensions: benefits derived from a pro-environmental action, cost derived from of a pro-environmental action, benefits from inaction, and cost derived from inaction.

In order to measure behavioural intention, participants were instructed to rate every item using a 7-point Likert scale. Different dimensions of behavioural intentions have been used. *Word-of-mouth* was operationalised with three items adapted from Lee et al. (2010) and from Su et al. (2014). *Intention to visit* was adapted from Han et al. (2010). The measurement items used in this study are summarised in the Appendix.

3.3 | Data analysis

The *t* student test for paired sample means has been applied to test Hypothesis 1 and Hypothesis 2 (Hair et al., 2010). The variable scores for awareness of adverse consequences and for concern before and after being exposed to the scenarios have been obtained by using the Partial Least Squares procedure, since AC and EC are defined as second-order composites.

Partial least squares (PLS), a composite-based structural equation modelling was also the technique chosen to test the hypotheses (Rigdon, 2013; Trinchera & Russolillo, 2010) displayed in the research model (Figure 1). The decision is mainly based on the characteristics of the constructs involved in the research model. The constructs are defined as composites (Rigdon, 2012; Sarstedt et al., 2016), and hence a composite-based method such as PLS should be employed to provide consistent (Rigdon, 2016) unbiased estimates (Sarstedt et al., 2016). Mode B composites are defined by using regression weights, and Mode A composites are defined by using correlation weights to compose the construct (Becker et al., 2013). Hence, the

presence of composites in either Mode A or Mode B in the research model suggests the use of PLS. Furthermore, PLS is suitable when scores of latent variables are used in a subsequent analysis (Henseler et al., 2016), as occurs in the research model. Scores of low-order constructs from PLS estimates are employed in a subsequent analysis to model a multidimensional construct by applying the two-stage approach in PLS-SEM. The use of PLS is justified by the complexity of the research model concerning the relationships established between the variables (direct and mediating effect) and by the aim of conducting Multigroup Analysis (Hair Jr, Hult, et al., 2017a; Henseler et al., 2016) to test for differences in path relationships under different scenarios. The purpose of the research is to ascertain the causal relationships in the research model. PLS is also a proper technique for confirmatory purposes, when the model include constructs defined as composites (Henseler et al., 2016) as occurred in the research model proposed designed on the basis of the Value Belief Norm theory and the Perspective Taking framework In order to conduct the analysis, SmartPLS software (Ringle et al., 2015) was employed.

4 | RESULTS

4.1 | Awareness and concern before and after scenarios

From Table 1, the following results can be observed: no significant differences in the awareness of environmental adverse consequences and environmental concern are observed between before and after exposure to the first scenario (absence of perspective-taking). However, empirical evidence shows significant differences in awareness of environmental adverse consequences and Environmental concern before and after exposure to the second and third scenarios. Hence, H1 and H2 are confirmed.

4.2 | Research model

The assessment of the research model comprises a two-stage procedure (Hair Jr, Hult, et al., 2017a): first, the assessment of the measurement (outer model), and then the assessment of the structural model (inner model).

4.3 | Measurement model

First, a confirmatory composite analysis for the saturated model is conducted to ensure the validity of the composites (Henseler, 2017a) based on the standardised root mean square residual (SRMR) index (Henseler, 2017b). The SRMR for the saturated model for the whole sample is 0.071 (0.073, 0.067, and 0.069 for perspective taking perspective-taking 1 and 2 and perspective-taking 3, respectively). The results reveal that the SRMR values are below the cut-off value of 0.08 (Hu & Bentler, 1999). Hence, the confirmatory composite analysis supports the composite research model.

Second, the assessments of composites A and B are conducted. For composites A, the reliability and validity are analysed. For composite Mode B, the presence of multi-collinearity between the items is also investigated (Hair Jr, Sarstedt, et al., 2017b). The indicators of composite Mode A variables in the three scenarios meet reliability requirements since, in general, the items' loadings are greater than 0.7. Table 2 shows that the composite reliability (CR) is greater than 0.7 and that the AVE of the constructs is over 0.5, and therefore convergent validity is acceptable (Hair Jr, Sarstedt, et al., 2017b).

For the assessment of composites Mode B, the presence of high collinearity between their items is checked. The variance inflation factors (VIF) obtained achieve values lower than 2.87, which indicate no problems of collinearity. Weights for both Mode A and Mode B composites and their significance through bootstrapping procedure (Streukens & Leroi-Werelds, 2016) are also obtained (Table 2).

Table 3 shows that Mode A composites achieve discriminant validity following HTMT85 criteria (Henseler et al., 2015). Thus, Mode A composites differ from the other variables.

4.4 | Structural model

First, the model fit through SRMR of the estimated model is assessed (Henseler et al., 2016). The SRMR for the whole sample achieves a

TABLE 1 Paired sample means test

	Scenario 1			Scenario 2			Scenario 3		
	Composite mean scores	t student	p-value	Composite mean scores	t student	p-value	Composite mean scores	t student	p-value
H1: Awareness_BPT-Awarenss_APT	−0.11	1.098	0.274	−1.669	2.578	0.011	−2.305	3.654	0.000
H2: Concern_BPT-Concern_APT	−0.07	1.873	0.097	−1.939	2.114	0.037	−2.281	3.789	0.000

Note: Awareness_BPT: Awareness of adverse environmental consequences before perspective taking: Awareness_APT: Awareness of adverse environmental consequences after perspective taking. Concern_BPT: Environmental concern before perspective taking. Concern_APT: Environmental concern after perspective taking.

TABLE 2 Measurement model assessment

Constructs/items	PT1			PT2			PT3		
	Weight	CR	AVE	Weight	CR	AVE	Weight	CR	AVE
Awareness before perspective taking Second-order construct composite Mode B		n.a	n.a		n.a	n.a		n.a	n.a
AEC_BA_BPT: Awareness on the benefits of action. Composite Mode A	0.598	0.856	0.545	0.435	0.887	0.619	0.509	0.897	0.533
AEC_CA_BPT: Awareness on the Cost of Action Composite Mode A	0.026	0.793	0.555	0.257	0.805	0.580	0.387	0.815	0.577
AEC_BI_BPT: Awareness on the benefits of inaction Composite Mode A	0.125	0.780	0.543	0.119	0.787	0.556	0.112	0.783	0.550
AEC_CI_BPT: Awareness on the cost of inaction Composite Mode A	0.497	0.801	0.515	0.408	0.780	0.579	0.585	0.880	0.607
Concern previous to perspective taking Second-order construct composite Mode B		n.a	n.a		n.a	n.a		n.a	n.a
ECego_BPT: Environmental concern from egoistic perspective. Composite Mode A	0.386	0.817	0.579	0.374	0.908	0.714	0.372	0.841	0.574
ECsoc_BPT: Environmental concern from a social/altruistic perspective. Composite Mode A	0.373	0.899	0.691	0.372	0.891	0.773	0.349	0.566	0.601
ECbio_BPT: Environmental concern from a biospheric perspective: Composite Mode A	0.376	0.921	0.861	0.412	0.874	0.638	0.440	0.587	0.651
Awareness after Perspective Taking Second-order construct Composite Mode B		n.a	n.a		n.a	n.a		n.a	
AEC_BA_APT: Awareness on the Benefits of Action Composite Mode A	0.466	0.916	0.687	0.470	0.902	0.652	0.371	0.830	0.728
AEC_CA_APT: Awareness on the Cost of Action Composite Mode A	0.170	0.801	0.515	0.354	0.774	0.530	0.474	0.812	0.574
AEC_BI_APT: Awareness on the Benefits of inaction	0.083	0.855	0.663	0.065	0.774	0.503	0.013	0.856	0.666
AEC_CI_PPT: Awareness on the Cost of Inaction Composite Mode A	0.530	0.767	0.503	0.354	0.801	0.530	0.276	0.887	0.715
Concern after Perspective Taking Second-order construct Composite Mode B		n.a	n.a		n.a	n.a		n.a	
ECego_APT: Environmental concern from Egoistic perspective. Composite Mode A	0.345	0.901	0.758	0.318	0.891	0.773	0.166	0.854	0.605
ECsoc_APT: Environmental concern from a social/altruistic perspective. Composite Mode A	0.392	0.789	0.785	0.385	0.884	0.658	0.277	0.789	0.715
ECbio_APT: Environmental concern from a biospheric perspective: Composite Mode A	0.401	0.798	0.802	0.385	0.836	0.576	0.696	0.871	0.781
Visit Intention Composite A		0.871	0.697		0.878	0.715		0.853	0.661
I am willing to visit a tourist destination such as Gili Islands in the future	0.412			0.397			0.357		
I would like to plan a visit to pro-environmental tourist destinations similar to Gili Islands in a future	0.458			0.463			0.387		
I will make an effort to visit pro-environmental tourist destinations instead of conventional tourist destinations in the future	0.316			0.315			0.496		
Word-of-mouth Composite Mode A		0.941	0.843		0.914	0.781		0.897	0.887
I am likely to say positive things about the pro-environmental action undertaken in Gili Islands.	0.373			0.356			0.384		
I would recommend the tourist experience in Gili Islands to friends and relatives	0.392			0.468			0.352		
If my friends were looking for a destination similar to Gili Islands, I would recommend this destination to them	0.325			0.302			0.346		

Abbreviations: APT, after perspective taking; BPT, before perspective taking.

TABLE 3 Discriminant validity. HTMT criteria

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Benefit_action_BPT															
2. Benefit_inaction_BPT	0.26														
3. Benefit_Action_APT	0.587	0.153													
4. Benefit_Inaction_APT	0.297	.117	0.124												
5. Concern_Ego_BPT	0.234	0.238	0.121	0.206											
6. Concern_Ego_APT	0.254	0.159	0.268	0.122	0.663										
7. Concern_bio_APT	0.293	0.113	0.197	0.112	0.418	0.617									
8. Concern_social_APT	0.22	0.103	0.175	0.164	0.528	0.828	0.832								
9. Cost_action_BPT	0.207	0.595	0.18	0.549	0.217	0.154	0.1	0.168							
10. Cost_inaction_BPT	0.806	0.236	0.661	0.287	0.185	0.287	0.281	0.31	0.193						
11. Cost_Action_APT	0.297	0.507	0.415	0.596	0.104	0.165	0.12	0.11	0.978	0.382					
12. Cost_Inaction_APT	0.518	0.147	0.844	0.159	0.121	0.194	0.286	0.258	0.326	0.823	0.407				
13. concern_bio_BPT	0.383	0.155	0.128	0.165	0.546	0.467	0.832	0.656	0.146	0.357	0.145	0.237			
14. concern_social_BPT	0.299	0.318	0.162	0.235	0.673	0.41	0.568	0.739	0.24	0.41	0.188	0.277	0.838		
15. Recommendation	0.254	0.182	0.648	0.094	0.073	0.155	0.086	0.162	0.116	0.519	0.245	0.498	0.091	0.218	
16. Intentiontovisit	0.257	0.201	0.548	0.145	0.087	0.165	0.098	0.187	0.117	0.547	0.251	0.487	0.102	0.154	0.211

TABLE 4 Structural model results

Relationships	Perspective taking 1 PT1	Perspective taking 2 PT2	Perspective taking 3 PT3
	$R^2_{Concern\_APT} = 0.757/ Q^2 = 0.562$ $R^2_{Visit} = 0.447/ Q^2 = 0.292$ $R^2_{wordmouth} = 0.335/ Q^2 = 0.243$	$R^2_{Concern\_APT} = 0.769/ Q^2 = 0.485$ $R^2_{Visit} = 0.357/ Q^2 = 0.261$ $R^2_{wordmouth} = 0.278/ Q^2 = 0.262$	$R^2_{Concern\_APT} = 0.787/ Q^2 = 0.462$ $R^2_{Visit} = 0.349/ Q^2 = 0.256$ $R^2_{wordmouth} = 0.275/ Q^2 = 0.276$
H3a: Awareness_APT→Intention to visit	0.588*** (t = 5.932) [0.392;0.787]	0.420*** (t = 4.17) [0.221;0.619]	0.295** (t = 3.202) [0.113;0.478]
H4a: Concern_APT→Intention to visit	0.347** *(t = 3.334) [0.141;0.553]	0.447*** (t = 3.18) [0.1688;0.725]	0.207** (t = 2.17) [0.018;0.396]
H3b: Awareness_APT→word of mouth	0.573*** (t = 5.87) [0.380;0.766]	0.515** *(t = 4.87) [0.306;0.724]	0.287** (t = 3.22) [0.111;0.463]
H4b: Concern_APT→Word of mouth	0.311** *(t = 4.23) [0.165;0.457]	0.212*** (t = 3.96) [0.106;0.318]	0.198** *(t = 2.11) [0.012;0.384]
H5: Awareness_APT→Concern_APT	0.334*** (t = 2.998) [0.112;0.556]	0.558*** (t = 8.129) [0.422;0.694]	0.567 ***(t = 7.895) [0.425;0.709]
Indirect effects			
H6a: Awareness_APT→Concern_APT→visit intention	0.1537*(t = 2.04) [0.003; 0.228]	0.172*(t = 2.37) [0.028;0.316]	0.117* (t = 2.27) [0.015;0.218]
H6b: Awareness_APT→Concern_APT→ word-of mouth	0.104*(t = 1.994) [0.000; 0.207]	0.118**(t = 2.14) [0.009;0.227]	0.112**(t = 2.18) [0.010; 0.210]

Note: ***$p < .01$; **$p < .05$.
Abbreviations: APT, after perspective taking; BPT, before perspective taking.

value of 0.741 which is below the cut-off threshold of 0.08, as suggested by Hu and Bentler (1999). Likewise, the SRMR for the three estimated models corresponding to the three perspective-takings are of 0.078, 0.081, and 0.077, respectively, which means that the model fit is acceptable for the three perspective-takings. Second, the structural model is evaluated (inner model) by assessing the path coefficients (size, sign, and significance), explanatory power (R^2), and the Q^2 test for the predictive relevance of dependent constructs.

Table 4 shows the path coefficients and the hypothesis testing using 10,000 bootstrap resamples (Streukens & Leroi-Werelds, 2016). From Table 4, subsequent to exposure to the different scenarios, awareness of environmental adverse consequences exerts a significant effect on visit intention ($\beta^{APT1} = 0.588$, p value<0.01; $\beta^{APT2} = 0.420$, p value<0.001; $\beta^{APT3} = 0.295$, p value<0.01) and on word-of-mouth ($\beta^{APT1} = 0.573$, p value<0.01; $\beta^{APT2} = 0.515$, p value<0.01; $\beta^{APT3} = 0.287$, p value<0.01). Therefore, Hypotheses H3a and H4a are confirmed. Environmental concern, subsequent to exposure to different perspective-takings also exert significant effects on visit intention ($\beta^{APT1} = 0.347$, p value<0.01; $\beta^{APT2} = 0.447$, p value<0.01; $\beta^{APT3} = 0.207$, p value<0.05) and word-of-mouth ($\beta^{APT1} = 0.311$, p value<0.01; $\beta^{APT2} = 0.212$, p value<0.01; $\beta^{APT3} = 0.198$, p value<0.05). Hence, Hypotheses H3b and H4b are supported. In order to test the hypotheses of mediating effects, in Table 4, the effect of awareness of environmental adverse consequences on environmental concern is presented for the three scenarios ($\beta^{APT1} = 0.334$, p value<0.01; $\beta^{APT2} = 0.558$, p value<0.01; $\beta^{APT3} = 0.567$, p value<0.01). H5 is supported.

Table 4 also provides the mediating relationships in the model as the product of the coefficients of each of the causal relationships in the mediating chain (Hayes et al., 2011). Based on the two-tailed t test, the indirect effect of awareness of environmental adverse consequences on visit intention through environmental concern is significant for the three scenarios ($\beta^{APT1} = 0.1537$, p value<0.05; $\beta^{APT2} = 0.172$, p value<0.05; $\beta^{APT3} = 0.117$, p value<0.05). Therefore, Hypothesis H6a is confirmed. The indirect effect of awareness of environmental adverse consequences on word-of-mouth through

environmental concern is significant for the three scenarios ($\beta^{APT1} = 0.104$, p value<0.05; $\beta^{APT2} = 0.118$, p value<0.05; $\beta^{APT3} = 0.112$, p value<0.05). Hypothesis is H6b is therefore supported.

4.5 | Multi-group analysis

The non-parametric method, namely Henseler's MGA (Henseler et al., 2009) was employed to test the multigroup analysis (MGA) under the three scenarios for the relationships involved in the model. Moreover, prior to performing the MGA analysis, measurement invariance was tested using MICOM analysis (Hair Jr, Hult, et al., 2017a; Henseler et al., 2015).

Table 5 shows the structural models and results of the MGA. According to Henseler's MGA method, a p-value of the differences between the path coefficients from different perspective-takings either lower than 0.05 or higher than 0.95 indicates significant differences between specific path coefficients across the three scenarios at a 5% level of significance. The results indicate a significant difference in the influence of awareness of environmental adverse consequences on intention to visit across different scenarios, the biggest difference being between perspective-takings 1 and 3 (diff PT1-PT3 = 0.293, p-value = 0.001), followed by the difference between perspective-takings 1 and 2 (diff PT1-PPT2 = 0.168, p-value = 0.037), and the difference between perspective-takings 2 and 3 (diff PT2-PPT3 = 0.125, p-value = 0.045). Significant differences are found in the relationship between awareness and word-of-mouth between perspective-takings 1 and 3 (diff PT1-PT3 = 0.286, p-value = 0.028) and perspective-takings 2 and 3 (diff PT2-PPT3 = 0.228, p-value = 0.031) and perspective-takings 1 and 2 (diff PT1-PPT2 = 0.158, p-value = 0.983). Hypotheses H7a and H7b are therefore confirmed. Significant differences were found in the relationship between concern and intention to visit across perspective-takings 1 and 3 (diff PT1-PPT3 = 0.241, p-value = 0.033), between perspective-takings 1 and 2, (diff PT1-PPT2 = 0.138, p-value = 0.955), and perspective-takings 2 and 3 (diff PT2-PPT3 = 0.102, p-value = 0.045). Hypothesis H8a is therefore

TABLE 5 Multigroup analysis results

	Henseler's MGA								
	Diff PT1-PT2	p-value	Support	Diff PT1-PT3	p-value	Support	Diff PT2-PT3	p-value	Support
H7a: Awareness_APT-→Intention to visit	0.168*	0.037	Yes	0.293*	0.001	Yes	0.125*	0.045	Yes
H8a: Concern_APT→Intention to visit	0.138*	0.955	Yes	0.241*	0.033	Yes	0.102*	0.045	Yes
H7b: Awareness_APT-→word of mouth	0.158*	0.983	Yes	0.286*	0.028*	Yes	0.228*	0.031	Yes
H8b: Concern_APT→Word of mouth	0.099*	0.047	Yes	0.113*	0.038*	Yes	0.014	0.433	No
H9a:Awareness_APT→Concern_APT →visit intention	−0.056	0.687	No	0.001	0.578	No	0.057	0.784	No
H9b:Awareness_APT→Concern_APT →word-of mouth	−0.014	0.357	No	−0.08	0.287	No	0.006	0.374	No

Note: PT1: Perspective Taking 1; PT2: Perspective Taking 2; PT3: Perspective Taking 3. In Henseler's MGA method, the p value lower than 0.05 or higher than 0.95 indicates at the 5% level significant differences between specific path coefficients across two groups.

confirmed. Focused on the relationship between environmental concern and word-of-mouth, significant differences are found between Scenarios 1 and 3 (diff PT1-PT3 = 0.113, p-value = 0.038) and Scenarios 1 and 2 (diff PT1-PPT2 = 0.099, p-value = 0.047). Hypothesis H8b is therefore partially confirmed. On the other hand, there are no significant differences in the indirect effects of awareness of environmental adverse consequences on the behaviour intention (visit intention, word-of-mouth) through concern across different scenarios, and therefore Hypotheses H9a and H9b are not supported.

5 | DISCUSSIONS AND IMPLICATIONS

The findings reveal that both awareness of adverse environmental consequences and environmental concern change after participants have been exposed to additional information regarding the pro-environmental action adopted, such as positive/negative online reviews, pictures of the beauty of the islands, and information on local horse abuse. The greatest differences are observed between Scenario 1 (absence of perspective-taking) and Scenario 3 in which pictures of horses suffering were shown to participants. These findings are consistent with other studies revealing that exposure to pictures of suffering animals induce a high level of empathy in the participants, which in turn renders them more acutely aware of the adverse consequences from an action and strengthens their environmental attitudes (Schultz et al., 2004; Sevillano et al., 2007).

This study shows a positive influence of both environmental attitudes (environmental concern) and environmental beliefs (awareness of consequences) on the visit intention or recommendation of a nature-based destination where a pro-environmental action is being implemented. These findings are in line with previous research. On one hand, and according to previous studies, high awareness of the adverse environmental consequences derived from a pro-environmental action lead to a high sense of responsibility, which causes the individual to develop a moral obligation with nature, which in turn influences their final behaviour (Chen, 2015; Han et al., 2015; Kiatkawsin & Han, 2017; Park et al., 2018). As observed from the model, being aware of the adverse environmental consequences influence significantly the behaviour intention (visit intention and recommendation), and not only through a direct effect but also through the mediating effect via the environmental concern attitudes. On the other hand, our results are consistent with other studies in revealing that personal attitudes, such as an individual's environmental concern, contribute significantly in the decision-making process and therefore affect the behaviour intention (Choi et al., 2015; Huang & Liu, 2017).

Furthermore, significant differences between the relationships AC and behaviour intention (visit intention and recommendation) and between EC and behaviour intention are observed across scenarios (multigroup analysis). The biggest differences in those relationships are observed between perspective-taking 1 (absence of additional information) and perspective-taking 3, in which individuals are exposed to more information based on pictures with evidence of animal abuse and on negative online reviews. As demonstrated in other studies, a higher level of induced empathy is associated with environmental attitudes, awareness of adverse consequences, and behaviour intentions (Berenguer, 2010; Thiermann & Sheate, 2020). Furthermore, from Table 2, the regression weight for the dimension "cost of an action" is higher under perspective-taking 3 than the other perspective-takings, which means that exposure to perspective-taking 3 makes the individual aware not only of the benefits of an action but also of the costs derived from the action. The absence of perspective-taking (Scenario 1), where only the beauty of a nature-based destination is shown, leaves the individual less aware of this dilemma and facilitates any decision to travel. As expected, being less aware of that dilemma leads to a higher willingness to visit and recommend the destination to others, because the costs derived from the pro-environmental action are not highlighted as much as in Scenario 3.

5.1 | Theoretical implications

This paper contributes to the literature in two ways. First, the present paper is an attempt to provide an in-depth explanation of the cognitive process behind tourist behaviour intentions when a pro-environmental action in a tourist destination is attached to a social dilemma. This study thus offers a holistic framework to better describe the complicated relationships between variables in the decision-making process by integrating VBN theory and the perspective-taking approach. The proposed holistic framework has not been explored in the extant literature on tourism. Second, even though VBN theory has recently aroused a growing interest, most of these studies only use the biospheric EC dimension (Choi et al., 2015) or altruistic values (Kim & Stepchenkova, 2020), whereas the present paper uses the three dimension of EC, namely egoistic, altruistic, and biospheric values. Furthermore, this study applies the AC scale by Ryan and Spash (2010), whose interpretation regarding the "awareness of adverse environmental consequences" has hitherto not been applied in the field of travel industry.

5.2 | Managerial implications

The outcomes of this study provide relevant implications for governments and for Destination Marketing Organisations (DMOs) to develop better marketing strategies, such as accurate communication when a pro-environmental action is adopted in a tourist destination to attract tourists. Governments and DMOs have to bear in mind that pro-environmental actions might cause a dilemma for tourists when deciding to visit and recommend a destination due to the growing awareness of environmental consequences when exposed to additional information, which in turn enables potential tourists to assess the benefits and costs derived from the policy adopted. Tourists are exposed to a great amount of information before travelling thanks to online reviews, photos, blogs, and other sources, all of which may make them change their mind. Any destination must assume responsibility for the action adopted, which makes it necessary to previously

analyse whether the implementation of a favourable natural environmental action might cause collateral damage to local communities and animals. In the case where collateral damage is inevitable, the destinations should ensure that this damage is minimised and should show a clear respect for animals and locals. The natural environmental action must be accompanied by actions that allow tourists to compensate for this collateral damage. To promote the destination, DMOs must properly and honestly communicate the pro-environmental action and show it jointly with other actions that support the local economy without causing harm to any animals so that tourists are not inflicted any discomfort during their stay. The three spheres of environmental concern (i.e., egoistic, altruistic, and biosphere values) act jointly in an individual, and hence it is necessary to take all three into account when deciding a pro-environmental action to attract tourists. A tourist destination that accepts responsibility not only for the natural environment but also for animals and communities would enhance positive word-of-mouth to others and increase the tourist visit intention in the long term. Thus, the findings of the study provide knowledge to tourist destinations regarding the negative impacts that may arise from adopting a favourable natural environmental action when the costs derived from said action have neither been analysed nor considered subsequent to its implementation. In this situation, the pro-environmental action could prove counterproductive for the destination.

6 | CONCLUSIONS

Due to the growing concern for the natural environment, insights into tourists' decision-making process regarding whether to visit and/or recommend a destination when a pro-environmental action is adopted in a nature-based destination has become highly relevant for today's travel industry. The paper examined the influence of tourists' environmental concern and their awareness of environmental adverse consequences on their intention to visit or recommend a nature-base destination where a pro-environmental action is implemented and to find out possible differences in the causal relationships established when potential tourists are exposed to different scenarios. This paper contributes to an under-researched stream of literature by exploring how the cognitive mechanism leading to a behaviour intention are influenced by the exposure to different perspective takings. A major aim of this research is to use the extended AC scale based on the benefits and costs derived from a pro-environmental action and the benefits and costs derived from a governmental inaction (Ryan & Spash, 2010), not being used in tourism and hospitality literature so far. A structured survey questionnaire was applied for data collection with 668 valid answers. The results showed that both tourists' environmental concern and their awareness of adverse consequences influence their behaviour intention (visit and recommendation) in the three scenarios: scenario 1 providing pictures and online reviews of the island that show absence of feeling or emotions. Scenario 2 that provides horses harmed pictures but with online reviews characterised by absence of emotions or feelings. Scenario 3 that

provides both pictures and online reviews expressing feelings and emotions on the animal mistreatment. Hence, the biggest differences are observed between perspective-taking 1 (absence of additional information) and perspective-taking 3, in which individuals are exposed to more information based on pictures with evidence of animal abuse and on negative online reviews.

The present paper presents some limitations that constitute an opportunity for future research avenues. The hybrid research model proposed under the VBN theory and the perspective-taking approach may be further developed by identifying clusters of travellers based on their environmental knowledge, environmental sensitivity, and place attachment (Chen, 2015), which would enhance empathy towards the natural environment and might reinforce the role of awareness of the adverse environmental consequences (Ünal et al., 2018). This would help a potential destination develop marketing strategies of a more specific nature.

This paper employs behavioural intention (visit intention and recommendation) rather than actual behaviours. As also recognised in other studies, although behaviour intention and actual behaviour are expected to be highly correlated, there remains a gap between behavioural intention and actual behaviour (Bamberg & Möser, 2007). Hence, future research might include actual behaviour in the model by using panel data (Doran & Larsen, 2016), which in turn may help to identify the most relevant predictors leading to actual behaviours.

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APPENDIX A.

Environmental concern

(Source: Schultz, 2000)
I am concerned about environmental problems because of the consequences for
(*Egoistic items, ECego*)
Myself My lifestyle
My health
My future
(*Social/Altruistic items, ECsoc*)
All people
People in my community
Children
Future generations
Environmental concern for the biosphere (*Biospheric items, Ecbio*)
Plants
Birds
Marine life
Animals

Awareness of environmental adverse consequences
(Source: Ryan & Spash, 2010)
Benefits of action
ACego1: The environmental protection action based on non-motorised vehicles will provide a better tourism experience for my family and me.
ACego2: The environmental protection action will be beneficial to my health during my visit.
ACego3: The environmental protection action based on "no motorised vehicles" will provide me with a clean environment for recreation and having fun during my visit.
ACsoc1: The environmental protection action based on "no motorised vehicles" will benefit not only tourists but also the local community.
ACsoc2: The environmental protection action will help people (tourists and local community) have a better quality of life.
*Cost of action*s
ACego4: The environmental protection action based on "no motorised vehicles" will limit my opportunities to enjoy a variety of tourist experiences during my visit due to the limitation on transportation.
ACego5: The environmental protection action based on "no motorised vehicles" will limit my personal freedom to choose different means of transportation.
ACbio6: Protecting air quality by enacting a "no motorised vehicles" policy will come at the expense of harming animals used as a means of transport (horses).
ACbio7: Protecting the balance of nature by enacting a "no motorised vehicles" policy will come at the expense of harming animals used as a means of transport (horses).
ACsoc3: Protecting air quality by enacting a "no motorised vehicles" policy will come at the expense of interfering with the lifestyle of the local community.
Benefits of inaction
ACsoc4: We do not need to much worry much about the inconvenience caused by motorised vehicles because future generations will be better able to deal with these problems than we are.
ACbio8: While some local plants and animals may have been harmed by air pollution caused by motorised vehicles, it would have little effect over the ecosystem of all three islands.
ACbio9: Claims that current levels of pollution are changing earth's climate and biosphere are exaggerated.
Cost of inaction
ACbio10: Without prohibiting motorised vehicles, over the next several decades, thousands of species will become extinct on the island.
ACbio11: Motorised vehicles threaten wildlife.
ACsoc5: The effects of pollution of motorised vehicles on the island on public health are worse than we realise.
ACsoc6: Pollution generated by motorised vehicles harms the local community and tourists.

Word-of-mouth
(Source: Lee et al., 2010; Su et al., 2014)
I am likely to say positive things about the pro-environmental action undertaken in the Gili Islands.
I would recommend the tourist experience in the Gili Islands to friends and relatives.
If my friends were looking for a destination similar to the Gili Islands, I would recommend this destination to them.

Intention to visit
(Source: Han et al., 2010)
I am willing to visit a tourist destination such as the Gili Islands in the future.
I would like to plan a visit to pro-environmental tourist destinations similar to the Gili Islands in the future.
I will make an effort to visit pro-environmental tourist destinations instead of conventional tourist destinations in the future.