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EXTENDED THEORY OF PLANNED BEHAVIOR TO EXPLAIN ENVIRONEMNTALLY RESPONSIBLE BEHAVIOR IN CONTEXT OF NATURE-BASED TOURISM

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Abstract: Promoting environmentally responsible behavior is important in preventing and reducing the environmental problem. This work focused on particular environmentally responsible behavior (avoiding and reducing littering). The present study extended the Theory of Planned Behavior (environmental knowledge, biospheric value, and positive emotional experience) to identify the factors influencing intended environmentally responsible behavior of tourists visiting nature based destinations in the context of Indonesia. Based on the data collected from 204 respondents through questionnaires survey using purposive sampling approach. The structural equation analysis shows that biospheric value, environmental knowledge, and positive emotional experience have a positive influence on attitude toward behavior. Besides, the result demonstrated that attitude, subjective norm, and perceived behavior control have a significant positive influence on environmentally responsible behavior intention. The findings emphasized that positive emotional experiences have a strongest influence on attitude and perceived behavior control have a strong influence on environmentally responsible behavior. This work contributes to the sustainable development goals and environmentally responsible behavior in tourism behavior literature. Although, some limitations were acknowledged in this work, practical implication and future agenda for research are provided.

Keywords: Environmentally responsible behavior, avoiding littering, Theory of Planned Behavior, positive emotional experience, biospheric value, nature based tourism

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INTRODUCTION

Tourism is one of the largest industries in the world with a market size of 1.54 trillion as of 2020 and estimated to increase to 1.7 million USD in 2021 (Statista, 2021). This sector is considered among the fastest growing industries, and its growth contributes significantly to the economics of the tourism destination (Astina et al., 2021; Naja et al., 2021). The tourism sector provides utmost socio-economic benefits, certainly the existence of the tourism activities deliver advantages for the societies such as job creation and opportunities, infrastructure (Mangwane et al., 2019; Yfantidou et al., 2017; Galindo and González, 2019). Despite the positive contribution of the tourism industry, this sector caused negative consequences to the environment. The cost of the environmental degradation and destruction is unmeasurable. Galindo and González (2019) reported on the tourism and climate change impact that tourism sectors estimated to contribute 8% of the greenhouse gas emission. This industry provoked environmental related issues such as water scarcity, marine and air pollution, waste due to the mass tourism and overconsumption of the natural resource (Arbulu et al., 2017; Clark et al., 2019; Garcés-Ordóñez et al., 2020; Yusuf et al., 2020). Moreover, littering has become a major social and environmental and economic problem for the tourist destination (Brown et al., 2010; Eastman et al., 2013), which causes various problems in different forms. Some studies illustrate that littering in nature based destinations is harmful for the environment in the destination, gives an unattractive image of the destination area, and reflects a negative image of the committee in destination (Ibrahim et al., 2021). In nature-based areas, the increasing number of visitors and tourists are making the area more vulnerable to the negative impact of littering (Brown et al., 2010). Besides the regulation and law enforcement in nature based destinations, numerous studies have attempted to provide an evidence based solution to reduce littering (Plakas et al., 2021). Some measure have been taken worldwide to tackle the littering problem such as social campaign (Brown et al., 2010) (Example: ‘Zero litter Initiative" China (Hu et al., 2019),

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"Minimal Impact Bushwalking" in Australia, "Leave No Trace" USA (Brown et al., 2010), regulation enforcement (Crump et al., 1977), and education (Al-mosa et al., 2017) to target individual changes to engage in environmentally responsible way particular avoiding littering in public area. However, behavioral change requires an understanding of what factors or motives drive the behavior (Al-mosa et al., 2017)**.** Thus, this present study purpose to identify that factors that influence environmentally responsible behavior intention specifically preventing littering (reducing and avoiding littering), to provide an understanding on what factors motivates tourist to avoid littering which is important in shaping appropriate and effective preventive actions to address the environmental problem (Al-mosa et al., 2017; Beeharry et al., 2017).

Littering is a universal socio-environmental problem that has attracted much interest from pro-environmental, social marketing, and tourism research (Almosa et al., 2017)**.** Littering includes the waste and rubbish that is mismanaged and misplaced (Ojedokun, 2015)**.** Hansmann and Scholz (2003) refers to littering to "the careless, incorrect disposal of minor amounts of waste." which include cigarette butts, food packaging, bottles, cans, caps and lids, bags (Sibley et al., 2003; Schultz et al., 2013). Various previous study conducted in protected areas (Brown et al., 2010), public space (Sibley and Liu, 2003), cinema (Hansmann and Scholz, 2003), marine coastal (Beeharry et al., 2017; Garcés-Ordóñez et al., 2020; Portman et al., 2020), beach (Eastman et al., 2013), and national park (Brown et al., 2010; Gao et al., 2021). Although the littering problem is a major issue for developing countries, most of these prior studies were conducted in the developed world leaving the evidence from developing countries scarce (Chaudhary et al., 2021)**.** Environmentally responsible behavior intention refers to the intended behavior of individuals to mitigate the potential negative impact of their action and behavior on the environment (Panwanitdumrong and Chen, 2021). This current study refers to the intended environmentally responsible behavior to the tourists' intention to prevent littering (avoid and reduce littering) when traveling to nature based destinations.

Numerous studies related to environmentally responsible behavior were conducted to understand and tackle this issue. Brown et al. (2010) conducted in Mt Field National Park, Tasmania to examine the influence of communication on tourist behavior to pick up litter. Hu et al. (2019) surveyed 372 tourists visiting Huangshan National Park, China to identify the factor influencing tourist intention toward the ZLI. Ibrahim et al. (2021) conducted an empirical study to test the link among psychological construct and anti-littering behavior with a sample of 303 Malaysian students. Hu et al. (2018) investigated the determinants of behavioral intentions of bringing self-generated litter down the mountain in HNP. This prior evidence shows the relevance of the Theory of Planned Behavior in explaining the environmentally responsible behavior focusing on avoiding and reducing littering. However, the findings were limited to these particular settings and most of the study adopted only psychological factors. Nonetheless, the effort of the prior scholars to integrate personal factors such as incentives, feeling (Panwanitdumrong and Chen, 2021). Consequently, integrating only both personal and psychological factors to explain the intention behavior does not give a sufficient understanding on environmentally responsible behavior related. Specific environmentally responsible behavior such as avoiding littering can be affected by the level of environmental knowledge (Paço and Lavrador, 2017), Environmental value, and emotion (Gautam, 2020; Wu et al., 2020)**.** Further, study on environmentally responsible behavior explained that the type of the destination might influence individuals' behavior, when tourists are visiting a natural setting, a construct related to the environment plays a crucial role (Al-mosa et al., 2017). Evidently, behavior modification is an important natural resource management task (Wagstaff and Wilson, 1988). This research therefore expanded the Theory of Planned Behavior (environmental knowledge, emotional experience, and biospheric value) to explain the tourist environmentally responsible behavior intention (intention to avoid littering) in nature based areas in the context of Indonesian. The research on environmentally responsible behavior intention has gained much attention in the recent year (Eastman et al., 2013). However, this growth remains in the developed countries due to high environmental awareness and concern about the environmental problem (Chaudhary et al., 2021). Despite the fact Indonesia has the second largest amount of coastal waste, and marine waste in the world (the World Bank, 2019)**,** not enough study was done related to this problem. To the best of our knowledge, very few studies have been done to address this issue from a tourist perspective in Indonesian context.

The objective of this research is to identify the determinants of tourist environmentally responsible behavior intention (avoid and reduce littering in nature based destinations) by implementing an extended Theory of Planned Behavior. The work hopes to enrich the body literature of littering behavior in the context of tourism in Indonesia, and provide a conceptual framework based on TPB to explain the tourist intention to avoid littering. We integrated the Biosphere value, environmental knowledge, and positive emotional experience into TPB. In addition, this study aims to provide a practical contribution to the policy maker, destination management, campaign and educator for encouraging tourist/visitor to avoid littering.

LITERATURE REVIEW

Theory of Planned Behavior

The Theory of Planned Behavior (TPB) is one of the most prominent theories that is widely used to understand human behavior and psychology in various disciplines (Bosnjak et al., 2020). TPB was introduced by Ajzen (1991), which is a model developed from the Theory of Reasoned Action (TRA) Ajzen et al. (1974) by adding a non-volitional predictive construct of perceived behavior control. According to the TPB, intention is the best predictor of behavior. The model proposed three non-volitional antecedents that govern behavior intention namely; attitude refers to the favorable or unfavorable, like or dislike and positive or negative opinions on the behavior, subjective norm is the one's perception of the pressure from the social such as friends, family, and peers, and perceived behavior control refers to one's' perception of the capability and ability to engage or act in such as manner (Ajzen, 1991). Interestingly, the Theory of Planned Behavior is flexible by nature which allowed researchers to extend and add an additional predictor into the model (Ajzen, 2011). This theory successfully explains various environmentally responsible behavior; such as specific environmentally responsible behavior, ecological protection, recycling, and of course anti-littering behavior (Abdullah et al., 2019; Fenitra et al., 2021; Nguyen et al., 2017; Wang et al., 2018).

However, the majority of these prior investigations was conducted in developed countries and the implementation of the TPB in explaining littering behavior in Indonesia is relatively new which is still at the early stage (Yuriev et al., 2020).

Attitude and Environmentally responsible behavior intention

Attitude define as "a psychological tendency that is expressed by evaluating a particular entity with some degree" of favor or disfavor like or dislike, positive or negative, and preference or disgust (Hines et al., 1987, Eagly and Chaiken, 2005). The Theory of Planned Behavior argued that attitude is the predictor of intention behavior (Ajzen, 1991). Several studies have highlighted the link between attitude and intention behavior. In empirical study related to environmentally responsible behavior in Tasmanian park visitors, Brown et al. (2010) demonstrated that higher positive attitude towards the behavior leads to intention behavior. Also, Ojedokun, (2015) supported these view, by arguing that increasing positive attitude toward environmentally responsible behavior specifically reduction of littering can leads to a higher intention toward environmentally responsible behavior. With reference to the study Hu et al. (2018) followed by Hu et al. (2019), asserted that attitude enrich littering intention behavior. In addition, in recent year, Ibrahim et al. (2021) examined the link between attitude and anti-littering based on the findings from survey of 303 Malaysian. The result statistically shows that attitude is highly predicted anti-littering intention. Since attitude refers to one's' positive or negative evaluation of acting in a particular manner (Ajzen, 2011). In another word, the higher positive attitude of individual, the higher the intention to engage or perform a particular behavior. Based on the past evidence this study suggested that higher positive attitude leads to higher intention toward environmentally responsible behavior.

Hypothesis 1: Attitude toward entrepreneurship positively influence environmentally responsible behavior intention

Subjective Norm and Environmentally responsible behavior intention

Subjective norm refers to the perceived social pressure (Ajzen, 1991). Hu et al. (2019) define subjective norms as the "perceived social pressures from referents" such as family members, close friends, and peers. Ones' intention to engage in a particular environmentally responsible behavior is increased when they experience strong pressure from the ones who they considered important. Past scholars argued that the subjective norm is an important factor that has an influence on ones' intended pro-environmental behavior**.** Several empirical evidence demonstrated that subjective norm determine intention toward environmentally responsible behavior such as avoiding litter (Hu et al., 2018), picking up litter (Brown et al., 2010), and waste separation (Xu et al., 2017). Moreover, a similar study supported the finding, Hu et al. (2019) investigated the factor determining Zero Litter initiative (ZLI) in Huangshan National park, China, the hierarchical regression analysis demonstrated that subjective norm have a positive influence on intention behavior. This study therefore suggested that stronger the social pressure on tourists, their intention to engage in environmentally responsible behavior increase.

Hypothesis 2: Subjective norm positively influence environmentally responsible behavior intention

Perceived behavior control and environmentally responsible behavior intention

Perceived behavior control (PBC) refers to the perceived ability and capability of an individual to perform a particular behavior (Wang et al., 2021). PCB is associated with the intended behavior (Gautam, 2020). With reference to the Theory of Planned Behavior, perceived behavior control regulates intention behavior (Ajzen, 1991). This positive influence of perceived behavior control on intention behavior empirically supported by various studies in the tourism context. (Lee et al., 2017) asserted that this construct has a strong influence on ecotourism behavior intention. Further, Han et al. (2018) confirm that the tourist intention toward pro-environmental behavior is induced by perceived behavior control. Besides, based on the survey of 546 Chinese tourists, perceived behavior control positively influences tourists' intention to reduce waste (Wang et al., 2021). In addition, in another recent study Panwanitdumrong et al. (2021) demonstrated similar findings, they supported these prior findings with the evidence from 876 respondents in environmentally responsible behavior context in Thailand. Based on the above empirical evidence, this study therefore suggested that higher perceived behavior control increases tourist's intention toward environmentally responsible behavior**.**

Hypothesis 3: Perceived behavior control positively influence environmentally responsible behavior intention

Biospheric Value and attitude

Values are an important factor that shapes individuals' beliefs and pro-environmental behavior (Moon et al., 2017). According to Steg and Groot, (2014) each individual endorses different values which determine intention and it helps individuals to evaluate their choice and decision. Stern (2000) proposed three distinct values that form our beliefs and attitude, namely biospheric value, altruistic value, and egoistic value. Although individuals possess multiple values and these values are associated with belief and behavior about the environment, biospheric value is the most relevant to pro-environmental behavior (Agag et al., 2020; Steg and Nordlund, 2018). Biospheric values reflect the concern of individuals about the nature, ecosystem and biosphere (Han et al., 2017). This type of value encourages individuals to make and evaluate a decision based on the ecosystem and the environment cost. Moreover, when individuals have a strong biospheric value they have a propensity to make a decision that can improve the biosphere, environmental quality and welfare, and behave or engage in a way that can reduce and mitigate the environmental problem (Lindenberg and Steg, 2013). Bouman et al. (2018) stated that this value is the most relevant predictors that influence pro-environmental belief and behavior. Past studies affirm that biospheric value has a positive effect on attitude and pro-environmental behavior intention (Lee et al., 2017; Lee et al., 2021; Smith et al., 2021; Wang et al., 2021). The present study concluded that when the biospheric value of tourists is strong, they endorse a favorable attitude toward environmentally responsible behavior**.**

Hypothesis 4: Biospheric value positively influence attitude toward behavior

Environmental knowledge and attitude

Environmental knowledge allows individuals to make environmentally sound decisions and consumption. Environmental knowledge refers to the general understanding of individuals of the facts, concepts or relationships as regards the surrounding environment and its ecosystems (Fryxell and Lo, 2003). Environmental knowledge is complex, Hu et al. (2018) proposed two distinct categories of environmental knowledge namely environmental theory knowledge (the theoretical knowledge of consequences of the behavior on environment and society) and environmental practical knowledge (the practical know-how to reduce and mitigate the impact of behavior on environment and society). Further, Ünal et al. (2018) claimed that environmental knowledge is multidimensional, namely general environmental knowledge; "general knowledge of the causes and consequences of environmental problems" and specific environmental knowledge; "specific knowledge on the negative consequences of a particular behavior". The present study conceptualized environmental knowledge with reference to Hu et al. (2018) the practical knowledge of tourists to minimize and avoid littering in nature-based destinations. Scholars highlighted that environmental knowledge plays a critical role in shaping individual's attitude, perception and pro-environmental behavior (Janmaimool et al., 2019; Latif et al., 2013; Liobikien˙ et al., 2019; Paço et al., 2017). In the empirical study related to pro-environmental behavior Paço et al. (2017) designed a model to investigate the link between environmental knowledge and attitude. They demonstrated how environmental knowledge shapes individuals' attitude and intention toward pro-environmental behavior, and emphasized that favorable attitude toward behavior increases by the level of environmental knowledge of individuals; this relationship also can enforce intention behavior. Moreover, additional evidence asserted that the influence of environmental knowledge on attitude is positive and significant (Hu et al., 2018; Gautam, 2020; Su-lan et al., 2018). This above evidence concluded that environmental knowledge is associated with attitude. This study therefore suggested that higher levels of environmental knowledge of tourists increase positive attitude toward behavior.

Hypothesis 5: environmental Knowledge positively influence attitude toward behavior

Positive emotional experience and attitude

Emotion has gained much attention in psychology, pro-environmental, consumer behavior, and tourism literature (Hosany et al., 2020a; Hosany et al., 2020b; Hadinejad et al., 2019; Pearce, 2009; Schwartz et al., 2017; Yan et al., 2019) . Several past work study emotions in tourism experience (Hosany et al., 2020a; Hosany et al., 2020b; Liu, 2016; Moyle et al., 2019; Yan et al., 2019), place attachment (Scannell and Gifford, 2017), tourism destination (Abdul Hamid et al., 2020; Akgün et al., 2020), behavior (Akgün et al., 2020; Hosany et al., 2020a), decision (Quartz, 2009), and satisfaction (Prayag et al., 2017). Emotions fundamentally influence various stages of the tourist consumption pattern and vary over time depending on the event and agent. Emotion shapes how tourists perceive their experience and how they interact with the community, nature and within the tourist destination during their trip, and how they value their trip and behave after their traveling time.

Emotion refers to the reflection of the mental state of an individual which is the outcome of the process or evolution of personally pertinent information about the event (Hosany et al., 2020b). Psychological literature proposes three categories of emotions namely dimensional, categorical and cognitive appraisal (Hosany et al., 2020b). Emotions often last short periods which are generally distinct in two categories, positive or negative (Pearce, 2009). Moreover, emotion is divided into clear categories namely positive emotion and negative emotion (Gu et al., 2019). Previous study has focused on positive emotion experiences such as joy, surprise, fun, love (Abdul Hamid et al., 2020; Yan et al., 2019). The positive emotion can either engendered or triggered by the interaction with others during traveling or with the place (Hosany et al., 2020a).

This study mainly focused on basic positive emotional experience which is related to environmental behavior (Verdugo, 2012). According to (Yan and Halpenny, 2019) positive emotion can be referred to as a pleasurable affective state. This work attempts to examine the link between positive emotion experience and environmentally responsible behavior, since positive emotion works as an internal mechanism to approach or continuous actions. When individuals experience more positive emotion they encounter and engage more with their surroundings and become more active (Yan and Halpenny, 2019). Palau-Saumell et al. (2013) found that tourist emotion influences intention behavior. This view was supported by a recent study of (Yung et al., 2021a) who conducted a study on the use of virtual reality in the tourism context, and emphasized that positive emotion experiences have a positive effect on intention behavior. Followed by a similar study by (Yung et al., 2021b) demonstrated that positive emotion that tourists experience by the presence of VR increased their behavior intention. In fact, these relationships often strengthen by attitude, So et al. (2015) debated that attitude can be improved by the emotional state, when individuals experienced positive emotion they will show more favorable attitude. Evidence by Yan et al. (2019) affirm that emotion is associated with cognitive processes such as evaluation of a given behavior, higher positive emotion will improve attitude. This present study therefore suggested that when tourists' experience more positive emotions their positive attitude toward environmentally responsible behavior will be increased.

Hypothesis 6: positive emotional experience positively influences attitude toward environmentally responsible behavior.

MATERIALS AND METHODS

This empirical study implies cross-sectional research design and used data collected from 204 tourists visiting nature-based destinations in Yogyakarta, Indonesia. Self-administered survey questionnaires were used for data collection using purposive sampling technique. The survey questionnaire consists of three sections; the first section consist of the overview of the purpose of the study and instruction for respondents, the second section contain the respondents' demographic variable including (gender, age, education background, occupation) and the third section included the 7 latent variables

with self-reported behavior and attitude questions. Self-reported behavior was used as it enables researchers to collect information easily and does not consume a lot of time (Hadinejad et al., 2019). The variables were measured with items developed from measurements adopted from previous studies; environmental knowledge (2 items), positive emotional experience (4 Items), biospheric value (3 items), perceived behavior control (4 items), attitude (4 items), subjective norm (3 Items), and environmentally responsible behavior (3 items) Table 2. All items were measured with a five-point Likert Scale range from (1 strongly disagree, 2 agree, 3 neutral, 4 agree, and 5 strongly agree). The SEM Analysis follows two steps first, evaluating the measurement model and the second step is structural model (Fan et al., 2016).

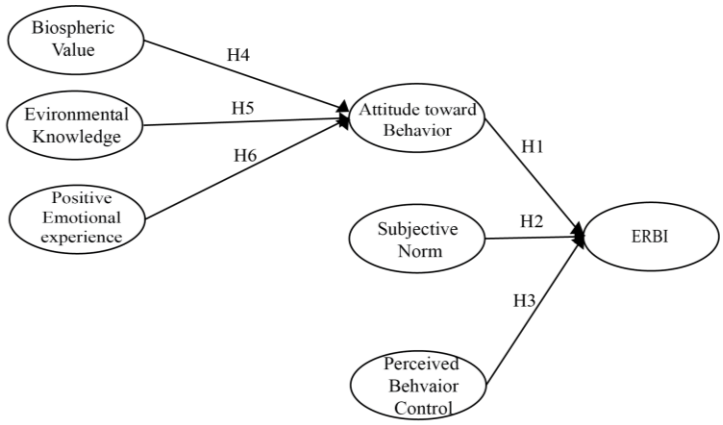

Figure 1. Conceptual Framework

Table 1. Demographic descriptive of the sample (*Note: N; frequency, %; percentage)

Gender	**n**	**%**	**Educational background**	**n**	**%**
Female	131	64.2	High school	28	13.7
Male	73	35.8	Diploma	48	23.5
Total	204	100	Bachelor degree	90	44.1
Age (years old)	**n**	**%**	Master degree	36	17.6
18-25	112	54.9	Ph.D.	2	1.0
26-35	52	25.5	**Occupation**	**n**	**%**
36-45	32	15.7	Student	89	43.6
46 and above	7	3.4	Government	18	8.8
60	1	0.5	Private sector	69	33.8
Travel companion	**n**	**%**	Self-employer	11	5.4
Alone	86	42.2	Other	17	8.3
Group	118	57.8	**Total**	**204**	**100**

Table 2. Measurement and result of CFA (Source: Authors completed CFA with items adopted from Ajzen, 1991; Bronfman et al., 2015; Ciuk et al., 2015; Henk et al., 2018; Hu et al., 2019; Lee et al., 2021; Ojedokun, 2015; Panwanitdumrong et al., 2021; Wang et al., 2020)

Variables and References	Items	Factor Loading	C.R	AVE	α
Biospheric Value (Bronfman et al., 2015; Henk et al., 2018; Lee et al., 2021)	BV1: I believe that everyone must look after the environment	0.941	0.879	0.761	0.638
	BV2: It is important to harmonize with other species in the earth.	0.791			
	BV3: It is important to prevent environmental pollution.	0.879			
Environmental Knowledge: (Hu et al., 2019)	EK1: Avoiding littering can help to reduce the environmental problem and improve the wild animals' welfare.	0.945	0.921	0.838	0.825
	EK2: Reducing littering can help to reduce the air pollution and the hazardous organisms that might be a source of disease.	0.921			
Positive emotional experience (Ciuk et al., 2015; Wang et al., 2020)	PE1: I feel amused with my travel experience	0.813	0.899	0.747	0.901
	PE2: I feel a sense of Joy during my trip	0.788			
	PE3: I feel my trip is interesting	0.919			
	PE4: I feel a sense of happiness	0.93			
Subjective Norm (Ajzen, 1991; Hu et al., 2019)	SN1: People who are important to me think I should reduce littering in nature.	0.84	0.773	0.639	0.781
	SN2: People who are important to me would want me to properly dispose of my litter when traveling.	0.859			
	SN3: People whose opinions I value would wish me to avoid littering in nature.	0.689			
Perceived Behavior Control (Hu et al., 2019; Panwanitdumrong et al., 2021)	PBC1: I am confident that, if I want to, I can do something helpful to protect the environment of this destination	0.823	0.841	0.665	0.812
	PBC2: It is up to me to do something helpful to protect the environment of this destination	0.833			
	PBC3: For me, it is easy to do something helpful to protect the environment of this destination	0.786			
	PBC4: If I want to, I could easily dispose of my litter in a proper way.	0.821			
Attitude toward behavior (Ajzen, 1991; Hu et al., 2019; Ojedokun, 2015)	ATT1: For me, reducing littering when traveling is very beneficial	0.899	0.885	0.725	0.854
	ATT2: For me, disposing litter properly is very meaningful	0.91			
	ATT3: For me, avoiding littering is very Favorable	0.8			
	ATT4: I believe littering is a negative habit	0.791			
Environmentally responsible behavior intention (Ajzen, 1991; Hu et al., 2019; Panwanitdumrong et al., 2021)	ERBI1: I am planning to properly dispose my litter in the near future	0.924	0.863	0.739	0.925
	ERBI2: I will make an effort to reduce littering in the near future	0.96			
	ERBI3: I am willing to properly dispose my litter	0.666			

* Note: C.R= Composite Reliability, AVE= Average Variance Extracted, α= Cronbach Alpha

Statistical Descriptive

Table 1 describes the demographic characteristic of the 204 respondents. The table.1 shows that female respondents dominated 64.2 percent (n= 64.2) of the sample and male represented 35.8 percent (n= 73). Respondents aged between 18-25 years old (n= 112), 26-35 years old (n= 52), 36-45 years old (n= 32), and 46 years and above (n=8). The majority of students have bachelor degree which represent 44.1 percent (n= 90) of the sample. 43.6 percent (n= 89) of the respondents are students, 33.8 percent (n== 69) work in private sector represent, 8.8 percent (n=18) are government employer, 5.4 percent (n=11) of the respondents are self-employer and 8.3 percent (n=17) other.

Measurement Model Testing

Confirmatory Factor Analysis (CFA) was assessed to evaluate the internal validity and reliability of the measure and measurements with factor loading higher than 0.6, Average Variance Extracted (AVE) value exceed 0.5 , Cronbach Alpha higher than 0.6 and Composite Reliability (CR) cutoff value exceed 0.7 (Netemeyer et al. 2003; Hair et al., 2010). The goodness fit of the data represent ($\chi 2$/df = 2.240; GFI = .858; NFI =. 854; TLI = .889; CFI = .912; RMSEA = .078) (Hair et al., 2010). The reliability was assessed with Cronbach Alpha value which must exceed 0.6 (Hair et al., 2011). Table 2 demonstrated that the Cronbach Alpha value range 0.638 to 0.925, means that all constructs used in this model are reliable (Schreiber et al., 2010). Convergent and Discriminant validity described in table 3**,** convergent validity was assessed to evaluate the accuracy of measurement, the factor loadings meets the cutoff proposed by Hair et al. (2010) which ranged from 0.66 to 0.9, the average variance extracted exceed 0.5, the Cronbach Alpha ranged from 0.638 to 0.920 which larger than 0.6, and composite reliability exceed the cut-off value 0.7 (0.773; 0.991) **(**Hair et al., 2010; Nunnally, 1978). Further, discriminant validity is presented in Table 3. The correlation coefficients did not exceed 0.8 except the correlation between PBC and attitude (r= 0.82) and the correlation between knowledge and value (r= 0.841). However the squared roots average of extracted variance were higher than the correlation coefficient, in this case although discriminant validity problem was confirmed, according to Ronkko and Cho, (2020) correlation cutoff value 0.8<UL<0.9 issue is acceptable since it only represents a marginal problem.

Table 3. Discrimination Validity Correlation

	ERBI	PBC	SN	ATT	PE	EK	BV
ERBI	*0.860*						
PBC	0.788	*0.816*					
SN	0.573	0.787	*0.800*				
ATT	0.724	0.82	0.759	*0.852*			
PE	0.482	0.629	0.683	0.641	*0.865*		
EK	0.645	0.762	0.626	0.749	0.506	*0.915*	
BV	0.677	0.719	0.588	0.739	0.476	0.841	*0.873*

*Note. Square Roots of AVE value in Diagonals; ERBI; Environmentally Responsible Behavior Intention, PBC; Perceived Behavior Control, SN; subjective norm, ATT; Attitude, PE; Positive Emotion, EK; Environmental Knowledge, BV; Biospheric Value

Table 4. Structural modeling

Hypothesis		Estimate	S.E.	C.R.	*p-Value*	Hypothesis
H1	ATT>INT	0.34	0.16	2.128	0.033	Supported
H2	SN>INT	-0.352	0.139	-2.54	0.011	Supported
H3	PBC>INT	0.834	0.15	5.551	***	Supported
H4	BV>ATT	0.324	0.143	2.265	0.023	Supported
H5	EK>ATT	0.156	0.054	2.869	0.004	Supported
H6	PE>ATT	0.221	0.043	5.141	***	Supported

*Note; *** =p-value <0.001; R^2 Attitude= 0.46, R^2 Environmentally Responsible Behavior Intention= 0.57; ERBI; Environmentally Responsible Behavior Intention, PBC; Perceived Behavior Control, SN; subjective norm, ATT; Attitude, PE; Positive Emotion, EK; Environmental Knowledge, BV; Biospheric Value, SN; Subjective Norm

RESULTS AND DISCUSSION

Structural model testing

This study examines the factor influencing the tourist littering intention behavior drawing from extended Theory of Planned Behavior. The proposed hypothesis was statistically tested with SEM as it is the most compatible with the present model (Hillman and Neustaedter, 2003). The goodness of fit statistic indicated a good fit (MacCallum et al, 1996; Yadama, 1995) (X2/df = 2.1399, RMSEA = 0.075, GFI = 0.856, AGFI = 0.809, NFI = 0.846, IFI = 0.912, TLI = 0.891, CFI = 0.910). Table. 4 demonstrated that the structural model result as follows: all proposed hypotheses were supported, biospheric value have a positive influence on attitude (S.E=0.143, C.R=2.265, p =0.023), environmental knowledge have a positive influence on attitude (S.E=0.054, C.R=2.869, p=0.004), positive emotional experience have a positive influence on attitude (S.E=0.043, C.R=5.141, p <0.001), attitude have positive influence on intention (S.E=0.16, C.R=2.128, p=0.033), subjective norm have a positive influence on intention (S.E=0.139, C.R= -2.54, p=0.011), and perceived behavior control have a positive influence on intention (S.E=0.15, C.R= 5.551, p<0.001). The structural modeling also demonstrated that the model explained the 57% of variance of environmentally responsible behavior intention. The factors integrated in the TPB explained 46% of the variance of attitude. The structural model results reveal that tourists who have a strong belief toward environmentally responsible behavior intend to reduce and avoid littering when traveling. This finding is similar to the past study (Panwanitdumrong and Chen, 2021)**.** It appears that tourists believe that reducing and mitigating litter in nature-based areas is beneficial and the wise things to do to protect the environment, this belief increases their intention to participate in litter prevention. As a consequence, tourists also will have a propensity to participate in environmentally responsible behavior such as properly dispose of their litter when they feel that this given behavior is favorable.

This study also demonstrated that tourists' environmentally responsible behavior intention is associated with subjective norm. Similar to past study (Panwanitdumrong and Chen, 2021; Fenitra et al., 2021) , this finding shows that tourists are willing to engage in environmentally responsible behavior if the social pressure that expects them to engage in this particular behavior is strong. This work reveal the importance role that social norm on tourist environmentally responsible behavior in context of Indonesian and empirically affirm that in tourist considered subjective norm as an important factors to have influence their environmentally responsible behavior intention. The result is consistent with Fenitra et al. (2020) argued that social norm do have a strong influence on tourists' intention to manage their litter properly when visiting natural areas. The result supported the findings of previous studies that argued that biospheric value has a positive significant influence on attitude (Lee and Jan, 2017)**.** This indicated that when tourists have a strong biospheric value such as concerning the harmony of the other spices and the earth, and preventing the harm on the environment, it would increase their positive attitude toward environmentally responsible behavior. In another word, if tourists have a stronger biospheric value, they would believe that reducing littering and avoiding the impact of litter on the environment is favorable and beneficial.

This study affirms that environmental knowledge has a positive influence on attitude toward environmentally responsible behavior**.** This present finding supported the prior findings of Hu et al. (2018), Gautam (2020), Su-lan Pan et al. (2018) asserting that higher levels of environmental knowledge improve attitude. This means that when tourists understand

that their behavior and action can have an impact on the environment they will have a stronger belief in environmentally responsible behavior. Besides, they would feel that reducing and avoiding littering is an important action to reduce that negative impact on the environment. In other words, if tourists have sufficient knowledge about the cause and consequences of behavior on the environment they would have a positive attitude toward environmentally responsible behavior. Positive emotional experience acts as an antecedents of tourist intention behavior, attitude, satisfaction and perception of the destination image (Prayag et al., 2017; So et al., 2015). The present study confirms that positive emotional experience has a positive influence on attitude which supported the findings of Yan et al. (2019). It appears that when tourists visit nature-based destinations feel happy, excited, and experience positive emotion, they will have a positive reaction toward environmentally responsible behavior. This study reveals that positive emotional experiences have the strongest influence on attitude toward environmentally responsible behavior. The findings also shed a light on the importance of perceived behavior control in the environmentally responsible behavior context. Similarly to past study Lee et al. (2017), among the attitude, perceived behavior control, and subjective norm, this finding revealed that perceived behavior found to have the strongest influence on environmentally responsible behavior intention, this influence is significant and positive. The finding supported the study of Hu et al. (2019) followed by Panwanitdumrong and Chen, (2021). Consequently, the findings explain that when tourists have full control of their behavior and acquire the ability and capability to litter properly or behave in environmentally responsible behavior, they will participate in environmentally responsible behavior to reduce the negative environmental impact in nature-based destinations.

Thus, the present findings concluded TPB framework successfully explained tourist environmentally responsible behavior intentions in the context of Indonesia. All the TPB constructs attitude, subjective norm, and perceived behavior control have a positive and significant influence on tourist environmentally responsible behavior intention. Strengthening these TPB factors can increase tourists 'participation in environmentally responsible behavior. Besides, increasing biospheric value, positive emotional experience, and environmental knowledge can enhance tourist attitude toward behavior. All the proposed hypotheses were supported. The link between the latent independent variables and dependent variables was positive and significant, the positive emotion experience found to have the strongest influence on attitude and perceived behavior control have a strong influence on tourist intention behavior.

CONCLUSION

Indonesia with model drawing from Theory of Planned Behavior to provide. This present work extends the Theory of Planned Behavior (Ajzen, 1991) with an additional construct; biospheric value, positive emotional experience and environmental knowledge. The additional factors play a significant role in shaping environmentally responsible behavior of tourists. The data and measurements implied in this study were relevant and met all validity and reliability criteria, the proposed model to explain environmentally responsible behavior intention was acceptable. Moreover, the result of structural modeling demonstrated that all the proposed hypotheses (H1, H2, H3, H4, H5, and H6) were supported which indicated a positive significant relationship. Moreover, the result of the structural equation model emphasized that biospheric value, environmental knowledge plays a critical role in strengthening the belief about the given/particular behavior, subjective norm and perceived behavior control are vital in enriching intention behavior which have a positive influence on the intended behavior. Thus, increasing tourist intention to engage in environmentally responsible behavior in nature-based areas can help to mitigate the environmental problem. Furthermore, the findings asserted that perceived behavior control had a stronger influence on intention than the other TPB construct (attitude and Subjective norm). Moreover, among the constructs integrated into TPB, positive emotional experience has a stronger influence on attitude rather than biospheric value and environmental knowledge. This implies that perceived behavior control is a better predictor of environmentally responsible behavior and positive emotional experience is best predictor of attitude.

This empirical study provides insight and understanding on Tourist environmentally responsible behavior in nature-based destinations. This study is one of the few studies conducted in context in a developing country, Indonesia. This framework extended the understanding and offered a critical insight for tourism research particularly in environmentally responsible behavior and managers in nature-based destinations so they can identify the factors that determine tourist environmentally responsible behavior intention. First, this work thus contributes to the tourism literature on the theoretical framework of environmentally responsible behavior in the context of developing nations which is scarce. Work on this particular issue is lacking in developing countries particularly in Indonesia, thus this work provides an insight related to environmentally responsible behavior. Second, these findings also provide a practical implication. According to the result, perceived behavior control has a strong influence on tourist environmentally responsible behavior, thus practitioners should increase this factor to have a higher intention behavior to engage in littering prevention from tourists. This empirical evidence demonstrated that environmental knowledge enhances attitude. Thus besides providing a better experience for tourists, nature-based destinations also should aim to increase tourist environmental knowledge through education (Eastman et al., 2013). Increasing tourists' knowledge about the environment through different channels including environmental educational programs, activities and campaigns can increase their belief toward environmentally responsible behavior. Consequently, they would litter properly and mitigate the impact of their behavior if they have competences on the cause and consequences of their behavior and its impact on the environment. Concluded that environmental education is one of the most effective ways to reduce the littering impact in natural areas (Eastman et al., 2013).

Despite the contributions of this study few limitations were acknowledged. The limitations are related to the model, constructs, measurements, and the methodology. The variable environmental knowledge, biospheric value, and positive emotional experience are complex and abstract, measuring these variables with self-reported measurement does not give sufficient and relevant information for the objective of this study. Thus, future researchers are encouraged to conduct an

observational or experimental study to gain a better understanding of these constructs. This study also limited to evaluating the formation process of tourist environmentally responsible behavior intention, specifically reducing littering. Thus further study examining this process should extend to how environmentally responsible behavior intention actually translated to environmentally responsible behavior. Future work also should further extend to different types of environmentally responsible behavior (i.e. nature protection, recycling, and picking up trash). The present work was conducted in a nature-based destination in Indonesia, Thus the findings are limited to this particular setting. Future research suggested measuring and implementing the study in different settings and different types of destinations which would broaden our understanding. Furthermore, this work employed self-reported behavior, which can be limited to capture the respondents emotional intensity and retrospective reflection of emotions which might be distorted and non- representative (Hadinejad et al., 2019). The technique used and measurement also could not give a full understanding of value, and knowledge accurately. Hence, this work strongly suggested observation and longitudinal studies to provide full comprehension on this issue.

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