Journal of Ecotourism

ISSN: 1472-4049 (Print) 1747-7638 (Online) Journal homepage: https://www.tandfonline.com/loi/reco20

A structural decompositional analysis of eco-visitors' motivations, satisfaction and post-purchase behaviour

Issahaku Adam, Charles Atanga Adongo & Francis Eric Amuquandoh

To cite this article: Issahaku Adam, Charles Atanga Adongo & Francis Eric Amuquandoh (2019) A structural decompositional analysis of eco-visitors' motivations, satisfaction and post-purchase behaviour, Journal of Ecotourism, 18:1, 60-81, DOI: 10.1080/14724049.2017.1380657

To link to this article: https://doi.org/10.1080/14724049.2017.1380657

JOURNAL OF ECOTOURISM
2019, VOL. 18, NO. 1, 60–81
https://doi.org/10.1080/14724049.2017.1380657

Routledge
Taylor & Francis Group

A structural decompositional analysis of eco-visitors' motivations, satisfaction and post-purchase behaviour

Issahaku Adam, Charles Atanga Adongo and Francis Eric Amuquandoh

Department of Hospitality and Tourism Management, University of Cape Coast, Cape Coast, Ghana

ABSTRACT

A series of studies have demonstrated the relevance of visitors' motivation, satisfaction and post-consumption behaviour to sustainable management of attractions, but existing knowledge on the intricate causal relationships among these issues in the context of eco-tourism is limited. Using data from 342 visitors to the Kakum National Park in Ghana and a structural equation modelling approach, this study advances understanding of the intersecting relationships, both at aggregate and at disaggregate levels, among eco-visitors' motivation, satisfaction and future behaviour. The ensued results not only confirm but also offer unique insights into the hypothesis that specific expectations, which are mirrored in travel motivations, matter to specific satisfaction evaluations with consumptions experiences and downstream effects on future behaviour. However, these causal relationships are not uniform after controlling for eco-visitors' sex, educational attainment and marital status. Implications of the results to theory and sustainable practice in eco-tourism settings have been discussed.

ARTICLE HISTORY
Received 11 August 2016
Accepted 5 September 2017

KEYWORDS
Behaviour; eco-visitors; eco-tourism; sustainable tourism; structural equation modelling

Introduction

Insights into tourists' attitude and behaviour are central to product development, the provision of satisfactory experiences and customer relationship management. This has resulted in a plethora of studies (e.g. Crotts, Mason, & Davis, 2009; Ozturk & Hancer, 2008) aimed at providing understanding on both the needs and behaviour of mainstream tourists and specific tourist segments. Concepts such as motivation and satisfaction have been at the forefront of these studies (e.g. Huang & Hsu, 2009; Krider, Arguello, Campbell, & Mora, 2010). In the context of tourism, motivation is understood as the reasons that underlie leisure behaviour while satisfaction is the degree to which one is content with his or her holiday experiences (Beard & Ragheb, 1980; Deci & Ryan, 1985). Travel needs and the extent of fulfilment of those needs at destinations strongly impact tourists' decision-making processes. Viewing motivation as a holiday need, Bansal and Eiselt (2004) posit that tourists select destinations that optimally match their needs and offer the most benefits. On the other hand, satisfaction is conceived as an important measure

CONTACT Issahaku Adam issahaku.adam@ucc.edu.gh Department of Hospitality and Tourism Management, University of Cape Coast, Cafeteria Building, Cape Coast, Ghana

of the outcome of service delivery, which influences future responses towards involved service(s).

While there have been studies (e.g. Chen & Chen, 2010; Chen & Tsai, 2007; Oliver, 2010; Wang, Chen, Fan, & Lu, 2012) on tourists' motivation and satisfaction, these studies have largely been situated among mainstream tourists. Nonetheless, the concepts of motivation and satisfaction relate to human behaviour and for that matter continuously evolve (Chen & Chen, 2010). Accordingly, there is the need for researchers to constantly engage tourists to unearth their incessantly evolving needs and thus track their consumption behaviour to aid product development or improvement. Further, motivation as reflected in desires and needs vary across different personalities and so are expectations (Chen & Chen, 2010; Oliver, 2010). To this end, there is a need to understand the motivations and satisfaction elements of specific tourist segments and not rely on the generic studies on mainstream tourists. Ultimately, a better understanding of eco-visitors' travel motivations and their satisfaction and how those impact their future behaviour can guide the provision of specialized products and services and offer valuable marketing and management insights to hosts and managers of eco-attractions.

Further, there is increasing consensus among researchers that the utility of studies on motivation and satisfaction can be enhanced if analysed in relation to actual and intended consumption behaviour (Chen & Chen, 2010; Wang et al., 2012). Accordingly, tourism researchers (e.g. Chen & Chen, 2010; Chen & Tsai, 2007; Oliver, 2010) have responded by studying motivation and/or experiences in the context of post-purchase behavioural intention (PBI) as a measure of behavioural outcome using indicators such as recommendation to visit or willingness to recommend but rarely both. While knowledge has been advanced on the subject, not much has been studied on the subject in relation to eco-visitors. Previous attempts to study the motivations (e.g. Wurzinger & Johansson, 2006) as well as satisfaction or experiences (e.g. Buckley, 2009; Curtin, 2010; Higham, Lusseau, & Hendry, 2008; Okello & Yerian, 2009) of eco-visitors have rarely been situated within the analytic framework of behavioural outcomes. Similarly, previous efforts (e.g. Buckley, 2009; Curtin, 2010; Higham et al., 2008; Okello & Yerian, 2009; Wurzinger & Johansson, 2006) to understand eco-tourists' motivation and experiences have lacked in their ability to causally model the two concepts nor their downstream effect on behavioural outcomes. This is certainly limiting of the growing body of knowledge on this critical issue and also less informative in answering the question eco-visitors: who are they and what should we really call them? Asked by Dolnicar, Yanamandram, and Juvan (2013), who concluded that there is currently no consensus on who the eco-tourist really is.

Further, despite operationalizing eco-visitors' attitudes and behaviour as multifaceted, previous studies (Chen & Chen, 2010; Wang et al., 2012) have paid less attention in decomposing and causally analysing the motivation, satisfaction and behavioural outcomes of eco-visitors. To understand the complex and continuously evolving client of eco-attractions and provide insightful practical strategies towards their sustainable management, there is a need to unearth the nuances of their travel needs and behaviour. Also, while emerging destinations in Africa, particularly Kenya and Ghana, are increasing the host of eco-visitors due to their relatively high numbers of uncompromised and pristine natural environments and related activities, very little empirical work has focused on this subject. A few studies (e.g. Amuquandoh, 2017; Amuquandoh, Boakye, & Mensah, 2011; Eshun, Adjei, & Segbefia, 2016) in Ghana are not exempted of the limitations

mentioned of previous studies among eco-visitors. Consequently, knowledge on the causal relations (including its interactions effects) between motivations, satisfaction and PBI among eco-visitors in Africa and Ghana is lacking. While Kakum National Park (KNP) remains Ghana's ecological flagship attraction based on the volume of visitors and receipts (Ghana Tourism Authority, 2015), comprehensive studies on the dynamics and complexities of eco-visitors as related to their motivation, satisfaction and PBI are non-existent. Drawing on a sample of eco-visitors to the KNP, this study (1) decomposes the causal relations between eco-visitors' motivation, satisfaction and post-purchase behaviour (PBI); and (2) assesses the structural invariances of such relationships across sex, age, formal educational attainment and marital status of eco-visitors.

Motivation of visitors to eco-attractions

Evidence from consumer research suggests that a product may serve varying degrees of utilitarian functions ranging from social, ego-enhancement, personal to biological needs among others (Curtin, 2010; Lawton, 2012). A review of the literature suggests that motivations of eco-visitors are many and varied and mainly relate to learning (education), appreciation for biodiversity and local culture, social contact and escapism. For example, Eagles and Higgins (1998) regard changes in environmental attitudes, the development of environmental education, and the development of an environmental mass media as three significant motivational factors in the pursuit of eco-based destinations/attractions.

Similarly, Ballantine and Eagles (1994) believe that the prime motivation of eco-visitors is to learn about nature in wild or undisturbed areas. Likewise, enjoying scenery and nature as well as novelty seeking have been found as additional motivators for nature-based visitors (HLA Consultants, 1994; Wight, 1996a). Further, Wood (2002) argues that the main motivations for eco-visitors include observation and appreciation of natural features and related cultural assets while Holden and Sparrowhawk (2002) maintain that the intrinsic motivations for eco-visitors are learning about nature, being physically active and meeting people with similar interests. Both Page and Dowling (2002) and Eagles (1992) confirm that both attractions and social factors play an important role in driving eco-visitors into visiting eco-attractions and destinations. This implies that eco-visitors enjoy the natural environment and equally value their personal development as travel needs. In a similar strain, other researchers describe visiting uncrowded destinations, experiencing remote and unspoiled nature, learning about nature and culture, interacting with native people and participating in physically challenging programmes as the motivations of eco-visitors (Eagles, 1992; Eagles & Cascagnette, 1995; Wight, 1996a).

Relaxation and the need to escape to a relatively quiet and peaceful natural environment have also been cited as one of the motivations of eco-visitors. This implies that eco-visitors are more likely to be motivated to experience natural environments than human-built environments (Wurzinger & Johansson, 2006). Relatedly, Blamey and Braithwaite (1997) argue that eco-visitors tend to travel to natural, unspoilt destinations. Holden and Sparrowhawk (2002) report that relaxation in a natural environment was rated as the most important motivation by eco-visitors in their sample, while Wearing and Neil (1999) found that some eco-visitors travel to satisfy leisure, pleasure and

recreational needs as well as to educate themselves about specific areas' biodiversity and culture. Nevertheless, a complication arises due to the different environments combined with the different perceptions, needs and attitudes of the consumers. To date, this issue is yet to be resolved, and this means that different motivational factors emerge from different studies. Equally, multiple motives may exist for eco-visitors, varying by destination and individual circumstances (Wight, 1996b).

Additionally, Weaver and Lawton (2002) compared the motivation of three tourist groups (eco-visitors, nature tourists and city tourists) who visited the hinterland of Gold Coast, Australia, and report that eco-visitors were more concerned about environmental issues than city tourists and that eco-visitors held similar values to nature-based tourists. This is not surprising given that both eco-visitors and nature tourists described in their sample have the focal point of their visits as nature or eco-based attractions. Despite the varying motivations among eco-visitors, common thematic motives include nature appreciation, education, cultural appreciation and socialization. However, these themes may manifest themselves differently based on some specific attributes of the eco-tourist, attraction or destination of interest. Socio-demographic factors such as sex, age, marital status and formal educational attainment have been resorted to explain these varying motivations.

Visitors' satisfaction with eco-attractions

Tourist satisfaction is an important element since it presents an opportunity to assess how the tourist evaluates the products and services consumed. The evaluation of such tourism products is made against the motivations that drove the tourist action (Buckley, 2009). How satisfied or dissatisfied a tourist is with his or her experience is based on the expectations as shaped by his or her motivations. If the motivations are largely met, the tourist is likely to view his or her experience as satisfactory (Higham et al., 2008). On the contrary, if the services and facilities provided to the tourist do not fulfil his or her desires then the tourist is likely to be dissatisfied with the experience. Satisfaction with eco-experiences is an important behavioural antecedent in both the short and long terms. In this regard, managers of eco-attractions are increasingly realizing the political and economic importance of meeting the needs of their visitors and providing them with memorable experiences (Fletcher & Fletcher, 2003). Such perspective has necessitated a shift from the pure traditional conservation focused approach of eco-attraction management to a hybrid ecological/business approach that has resulted in added attention to the service quality of instrumental attributes such as walking tracks, boardwalks, viewing platforms, safari vehicles, canopy walkways, interpretation and visitor centres that increase the likelihood of satisfying the diverse needs of eco-tourists.

Satisfaction with eco-tourism products, as with other tourism products, is a function of the quality of the touristic setting, and the experiences these settings provide (Fletcher & Fletcher, 2003; Neal & Gursoy, 2008). In establishing tourists' level of satisfaction with a tourism product, the quality of the attraction (including the services) is benchmarked against the motivation for which the visit was undertaken. In this regard, the features of the eco-attraction visited as reflected in its expressive and instrumental attributes are crucial to the delivery of satisfying eco-based experiences. Expressive attributes of the attraction are concerned with the core products that the attraction offers while the

instrumental attributes are facilitators of the core products provided by the attraction (Higham et al., 2008; Uysal, Williams, & Yoon, 2003). With regard to eco-attractions, iconic fauna, flora and surrounding ecosystems are key expressive attributes (Curtin, 2003, 2010) for which the eco-visitor wishes to encounter and thus constitute important elements of satisfaction. Thus, attraction attributes such as wildlife and plant species offered by national parks and protected areas are the locus for visitation and satisfaction among eco-visitors. Other facilities and services provided at such eco-attractions and protected areas are facilitators of satisfaction with the core attributes. Nonetheless, the nature of the satisfaction sought at eco-attractions is not limited to only eco-centric attributes and for that matter eco-visitors may be satisfied with different elements of the eco-attraction (Curtin, 2010).

Typically, eco-visitors exhibit high levels of satisfaction with their eco-based experiences (Buckley, 2002, 2009). Hui, Wan, and Ho (2007) contend that the high levels of satisfaction of eco-visitors with their experiences are evident in the global appeal as well as the transactional attributes of nature-based and cultural attractions. This idea has equally been supported by some studies in other contexts. For instance, 66% of a sample of eco-visitors at New Zealand's Pirongia Forest Park were highly satisfied with their experiences at the Park (Pan & Ryan, 2007). In the same vein, 60% of eco-visitors who visited Kenya's Amboseli National Park were satisfied while only 4% were dissatisfied (Okello, D'Amour, & Manka, 2008). Other studies such as those of Akama and Kieti (2003), and Moscardo (2004) and Okello and Yerian (2009) all pointed to high levels of satisfaction among eco-visitors. Nonetheless, owing to the varied motivations of eco-visitors, their satisfactions equally vary and largely hinge on the desires that led them to visit the eco-attractions. Regardless of the high levels of satisfaction mostly reported in the literature, there is a need to understand the nuances of the varied satisfactions of eco-visitors in the context of their motivations and PBI as set out in this study.

Post-purchase behavioural intention

The seminal work of Gyte and Phelps (1989) which observed that British tourists to Spain showed a renascent intention to return in the future and further recommend the destination to other potential tourists set the stage for studying PBIs in tourism. The concept of PBI is one of the most important surrogates to post-consumption behaviour (Chen & Tsai, 2007; Oliver, 2010). PBI can be defined as the future behaviour commitment to purchase a product/service or link with a provider on all occasions when other alternatives are available (Chen & Chen, 2010; Rundle-Thiele, 2005). Per the reinforcement theory, pleasant outcomes tend to generate positive post-purchase behaviour such as positive word of mouth, willingness to recommend to another potential user and repeat visits, whereas the reverse is largely true of unpleasant outcomes (Chen & Chen, 2010). To reinforce positive post-purchase behaviour, an eco-attraction should ensure that it delivers positive experiences by meeting the motivations of the eco-visitors and thus ensuring their satisfaction (Meng, Liang, & Yang, 2011; Reisinger, 2009).

According to Cronin and Taylor (1992) and Wang et al. (2012), PBI manifests in three ways: revisit intention, recommendation intention and alternative intention. Revisit intention relates to the visitor's future intent to visit the attraction or destination in question. Recommendation intention, on the other hand, pertains to the willingness of the visitor

to recommend the attraction or destination to someone who seeks his or her opinion. Alternative intention, however, relates to the visitor's decision to choose an attraction in question in the near future even when other similar alternatives are available. While studies on PBIs exist, they are mostly scattered and disjointed. In other words, the nuances of post-purchase intentions have usually not been studied and accounted for within the same study population. The literature has overly concentrated on revisit intention as a measure of actual visitation (Wang et al., 2012), while others have mainly centred on the willingness to recommend or positive word or mouth (Wang et al., 2012). Meanwhile, alternative intention has rarely reflected in tourism and especially the eco-tourism literature. In this regard, the relatedness or otherwise of these three measures of PBI among consumers of same tourism product largely remain unestablished. In this study, PBI is operationalized as a tripartite measure: willingness to recommend, revisit intention and consideration of other similar alternatives (Wang et al., 2012). This is considered a superior, reliable and valid approach to gauging PBI compared to single measure approaches.

Structural model

The framework put forward by Yoon and Uysal (2005) is adapted to model the relationship between motivation, satisfaction and PBI in this study. This framework is deemed ideal that provides the underlying thoughts consonant with the objectives of the study. Nonetheless, Yoon and Uysal (2005) conceived just one type of PBI (revisit intention) in the model. As stipulated in this paper, there is a clear distinction between revisit intention and PBI. While revisit intention is one of the specific measures of PBI, the latter is the overall post-future behaviour commitment to purchase a product or service or the link with a product or services on all occasions when other alternatives are available (Chen & Chen, 2010; Rundle-Thiele, 2005).

The model is underpinned on the preposition that tourist visitation to an attraction or destination is based on the individual's motivation. People visit destinations/attractions for varied reasons and so would tend to evaluate their satisfaction with their travel experiences based on these reasons, which subsequently impact their PBI (Yoon & Uysal, 2005). The implicit assumption is that people travel for specific needs and whether they are satisfied or not will depend on whether their travel encounters meet those needs or otherwise. If those needs are met, literature indicates that consumers would develop loyalty towards the destination, which manifests in recommendation, revisitation and non-consideration of other and similar destinations. Based on this, it is posited that there will be a direct positive relationship between motivation and satisfaction obtained at the Park as shown in Figure 1. Ultimately, the level of satisfaction obtained by the individual will inform his/her post-future behaviour, and thus satisfaction will positively influence PBI. In other words, there is a direct causal link between motivation and satisfaction, and satisfaction and PBI, but the relationship between motivation and PBI is indirect with satisfaction as the mediator. Based on similar theoretical underpinning, it is anticipated that specific travel motivations would markedly influence specific satisfaction domains outcomes, which would in turn influence PBI differently. For instance, an individual who travelled for relaxation would be more concerned about the extent to which an ecological setting offered relaxation opportunities and therefore have unique implications for PBI.

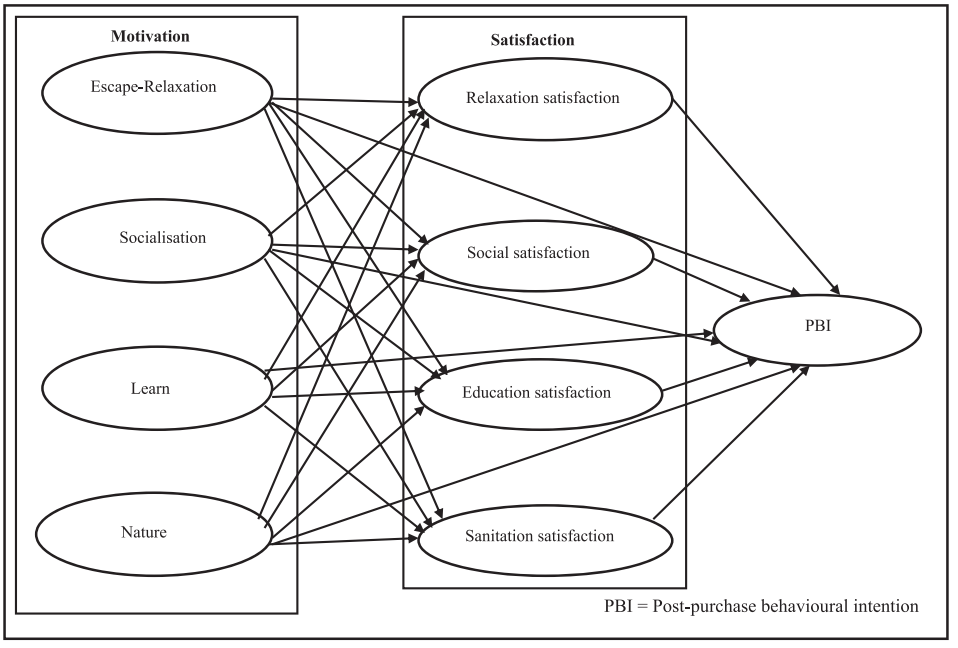

Figure 1. Decompositional model on eco-visitors' motivation, satisfaction and PBI.

Study method

Study setting

The setting for this study is the Kakum National Park (KNP), located in the rainforest of the Central Region of Ghana. The Park was established in 1931 as a reserve and gazetted as a national park in 1992 under the Wildlife Reserves Regulation (LI 1525). It shares boundaries with four political administrative districts, namely Twifo Hemang Lower Denkyira, Assin North, Assin South and Abura Asebu Kwamankese districts. However, the main entrance for visitors to the park is in Twifo Hemang Lower Denkyira district. The Park has a wet semi-equatorial climate with an average temperature of 26°C and rainfall between 1500 and 1700 m annually. The ecosystem comprises important trees like Odum, Mahogany, Silk cotton tree and others. It also serves as a home to some animal species including some of Africa's endangered species such as the leopard, African grey parrot, Giant bongo antelope, Diana monkeys, the Yellow-backed duiker and African elephants (Larson, 1995). In addition, the Park is host to Africa's highest and longest canopy walkway that suspends off the forest's second layer to allow scenic view of the forest. The average number of arrivals is about 200 persons per day with the Park overcrowded during public holidays and peak seasons. Many of the visitors, particularly domestic visitors, are day trippers while their international counterparts are mostly researchers who visit for research purposes. The Park attracts researchers of different backgrounds and interests. The Park equally provides resources for a number of tourism activities such as hiking and camping. Facilities in the Park include car park, an interpretive centre, a reception, a restaurant, public toilets, picnic areas and eco-lodges.

Survey instrument development and design

A three-step approach as suggested by Churchill (1979) was followed to generate the items used in measuring the motivation, satisfaction and PBI of the visitors. The first step involved drawing of potential items from the literature (Beard & Ragheb, 1983; Chan & Baum, 2007; Holden & Sparrowhawk, 2002; Huang & Hsu, 2009; Kwan, Eagles, & Gebhardt, 2010; Rittichainuwat, Qu, & Mongkhonvanit, 2008; Yoon & Uysal, 2005). Some of the resulted items were re-worded to match the context of eco-attractions. The second step involved the use of panel of experts to evaluate the face and content validity as well as the overall quality of the measurement items drawn from the literature. A two set of expert panels was used. The first set was faculty members with research experience in tourist psychology, park management and eco-tourism. Subsequently, the 36 motivation items were reduced to 24 while the 35 satisfaction items were reduced to 29. The second set of experts included tour guides at the two main eco-attractions in the country (KNP and Mole National Park). In tourism service provision, tour guides are one of the categories of front line staff who constantly interact with the visitors and thus deemed to have relevant knowledge of visitors' attitudes and behaviours regarding the issues under consideration. This led to the drop of three additional items from the list of motivation items while two were dropped from the satisfaction items. However, the PBI measured with three items: revisit intention, recommendation intention and alternative intention (Cronin & Taylor, 1992; Wang et al., 2012) were maintained in both reviews.

The third step involved pre-testing of the proposed instrument at the Mole National Park. The Mole National Park is the second most visited eco-attraction in the country after the KNP. The instrument consisted of four sections, which centred on visitors' travel motives, satisfaction, PBI and the respondents' socio-demographics (nationality, country of residence, age, sex, marital status, formal educational attainment, occupation and religion). Aside the socio-demographic characteristics, the remaining variables were measured on a five-point Likert scale, which assessed the extent of respondents' agreement or disagreement. In all, 158 questionnaires were administered in March 2016 for the pre-testing of the instrument. The Exploratory Factor Analysis (EFA) using Principal Component procedure with varimax rotation was used to explore the structure of the motivation and satisfaction scales. Three-factor solution emerged for the motivation element while four-factor solution emerged for the satisfaction element (Table 1). The results indicated that some of the items were poorly loaded while others showed evidence of cross loading and thus were either re-specified or deleted in line with the theoretical thought of the construct. Ultimately, the pre-testing exercise resulted in a final 14-motivation item scale and 16-item satisfaction scale. All the three items meant to measure PBI were, however, retained.

Data collection

A structured questionnaire was used to collect data from 360 conveniently sampled visitors at the KNP. The target population consisted of all visitors 18 years and above. Using an on-site intercept procedure, the selected visitors were engaged after completing their tour of the Park. On the average, respondents spent 10–15 minutes to fill out the questionnaire. Respondents who were unlettered in the English language were not considered as part of the target population. The survey was carried out between July and August 2016. Of the 360 questionnaires administered, 342 were found useful for further analyses based on completeness.

Table 1. Exploratory Factor Analysis on motivation, satisfaction and PBI.

Loaded variables	Loadings	Eigen values	% of Variance explained	Cronbach α
Escape-relaxation		6.02	24.1	0.85
Rest	0.83			
To be emotionally refreshed	0.82			
To be physically refreshed	0.77			
Forget the troubles and worries of life	0.77			
Get away from daily routine	0.77			
Socialization		2.12	18.5	0.85
Interact with people with similar interest	0.87			
Have a sense of belonging	0.85			
Be with others	0.85			
Learning		1.90	15.9	0.70
Learn about the history of biodiversity	0.81			
Learn about plant and animal	0.81			
Increase my knowledge about conservation in Ghana	0.68			
Nature-connectedness		1.44	13.2	0.96
Get close to nature	0.97			
Have a feeling of the tropical forest	0.97			
Experience the canopy walkway	0.92			
Education satisfaction		6.59	20.3	0.84
I learnt about the tropical forest	0.82			
I learnt about plant and animal diversity	0.87			
I learnt from the tour guide	0.80			
The tour focused on biodiversity	0.58			
Social satisfaction		1.68	15.8	0.79
I enjoyed the company of Ghanaians	0.75			
I enjoyed the company of other tourists	0.73			
I had enough time to take pictures	0.61			
The spacing of the tour was good	0.58			
I enjoyed the company of the tour guide	0.57			
Sanitation satisfaction		1.35	15.7	0.78
The park was in good shape	0.82			
The sanitation in the park was good	0.79			
The tour guide was sensitive to the audience	0.55			
The story of the park was complete	0.54			
Relaxation satisfaction		1.09	15.1	0.86
This attraction helped me to relax	0.85			
This attraction helped me to forget about my worries	0.83			
This attraction inspired happiness in me	0.79			
Post purchase behavioural intention		1.02	14.6	0.82
I will visit the park again in the future	0.81			
I will recommend visiting this park to my relatives and friends	0.78			
I will visit this park instead of others	0.83			

Data analyses

Three main statistical techniques, namely the EFA, Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM), were employed to analyse the data. The EFA was used to determine the underlying structure of the dimensions of motivation and satisfaction at the pre-testing phase. Because the measurement items were independently drawn from the literature, it was necessary to first determine the structure of the constructs of motivation and satisfaction (Byrne, 2010). Again, the EFA was meant to select items that are highly correlated with the constructs they sought to measure. The CFA was used to confirm the underlying structure of both the motivation and the satisfaction items retained under the EFA. The technique also helped to determine the factorial validity (both convergent and divergent) of the measurement items that were retained in the EFA. In this regard,

the statistical hypothesis, which indicates that the sample covariance matrix is identical to that of the population covariance matrix, is assessed.

Lastly, the SEM was conducted to validate the structural model that has been set out in this study and by so doing testing the causal relations (hypothesized paths) among the unobserved indicators of motivation, satisfaction and PBI. Both the CFA and the SEM were estimated using AMOS version 18. AMOS is a covariance-based SEM technique. The covariance-based technique is based on maximum likelihood estimation, and thus tends to maximize the iterations in order to find a proper solution for the hypothesized model unlike the component-based SEM techniques which aims at enhancing the predictive value of the model. In the case of this study, the aim was to find a proper solution that will enable the projection of the model in the population rather than merely enhancing the predictive value of the model.

Profile of the respondents

A little more than half (56.1%) of the respondents were females with the remaining being males. The majority (67.1%) of them were not married (never married and ever married), and the modal age was 23 years. About 39% of them were within the age cohorts of 21–30 years and 26.2% within 31–40 years. The youthful nature of the visitors suggests that eco-attractions are increasingly becoming popular among the youth market. Again, this finding may be associated with the fact that Ghana is generally popular among the youth market (Dayour & Adongo, 2015). Ghana has been noted to be popular among young tourists particularly from Europe and North America due to its sandy beaches and tropical climate, which offer additional opportunities for traditional leisure (Adam & Adongo, 2016). Trips to the Park were mainly self-organized (62.2%). The study further established that most (86.7%) of the respondents travelled in groups to the Park (Table 2).

Results of the study

To confirm the structure of the measurement items of motivation, satisfaction and PBI that emerged from the EFA, the CFA was employed (Table 3). The goodness-of-fit indices (CFI = 0.970; NFI = 0.940; IFI = 0.970; RMSEA = 0.050) indicated that the fitness of the model was adequate (Byrne, 2010). Table 3 also indicates that convergent validity of the measurement items was attained given that all the loadings exceeded the recommended threshold of 0.50 (Kim, Woo, & Uysal, 2015). Further, discriminant validity was attained as none of the constructs correlated higher than the square root of its AVE (average variance extracted) (Table 4), therefore suggesting that each construct shared more variance with its items than it did with other constructs.

Structural model

The results of the overall model (Table 5) indicate that motivation has a significant positive relationship with satisfaction ($\beta = 0.810$; $\rho < 0.010$) and between satisfaction and PBI ($\beta = 0.511$; $\rho < 0.010$). Though positive, the relationship between motivation and PBI was not significant (Table 5). Owing to the caveat identified in the literature, there was a need to assess the relationships between the various motivational and satisfaction constructs and their

Table 2. Profile of the respondents.

Profile	*N*	Percent
Sex		
Male	150	43.9
Female	192	56.1
Age (years)		
≤20	48	14.1
21–30	133	39.0
31–40	90	26.2
41–50	38	11.0
≥51	33	9.7
Marital status		
Never married	191	55.9
Married	113	32.9
Ever married	38	11.2
Religion		
Atheism	90	26.3
Christianity	201	58.8
Islam	30	8.9
Judaism	21	6.0
Educational attainment		
High School certificate	151	44.2
Bachelor's degree	167	48.7
Postgraduate degree	24	7.1
Continent of origin		
Africa	45	13.2
North America	103	30.2
European	169	49.3
Australasia	25	7.3
Group travel		
Yes	297	86.7
No	45	13.3
Travel arrangement		
Self	213	62.2
Non-self	129	37.8

ultimate impact on the PBI of the eco-visitors as hypothesized. This was to allow for a more in-depth appreciation of the nature of causal relations between the various motivation, satisfaction and PBI constructs, and thus adequately inform issues of management and marketing of eco-attractions and further inform literature since a decomposed testing of these relationships appears lacking in previous studies on eco-visitors. The results (Table 6) indicate a direct relationship between escape relaxation and satisfaction with relaxation ($\beta = 0.576$; $\rho < 0.010$) likewise socialization and satisfaction with socialization ($\beta = 0.156$; $\rho < 0.010$). Nevertheless, some of the paths were not significant. These include the path from socialization to relaxation ($\beta = 0.032$; $\rho > 0.050$); nature connectedness to educational satisfaction ($\beta = -0.055$; $\rho > 0.050$); learn to post-behavioural intention ($\beta = 0.069$; $\rho > 0.050$) and nature connectedness to behavioural intention ($\beta = -0.057$; $\rho > 0.050$).

Multi-group invariance test across sex, age, marital status and educational attainment

Tables 7–9 show the results of the multi-group invariance test across sex, age, marital status and formal educational attainment. Except for the invariance test across marital status, the other tests did not record statistically significant changes in their chi-square values between the constrained and unconstrained models (Table 7). Nonetheless, there

Table 3. Confirmatory Factor Analysis on motivation, satisfaction and PBI.

Constructs and indicators	β	CR[a]	AVE[b]
Escape-relaxation		0.906	0.66
Rest	0.84		
To be emotionally refreshed	0.79		
To be physically refreshed	0.80		
Forget the troubles and worries of life	0.82		
Get away from daily routine	0.81		
Socialization		0.89	0.89
Interact with people with similar interest	0.83		
Have a sense of belonging	0.94		
Be with others	0.78		
Education		0.91	0.76
Learn about the history of biodiversity	0.79		
Learn about plant and animal	0.95		
Increase my knowledge about conservation in Ghana	0.87		
Nature-connectedness		0.93	0.81
Get close to nature	0.95		
Have a feeling of the tropical forest	0.98		
Experience the canopy walk way	0.76		
Educational satisfaction		0.92	0.73
I learnt about the tropical forest	0.89		
I learnt about plant and animal diversity	0.87		
I learnt from the tour guide	0.81		
The tour focused on biodiversity	0.85		
Social satisfaction		0.92	0.71
I enjoyed the company of the tour guide	0.84		
I enjoyed the company of Ghanaians	0.87		
I enjoyed the company of other tourists	0.86		
The spacing of the tour was good	0.79		
I had enough time to take pictures	0.84		
Sanitation satisfaction		0.92	0.74
The tour guide was sensitive to the audience	0.79		
The story of the park was complete	0.88		
The park was in good shape	0.89		
The environment was clean	0.87		
Relaxation satisfaction		0.86	0.67
This attraction inspired happiness in me	0.84		
This attraction helped me to forget about my worries	0.82		
This attraction helped me to relax	0.80		
Post-purchase behavioural intention		0.91	0.77
I will visit the park again in the future	0.91		
I will recommend visiting this park to my relatives and friends	0.87		
I will visit this park instead of others	0.85		

[a]Composite reliability.
[b]Average variance extracted.

Table 4. Inter-construct correlation and square root of AVE.

	ER	SO	E	NC	ES	SS	S	RS	BI
Escape-relaxation (ER)	(0.55)								
Socialization (SO)	0.47	(0.64)							
Education (E)	0.25	0.34	(0.64)						
Nature-connectedness (NC)	0.17	0.14	0.27	(0.53)					
Education satisfaction (ES)	0.26	0.39	0.38	0.10	(0.58)				
Social satisfaction (SS)	0.35	0.40	0.25	0.21	0.53	(0.56)			
Sanitation satisfaction (S)	0.25	0.29	0.30	0.30	0.55	0.52	(0.66)		
Relaxation satisfaction (RS)	0.65	0.37	0.25	0.22	0.40	0.54	0.40	(0.62)	
Behavioural intention (BI)	0.25	0.36	0.24	0.07	0.37	0.42	0.34	0.34	(0.64)

Note: Value in parenthesis is the square root of the AVE of the construct.

Table 5. Direct relationships between motivation, satisfaction and PBI.

Path	β	SE	ρ
Motivation → Satisfaction	0.810	0.454	0.000
Motivation → Post-behavioural	0.144	0.634	0.461
Satisfaction → Post-behavioural	0.511	0.299	0.000

Note: CFI = 0.937; NFI = 0.913; IFI = 0.938; RMSEA = 0.080.

Table 6. Path coefficients of decomposed model.

Path	β	SE	ρ
Escape-relaxation → Relaxation satisfaction	0.576	0.050	0.000
Escape-relaxation → Socialization satisfaction	0.155	0.047	0.000
Escape-relaxation → Education satisfaction	0.113	0.058	0.051
Escape-relaxation → Sanitation satisfaction	0.124	0.043	0.004
Socialization → Relaxation satisfaction	0.032	0.042	0.455
Socialization → Socialisation satisfaction	0.156	0.040	0.000
Socialization → Educational satisfaction	0.167	0.049	0.000
Socialization → Sanitation satisfaction	0.055	0.037	0.136
Learn → Relaxation satisfaction	0.033	0.045	0.465
Learn → Socialization satisfaction	0.068	0.043	0.111
Learn → Education satisfaction	0.270	0.053	0.000
Learn → Sanitation satisfaction	0.128	0.04	0.001
Nature-connectedness → Relaxation satisfaction	0.110	0.060	0.066
Nature-connectedness → Education satisfaction	−0.055	0.069	0.431
Nature-connectedness → Socialization satisfaction	0.143	0.056	0.011
Nature-connectedness → Sanitation satisfaction	0.161	0.052	0.002
Relaxation satisfaction → Post-purchase behavioural intention	0.122	0.064	0.060
Socialization satisfaction → Post-purchase behavioural intention	0.226	0.068	0.000
Education satisfaction → Post-purchase behavioural intention	0.095	0.055	0.083
Sanitation satisfaction → Post-purchase behavioural intention	0.187	0.073	0.010
Escape-Relaxation → Post-purchase behavioural intention	0.165	0.048	0.000
Socialisation → Post-purchase behavioural intention	−0.040	0.067	0.551
Learn → Post-purchase behavioural intention	0.069	0.052	0.190
Nature-connectedness → Post-purchase behavioural intention	−0.057	0.067	0.392

Note: CFI = 0.987; NFI = 0.981; IFI = 0.989; RMSEA = 0.042; χ^2 = 24.976; df = 8.

Table 7. Model fit indices for multi-group invariance tests.

	Model	χ^2	df	Cχ^2	C df	ρ	CFI	RMSEA	GFI	IFI
Sex	Unconstrained	34.453	8				0.973	0.096	0.980	0.975
	Constrained	52.108	29	17.65	21	0.671	0.977	0.047	0.970	0.978
Marital status	Unconstrained	43.721	8				0.965	0.111	0.975	0.967
	Constrained	78.484	29	34.73	21	0.030	0.952	0.069	0.956	0.954
Age	Unconstrained	51.659	16				0.966	0.079	0.971	0.970
	Constrained	117.261	79	65.62	63	0.387	0.963	0.037	0.939	0.966
Education	Unconstrained	31.421	2				0.971	0.056	0.982	0.973
	Constrained	60.285	26	28.84	24	0.255	0.966	0.061	0.965	0.968

were significant relationships between some of the hypothesized paths. On sex, the critical ratio test noted a significant variation in some of the path coefficients between males and females (Table 8). The path between escape-relaxation and sanitation satisfaction was positive and significant for males ($\beta = 0.172$; $\rho < 0.010$), while it was negative and insignificant for females ($\beta = -0.015$; $\rho > 0.050$).

Relative to the males ($\beta = 0.036$; $\rho > 0.050$), it is worth highlighting that majority of the females who visited the Park to connect with nature harboured negative behavioural

Table 8. Path invariance test across sex and age.

Path	Sex					Age				
	Male		Female			Young		Old		
	β	*ρ*	*β*	*ρ*	*z*-stat	*β*	*ρ*	*β*	*ρ*	*z*-stat
Escape-relaxation → Relaxation satisfaction	0.574	0.000	0.570	0.000	−0.054	0.606	0.000	0.488	0.000	−1.319
Escape-relaxation → Socialization satisfaction	0.203	0.000	0.093	0.111	−1.376	0.113	0.029	0.148	0.029	0.407
Escape-relaxation → Education satisfaction	0.113	0.104	0.032	0.663	−0.792	0.080	0.247	0.018	0.824	−0.578
Escape-relaxation → Sanitation satisfaction	0.172	0.005	−0.015	0.768	−2.333**	0.069	0.380	0.154	0.004	0.840
Socialization → Relaxation satisfaction	0.070	0.232	0.021	0.662	−0.652	0.047	0.372	0.043	0.423	−0.047
Socialization → Socialization satisfaction	0.166	0.001	0.182	0.000	0.229	0.245	0.000	0.086	0.113	−2.225**
Socialization → Education satisfaction	0.241	0.000	0.205	0.000	−0.412	0.211	0.000	0.217	0.000	0.065
Socialization → Sanitation satisfaction	0.065	0.253	0.127	0.003	0.873	0.098	0.056	0.101	0.035	0.053
Learn → Relaxation satisfaction	0.075	0.241	0.012	0.816	−0.751	0.052	0.279	0.068	0.410	0.174
Learn → Education satisfaction	0.299	0.000	0.228	0.000	−0.733	0.232	0.000	0.373	0.000	1.223
Learn → Socialization satisfaction	0.055	0.327	0.070	0.185	0.196	0.056	0.185	0.152	0.066	1.033
Learn → Sanitation satisfaction	0.105	0.090	0.130	0.006	0.327	0.120	0.010	0.090	0.219	−0.336
Nature-connectedness → Relaxation satisfaction	0.118	0.091	0.092	0.196	−0.261	0.163	0.020	0.070	0.350	−0.914
Nature-connectedness → Socialization satisfaction	0.179	0.003	0.043	0.542	−1.458	0.183	0.002	0.035	0.677	−1.629
Nature-connectedness → Education satisfaction	0.010	0.899	−0.093	0.298	−0.871	0.009	0.916	−0.093	0.299	−0.835
Nature-connectedness → Sanitation satisfaction	0.215	0.002	0.176	0.005	−0.414	0.202	0.003	0.210	0.002	0.079
Relaxation satisfaction → Post-purchase behavioural intention	0.061	0.531	0.170	0.055	0.822	0.122	0.109	0.079	0.491	−0.316
Socialization satisfaction Post-purchase behavioural intention	0.112	0.365	0.302	0.002	1.216	0.349	0.000	0.111	0.394	−1.490
Education satisfaction → Post-purchase behavioural intention	0.135	0.160	0.051	0.499	−0.686	0.133	0.055	0.061	0.562	−0.569
Sanitation satisfaction → Post-purchase behavioural intention	0.112	0.294	0.144	0.177	0.213	0.055	0.528	0.193	0.147	0.863
Escape-relaxation → Post-purchase behavioural intention	0.027	0.767	−0.085	0.309	−0.905	−0.044	0.554	−0.019	0.854	0.189
Socialisation → Post-purchase behavioural intention	0.149	0.037	0.162	0.005	0.143	0.136	0.018	0.143	0.053	0.074
Learn → Post-purchase behavioural intention	0.013	0.869	0.112	0.077	0.989	0.085	0.092	0.078	0.493	−0.060
Nature-connectedness → Post-purchase behavioural intention	0.036	0.676	−0.204	0.017	−1.983**	−0.032	0.667	−0.165	0.111	−1.046

** *p*-value < .010
**p*-value < .050

Table 9. Path invariance test across level of education and marital status.

Path	Education					Marital status				
	SHS		University degree			Unmarried		Married		
	β	*ρ*	*β*	*ρ*	*z*-stat	*β*	*ρ*	*β*	*ρ*	*z*-stat
Escape-relaxation → Relaxation satisfaction	0.514	0.000	0.576	0.000	0.651	0.614	0.000	0.468	0.000	−1.593
Escape-relaxation → Socialization satisfaction	0.090	0.310	0.155	0.000	0.652	0.090	0.053	0.202	0.006	1.274
Escape-relaxation → Education satisfaction	−0.180	0.118	0.113	0.046	2.282*	0.061	0.344	0.040	0.636	−0.197
Escape-relaxation → Sanitation satisfaction	−0.150	0.117	0.124	0.004	2.603**	0.067	0.198	0.082	0.195	0.184
Socialization → Relaxation satisfaction	0.088	0.238	0.032	0.455	−0.659	0.067	0.139	0.007	0.909	−0.779
Socialization → Socialization satisfaction	0.263	0.001	0.156	0.000	−1.172	0.277	0.000	0.004	0.943	−3.731**
Socialization → Education satisfaction	0.523	0.000	0.167	0.000	−3.036**	0.257	0.000	0.174	0.012	−0.932
Socialization → Sanitation satisfaction	0.324	0.000	0.055	0.136	−2.803**	0.113	0.013	0.067	0.197	−0.676
Learn → Relaxation satisfaction	0.133	0.144	0.033	0.465	−0.981	0.075	0.105	−0.018	0.821	−1.013
Learn → Socialization satisfaction	0.025	0.805	0.068	0.100	0.399	0.075	0.071	0.043	0.573	−0.361
Learn → Educational satisfaction	0.185	0.155	0.270	0.000	0.604	0.277	0.000	0.004	0.088	1.105
Learn → Sanitation satisfaction	0.008	0.939	0.128	0.001	1.035	0.090	0.052	0.183	0.005	1.165
Nature-connectedness → Relaxation satisfaction	0.129	0.103	0.110	0.066	−0.194	0.077	0.188	0.191	0.033	1.070
Nature-connectedness → Socialization satisfaction	0.047	0.593	0.143	0.009	0.930	0.166	0.002	0.052	0.552	−1.114
Nature-connectedness → Education satisfaction	0.058	0.608	−0.055	0.423	−0.854	0.035	0.634	−0.164	0.101	−1.606
Nature-connectedness → Sanitation satisfaction	0.340	0.000	0.161	0.002	−1.661*	0.220	0.000	0.159	0.033	−0.643
Relaxation satisfaction → Post-purchase behavioural intention	−0.150	0.669	0.124	0.001	0.148	0.204	0.013	−0.049	0.659	−1.981*
Socialization satisfaction Post-purchase behavioural intention	0.211	0.318	0.226	0.006	0.069	0.258	0.011	0.263	0.033	0.037
Education satisfaction → Post-purchase behavioural intention	0.119	0.477	0.095	0.136	−0.134	0.060	0.426	0.075	0.436	0.122
Sanitation satisfaction → Post-purchase behavioural intention	−0.055	0.765	0.187	0.024	1.193	0.178	0.062	−0.055	0.666	−1.469
Escape-relaxation → Post-purchase behavioural intention	−0.042	0.795	−0.040	0.547	0.011	−0.121	0.128	0.095	0.314	1.973*
Socialisation → Post-purchase behavioural intention	0.119	0.379	0.165	0.000	0.328	0.157	0.009	−0.049	0.063	−0.263
Learn → Post-purchase behavioural intention	0.063	0.666	0.069	0.183	0.036	0.033	0.563	0.169	0.067	1.246
Nature-connectedness → Post-purchase behavioural intention	−0.168	0.227	−0.057	0.395	0.717	−0.102	0.167	−0.051	0.616	0.403

** *p*-value < .010.
**p*-value < .050.

intention ($\beta = -0.204$; $\rho < 0.050$). Table 8 indicates that the path between connectedness to nature and social contact to socialization satisfaction is markedly variant for the young and old. For instance, while the coefficient of influence of connectedness to nature on social satisfaction is significant for the young ($\beta = 0.183$; $\rho < 0.010$), it is not so with the old ($\beta = 0.035$; $\rho > 0.050$). On the other hand, older visitors motivated by escape relaxation stood higher chances of being satisfied with the sanitary condition of the Park ($\beta = 0.154$; $\rho < 0.010$) whereas the young visitors were not ($\beta = 0.069$; $\rho > 0.050$). Despite the age differences, those motivated by escape relaxation and connectedness to nature show signals of not having positive PBIs about the Park.

But for marital status ($\chi^2_{21} = 34.73$; $\rho = 0.030$) where the results indicate a significant variation between the chi-square value of the unconstrained and constrained models, none of the remaining factors impacted markedly on the model (Table 7). Relatedly, significant path differences were observed across married and unmarried respondents (Table 9). The path between motivation for learning and educational satisfaction was positive and significant for the unmarried ($\beta = 0.277$; $\rho < 0.010$), whereas it was not significant for the married ($\beta = 0.004$; $\rho > 0.050$). In addition, unmarried respondents who were socially fulfilled showed positive behavioural intention while the opposite though not significant was noticed for the married ($\beta = -0.049$; $\rho > 0.050$). The results further revealed a direct relationship between escape relaxation and socialization satisfaction for both respondents with high school and university education, but the association was marked for the former than the latter (Table 9). A similar observation is made for the path from escape relaxation to socialization satisfaction. Furthermore, the path from relaxation satisfaction to PBI for those with a university degree is positive and significant ($\beta = 0.124$; $\rho < 0.010$) whereas the inverse is noted among those with high school education, though not significant ($\beta = -0.150$; $\rho > 0.050$).

Discussion

Visitors to eco-attractions have been conventionally described as eco-tourists (Fennell, 2003), but it is imperative to note that tourists who visit eco-attractions as in the case of the KNP may not fit the conventional eco-tourist description. Insightfully, the motivation of eco-tourists has hovered on education and appreciation of diverse species of flora and fauna (Fennell, 2003; Higham, 2007). Evidence from this study, however, indicates that tourists visit eco-attractions for diverse reasons. The findings of this study as pertaining to the motivations and satisfaction elements suggest that eco-visitors do travel not only for educational purpose but also for socialization and relaxation. This is an indication of heterogeneity of eco-visitors in terms of motivations and/or broadening needs of eco-visitors beyond the conventional needs of education and appreciation of biodiversity. Parks especially nature reserves offer avenues and activities that enable visitors to socialize and rest from mundane responsibilities of the home and work environments. Meaningful socialization and relaxation in natural environments help to buffer stressors of life including boredom and monotony of work and personal life, which enhances psychological health. Relatedly, the youthful nature of the eco-visitors reported in this study provides further evidence that the eco-visitor segment is increasingly becoming diverse as the literature on eco-visitors have generally presented them as

people who are in their middle ages (Akama & Kieti, 2003; Holden & Sparrowhawk, 2002; Fennell, 2003).

This study makes germane contribution to the literature by highlighting the intricacies of specific types of motivations on specific types of satisfaction and PBI which previous studies (Amuquandoh, 2017; Amuquandoh et al., 2011; Eshun et al., 2016; Lawton, 2012; Okello & Yerian, 2009) have failed to model especially in the context of Africa and Ghana. In this regard, the findings of this study make a novel contribution in addressing this literature gap. The findings suggest that there are different shades of eco-visitors based on the causal influence of specific motivations on satisfaction and ultimately on PBI. Eco-visitors are driven by specific needs into visiting eco-attractions and in turn measure their experiences based on such needs. The relational outcome between specific motivation and satisfaction will ultimately define the nature of post-purchase behavioural outcome that is harboured by the eco-visitor and thereby inform sustainable management practices. Sustainability concerns itself with meeting the needs of present and future tourists (Lawton, 2012). In the case of the present tourists, once their needs are met, both the psychological and physical values of the eco-attraction are enhanced in the minds of the visitors, and thus their willingness to act favourably towards the attraction. Additionally, the advent of the internet and the subsequent emergence of travel-related websites with user-generated contents such as TripAdvisor imply that favourable future behaviour such as willingness to recommend is crucial to the attractiveness and sustainability of the Park. The ultimate balance in the management of expectations of eco-visitors with varied motives lies in the ability of managers of eco-attractions to adapt to a variety of products that are ecologically oriented while insisting on carrying capacity limits.

In specific terms, much complexity and thus hybridization of eco-visitors is observed in the relationships between motivation, satisfaction and PBI when assessed in relation to their sex, age, marital status and formal educational attainment. The findings provide useful insight into the eco-tourism literature especially in the context of Ghana and Africa. It is established that both the overall causal model and the specific theoretical paths vary by eco-visitors' demographic characteristics. A case in point, male eco-visitors who were satisfied with the sanitary condition of the Park were most likely to have positive PBI whereas females were not. The lower satisfaction rating of the sanitary condition of the Park by the females unlike the males reinforces the claim that women have a strong desire towards aesthetics and cleanliness (Arab-Moghaddam, Henderson, & Sheikholeslami, 2007; James, Hsu, Redmond, & Hope, 2005). It is often the circumstance that males are considered unconcerned about aesthetics and looks of their surroundings unlike their female counterparts (James et al., 2005). In addition, male eco-visitors who had the desire to connect with nature are more likely to return to the park, which could be attributed to the eco-tourism literature description of males as avid biodiversity patrons (Fennell, 2003; Wearing & Neil, 2009).

Similarly, formal education attainment has been associated with engagement in eco-tourism (Fennell, 2007), which eco-tourists are believed to be highly educated with bachelor degrees or higher (Fennell, 2007; Wearing & Neil, 2009). In the context of this study, two formal educational cohorts namely those with high school qualification and below and those with bachelor degrees and above were used in the analysis. The high school leavers were more inclined to escapism and thus were more satisfied with their socialization experience than those with graduate degrees. This finding can be explained within the

context of the 'cohort-socialization orientation' where people in their teenage days are more exuberant and outgoing than their much elderly counterparts. In this respect, young people are expected to be easy going and willing to explore and discover the world and hence their desire to escape and subsequent satisfaction with their socialization encounter. Nonetheless, the eco-visitors with graduate degrees had positive PBI and thus indicative of the level of synthesis that each of the two educational cohorts attaches to their eco-experiences. Relatedly, the youthful nature of the eco-visitors reported in this study provides further evidence that the eco-visitor segment is increasingly becoming diverse. This is contrary to the conventional profiles of eco-visitors projected in the literature as being in their middle ages and generally well educated (Akama & Kieti, 2003; Fennell, 2003; Holden & Sparrowhawk, 2002). However, the results of this study show that eco-attractions are increasingly becoming attractive to younger people based on their age profile, and thus indicate that eco-based activities at eco-attractions should be aligned towards appealing to young people. Alternatively, this finding could have been grounded on the fact that Ghana is popular with the youth market (Adam & Adongo, 2016). Consequently, related studies in the context of other African countries may help determine whether eco-visitors have different age dynamics to mainstream tourists or it is just a case of Ghana.

Conclusions and implications

The study sought to examine the influence of specific types of motivation on specific types of satisfaction and PBI; and assess the structural invariances of such relationships across sex, age, formal educational attainment and marital status of eco-visitors. In view of that, the following conclusions are drawn based on the findings of the study. First, this study concludes that specific motivations lead to satisfaction with specific types of experiences which in turn influence the PBIs of eco-visitors. This implies that the satisfaction of a different kind of experience that is not originally sought by the eco-visitor as reflected in his/her motivation will not necessarily engender positive PBI. In this regard, managers of eco-attractions should endeavour to disaggregate their patrons and provide satisfying experiences based on the specific types of motivations for which they visited to foster positive future behaviour among them. Such management effort may ensure the satisfaction of eco-visitors and more importantly the nurturing of positive future behaviour and ultimately result in the sustainability of the eco-attraction.

Further, this study concludes that the structural relationship between individual motivation and satisfaction items as well as PBI varies across background characteristics of eco-visitors. Accordingly, the variances observed in the structural relationship between eco-visitors' motivations, satisfaction and PBI across their background characteristics signal two important points. First, the need for decomposition analysis using statistical techniques (such as SEM) that handle causal relations and heterogeneity in eco-visitors' behaviour. Such tools do not only offer superior means in differentiating tourists based on their behaviour but the antecedents which account for such differences compared to conventional market segmentation modelling techniques that cannot detect holistic interrelatedness thus leading to suboptimal marketing recommendations. Second, the need for holistic customization of marketing campaigns, service provision and customer relationship management in eco-tourism settings rather than the single criteria approaches of

either using only trip motivation, satisfaction or behavioural intention. Single methodological approaches often assume that people uniquely fall into market segments based on one of those attributes and – conveniently can be characterized as such for theoretical and or practical purposes, which overlooks the causal interrelatedness in human behaviour. Holistic customization better the chances of consumers buying, enjoying and recommending the product as well as reduces marketing cost because marketing communications and promotions are optimally informed.

The findings this paper offers useful management and marketing insights for managers of the KNP that hitherto have not been considered. Thus, the current managerial and marketing focus on the projection of Canopy Walkway as the most important tourist resource in the Park must be revised. Managers of the Park should match each of the key resources to specific market segments based on the background characteristics as identified in this study. Nevertheless, this study is limited in that the data analysed is cross-sectional, and given Boztug, Babakhani, Laesser, and Dolnicar (2015) observation that only a quarter of tourists persist in the same behaviour pattern across more than one trip, it would be of great value to replicate this study using longitudinal evidence.

Disclosure statement

No potential conflict of interest was reported by the authors.

References

Adam, I., & Adongo, C. A. (2016). Do backpackers suffer crime? An empirical investigation of crime perpetrated against backpackers in Ghana. *Journal of Hospitality and Tourism Management*, *27*, 60–67.

Akama, J., & Kieti, D. (2003). Measuring tourist satisfaction with Kenya's wildlife safari: A case study of Tsavo West National Park. *Tourism Management*, *24*(1), 73–81.

Amuquandoh, F. E., Boakye, K. A., & Mensah, E. A. (2011). Ecotourism experiences of international visitors to the Owabi Wildlife Sanctuary, Ghana. *Ghana Journal of Geography*, *3*(1), 250–284.

Amuquandoh, F. E. (2017). Tourists' motivations for visiting Kakum National Park, Ghana. *Ghana Journal of Geography*, *9*(1), 152–168.

Arab-Moghaddam, N., Henderson, K. A., & Sheikholeslami, R. (2007). Women's leisure and constraints to participation: Iranian perspectives. *Journal of Leisure Research*, *39*(1), 109–126.

Ballantine, J. L., & Eagles, P. F. J. (1994). Defining Canadian ecotourists. *Journal of Sustainable Tourism*, *2*(4), 210–214.

Bansal, H., & Eiselt, H. A. (2004). Exploratory research of tourist motivations and planning. *Tourism Management*, *25*(3), 387–396.

Beard, J. G., & Ragheb, M. G. (1980). Measuring leisure satisfaction. *Journal of Leisure Research*, *12*, 20–33.

Beard, J. G., & Ragheb, M. G. (1983). Measuring leisure motivation. *Journal of Leisure Research*, *15* (3), 219–228.

Blamey, R. K., & Braithwaite, V. A. (1997). A social values segmentation of the potential ecotourism market. *Journal of Sustainable Tourism*, *5*(1), 29–45.

Boztug, Y., Babakhani, N., Laesser, C., & Dolnicar, S. (2015). The hybrid tourist. *Annals of Tourism Research*, *54*, 190–203.

Buckley, R. (2002). Managing tourism in parks: Research priorities of industry associations and protected area agencies in Australia. *Journal of Ecotourism*, *1*(2&3), 162–172.

Buckley, R. (2009). *Ecotourism: Principles and practices*. Wallingford: CABI.

Byrne, B. M. (2010). *Structural equation modelling with AMOS: Basic concepts, applications, and programming* (2nd ed.). New York, NY: Routledge.
Chan, J. K. L., & Baum, T. (2007). Motivation factors of ecotourists in ecolodge accommodation: The push and pull factors. *Asia Pacific Journal of Tourism Research*, *12*(4), 349–364.
Chen, C. F., & Chen, F. S. (2010). Experience quality, perceived value, satisfaction and behavioral intentions for heritage tourists. *Tourism Management*, *31*(1), 29–35.
Chen, C. F., & Tsai, D. (2007). How destination image and evaluative factors affect behavioural intentions? *Tourism Management*, *28*, 1115–1122.
Churchill, G. A. Jr. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research*, *16*(1), 64–73.
Cronin, J. J., & Taylor, S. R. (1992). Measuring service quality: A reexamination and extension. *Journal of Marketing*, *56*(3), 55–68.
Crotts, J., Mason, P., & Davis, B. (2009). Measuring guest satisfaction and competitive position in the hospitality and tourism industry. *Journal of Travel Research*, *48*(2), 139–151.
Curtin, S. (2003). Whale-watching in Kaikoura: Sustainable destination development? *Journal of Ecotourism*, *2*(3), 173–195.
Curtin, S. (2010). What makes for memorable wildlife encounters? Revelations from 'serious wildlife tourists'. *Journal of Ecotourism*, *9*(2), 149–168.
Dayour, F., & Adongo, C. A. (2015). Why they go there: International tourists' motivations and revisit intention to Northern Ghana. *American Journal of Tourism Management*, *4*(1), 7–17.
Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behaviour*. New York, NY: Springer.
Dolnicar, S., Yanamandram, V., & Juvan, E. (2013). Ecotourists: Who are they and what should we really call them? In R. Ballantyne & J. Packer (Eds.), *International handbook on ecotourism* (pp. 95–107). Cheltenham: Edward Elgar Publishing.
Eagles, P. F., & Cascagnette, J. W. (1995). Canadian ecotourists: Who are they. *Tourism Recreation Research*, *20*(1), 22–28.
Eagles, P. F. J. (1992). The travel motivations of Canadian ecotourists. *Journal of Travel Research*, *31* (2), 3–7.
Eagles, P. F. J., & Higgins, B. (1998). Ecotourism market and industry structure. In K. Lindberg, M. Elper Wood, & D. Engeldrum (Eds.), *Ecotourism: A guide for planners and managers* (Vol. 2, pp. 11–43). North Bennington, VT: The Ecotourism Society.
Eshun, G., Adjei, P. O., & Segbefia, A. Y. (2016). 'Beyond business as usual': Implications of tourist experiences for ecotourism development. *African Journal of Hospitality, Tourism and Leisure Volume*, *5*(2), 1–26.
Fennell, D. A. (2003). *Ecotourism* (2nd ed.). London: Routledge.
Fennell, D. A. (2007). *Ecotourism*. London: Routledge.
Fletcher, D., & Fletcher, H. (2003). Manageable predictors of park visitor satisfaction: Maintenance and personnel. *Journal of Park and Recreation Administration*, *21*, 21–37.
Ghana Tourism Authority (GTA). (2015). *Tourist arrivals in Ghana*. Accra: Ghana Tourism Authority.
Gyte, D. M., & Phelps, A. (1989). Patterns of destination repeat business: British tourists in Mallorca, Spain. *Journal of Travel Research*, *28*(1), 24e28.
Higham, J. E. S. (2007). *Critical issues in ecotourism: Understanding a complex tourism phenomenon*. London: Routledge.
Higham, J. E. S., Lusseau, D., & Hendry, W. (2008). Wildlife viewing: The significance of the viewing platforms. *Journal of Ecotourism*, *7*(2&3), 137–146.
HLA Consultants. (1994). *Tour operator market for Alberta ecotourism: Experiences*. Edmonton: Alberta Economic Development and Tourism.
Holden, A., & Sparrowhawk, J. (2002). Understanding the motivations of ecotourists: The case of trekkers in Annapurna, Nepal. *International Journal of Tourism Research*, *4*(6), 435–446.
Huang, S., & Hsu, C. H. C. (2009). Effects of travel motivation, past experience, perceived constraint, and attitude on revisit intention. *Journal of Travel Research*, *48*(1), 29–44.

Hui, T. K., Wan, D., & Ho, A. (2007). Tourists' satisfaction, recommendation and revisiting Singapore. *Tourism Management*, *28*, 965–975.
James, K., Hsu, Y., Redmond, J., & Hope, P. (2005). Cultural differences in physical activity of adolescents: Australia and Taiwan. *Annals of Leisure Research*, *8*(1), 38–53.
Kim, H., Woo, E., & Uysal, M. (2015). Tourism experience and quality of life among elderly tourists. *Tourism Management*, *46*, 465–476.
Krider, R. E., Arguello, A., Campbell, C., & Mora, J. D. (2010). Trait and image interaction: In ecotourism preference. *Annals of Tourism Research*, *37*(3), 779–801.
Kwan, P., Eagles, P. F. J., & Gebhardt, A. (2010). Ecolodge patrons' characteristics and motivations: A study of Belize. *Journal of Ecotourism*, *9*(1), 1–20.
Larson, R. A. (1995). Balancing wildlife viewing with wildlifeimpacts: A case study. In R. L. Knight & K. J. Gutzwiller (Eds.), *Wildlife and recreationists: Coexistence through management and research* (pp. 257–270). Washington, DC: Island Press.
Lawton, L. J. (2012). Dimensions of least satisfaction among protected area visitors. *Journal of Ecotourism*, *11*(2), 118–131.
Meng, S. M., Liang, G. S., & Yang, S. H. (2011). The relationships of cruise image, perceived value, satisfaction, and post-purchase behavioral intention on Taiwanese tourists. *African Journal of Business Management*, *5*(1), 19–29.
Moscardo, G. (2004). Escaping the jungle: An exploration of the relationships between lifestyle market segments and satisfaction with a nature based tourism experience. *Journal of Quality Assurance in Hospitality & Tourism*, *5*(2/3/4), 75–94.
Neal, J., & Gursoy, D. (2008). A multifaceted analysis of tourism satisfaction. *Journal of Travel Research*, *47*(1), 53–62.
Okello, M., D'Amour, D., & Manka, S. (2008). Tourism attractions and satisfaction of Amboseli National Park, Kenya. *Tourism Analysis*, *13*(4), 373–386.
Okello, M., & Yerian, S. (2009). Tourist satisfaction in relation to attractions and implications for conservation in the protected areas of the Northern Circuit, Tanzania. *Journal of Sustainable Tourism*, *17*(5), 605–625.
Oliver, R. L. (2010). *Satisfaction: A behavioral perspective on the consumer* (2nd ed.). Armonk, NY: M.E. Sharpe.
Ozturk, A., & Hancer, M. (2008). Exploring destination satisfaction: A case of Kizkalesi, Turkey. *Tourism Analysis*, *13*(5–6), 473–484.
Page, S. J., & Dowling, R. K. (2002). *Ecotourism: Themes in tourism*. Essex: Pearson Education.
Pan, S., & Ryan, C. (2007). Mountain areas and visitor usage – Motivations and determinants of satisfaction: The case of Pirongia Forest Park, New Zealand. *Journal of Sustainable Tourism*, *15*(3), 288–308.
Reisinger, Y. (2009). *International tourism: Cultures and behavior*. Boston, MA: Butterworth-Heinemann.
Rittichainuwat, B. N., Qu, H., & Mongkhonvanit, C. (2008). Understanding the motivation of travelers on repeat visits to Thailand. *Journal of Vacation Marketing*, *14*(1), 5–21.
Rundle-Thiele, S. (2005). Exploring loyal qualities: Assessing survey-based loyalty measures. *Journal of Services Marketing*, *19*(7), 492–500.
Uysal, M., Williams, J., & Yoon, Y. (2003). Expressive versus instrumental factors in measuring visitor satisfaction. *Tourism Analysis*, *8*(2), 217–221.
Wang, W., Chen, J. S., Fan, L., & Lu, J. (2012). Tourist experience and wetland parks: A case of Zhejiang, China. *Annals of Tourism Research*, *39*(4), 1763–1778.
Wearing, S., & Neil, J. (1999). *Ecotourism: Impacts, potentials and possibilities*. New York: Butterworth-Heinemann.
Wearing, S., & Neil, J. (2009). *Ecotourism: Impacts, potentials and possibilities?* London: Routledge.
Weaver, D. B., & Lawton, L. J. (2002). Overnight ecotourist market segmentation in the Gold Coast hinterland of Australia. *Journal of Travel Research*, *40*(3), 270–280.
Wight, P. A. (1996a). North American ecotourists: Market profiles and trip characteristics. *Journal of Travel Research*, *34*(4), 2–10.

Wight, P. A. (1996b). North American ecotourists: Motivations, preferences, and destinations. *Journal of Travel Research*, *35*(6), 3–8.
Wood, M. E. (2002). *Ecotourism: Principles, practices and policies for sustainability*. New York: UNEP.
Wurzinger, S., & Johansson, M. (2006). Environmental concern and knowledge of ecotourism among three groups of Swedish tourists. *Journal of Travel Research*, *45*(2), 217–226.
Yoon, Y., & Uysal, M. (2005). An examination of the effects of motivation and satisfaction on destination loyalty: A structural model. *Tourism Management*, *26*(1), 45–56.