Article

Exploring youth awareness, intention and opinion on green travel: The case of Malaysia

Tourism and Hospitality Research
0(0) 1–15

DOI: 10.1177/1467358418781441
journals.sagepub.com/home/thr
SAGE

Azilah Kasim
Universiti Utara Malaysia, Malaysia

Eugenia Wickens
Journal On Tourism & Sustainability, Oxford, UK

Abstract
Green travel is a construct that has drawn a lot of attention among researchers. The literature acknowledges the importance of green travel and its role in helping to protect the environment by encouraging practices such as travelling light and sticking to the path to avoid trampling. This paper presents findings from an empirical study on youth and their tendencies to take 'green' actions during travel. The study was conducted in Malaysia's northern region, September–December 2015. The analysis of quantitative data obtained from a random sample of 200 college students aged 19–30 from three universities shows no significant difference across sociodemographic variables in relation to green travel engagement. Nonetheless, there is a link between youth awareness, attitude and opinion and their green travel tendencies. The paper concludes that this new insight could add to the existing knowledge on green travel and youth. Theoretical and managerial implications of the study's findings are considered at the end of the paper.

Keywords
Malaysia, green travel, youth travel, environment awareness, intention, opinion

Introduction

Green travel is a subset of the sustainable tourism concept. A striking characteristic of existing literature has seen the green travel construct being used interchangeably with terms such as eco-travel, responsible travel and sustainable travel (see Bjork, 2000; The International Ecotourism Society, 2015; UNWTO, 2011; Waldron, 2000). The construct has also been studied from various other perspectives such as green consumerism, environmental impacts of travel and green marketing (Lee, 2008; Rahbar and Abdul Waheed, 2010). However, for the purpose of this study, a simpler, more straightforward definition offered by Independent traveller (2015) is adopted. It defines green travel as a way of travel that minimizes negative impacts and protects the natural and cultural resources of a destination through baby-step actions such as packing light, taking public transport, avoiding plastic bottle water and using reusable water bottle, sticking to the path and avoiding trampling.

A stream of research suggests that concentrating marketing efforts towards 'green' or environmentally conscious travellers would help to bring the 'correct' target market towards a destination (e.g. Chen, 2014; Lasuin and Ng Yuen, 2014; Leonidas et al., 2010). The challenge, however, is to properly identify this market. Wen-Jung's (2014) study shows that environmental attitudes affect tourists' environmental responsive behaviour and their willingness to stay at environmentally friendly hotels in destinations such as Taiwan and China. Similar observations are reported in other studies (e.g. Almossawi, 2014).

Corresponding author:
Azilah Kasim, Universiti Utara Malaysia, Malaysia.
Email: azilah@uum.edu.my

Feelings of insecurity due to environmental degradation scenarios often exacerbated by media exposure enhance consumers tendency to make 'green' purchases – a trend quickly responded to by many companies by adopting green marketing policies and strategies (Mellilo and Miller, 2006; Subhani et al., 2012).

However, any companies or government agencies that attempt to develop policies and strategies targeting the youth segment need to understand their knowledge, attitude and behaviour towards green travel (Dagher and Itani, 2012; Lasuin and Ng Yuen, 2014; Mifsud, 2011; Reisinger and Mavondo, 2002). Long considered a fast growing segment of the tourism market, youth account for more or less 20% of the international tourists' arrival. According to SNV (2009) and Richards (2007), this number is expected to continue to expand in the future. More current literature also have the same contention. Lim (2017) who outlines five key trends in travel including sustainable tourism has emphasized that sustainable tourism provides avenue for businesses to reach out to supporters of social responsibility especially the millennial travellers, through advertising of charitable aspects of their respective brands. Hence, this could present valuable opportunities for travel and tourism brands. Lim's (2017) prediction is supported by a report in BizTrends2018, which suggests that responsible travel will form one of the top trend driving youth and millennial travellers because they are increasingly impact conscious. Hence they focus more on finding means to do good to the environment through volunteer work. Their aspiration is often supported by environmentally enlightened companies such as 'TreadRight Foundation', Contiki and MeToWe (Jackson, BizTrends2018, 19 January 2018). Youth demand for tourism products is expected to rise, along with factors such as growth in the number of students, their rising affluence and the rise of long-haul destinations for activities such as backpacking, student exchange, voluntourism, independent travel and adventure tourism. On the other hand, while there is a substantial body of work on green consumerism, most studies on youth and green travel have taken place in developed countries and some parts of the Arab world. Existing literature on youth travel behaviour has investigated their holiday activities, use of technology in travel and young tourists' spending on related products or services (Richards and Wilson, 2004; Shahnaei, 2012).

Despite the quantity of writing on youth and travel, youth travellers aged 19–30 in an Asian country such as Malaysia remain shadowy figures in the existing green travel literature (Almossawi, 2014; Hartoyo et al., 2012; Rahbar and Abdul Waheed, 2010). In fact, Bricker (2012) points out that primary research that measures the market size and scope of tourism segment for green travel including ecotourism and sustainable tourism is still lacking everywhere. Therefore, a primary reason for undertaking the study is the limited knowledge on those youths' perspectives within the context of green travel. The study's main aim is to gain understanding of youth and their green actions and tendencies during travel. Its objectives are (1) to explore youth awareness towards green travel, (2) to identify youth intention towards green travel and (3) to investigate youth opinion about green travel (green travel tendencies). To achieve them, a study was conducted in Malaysia's northern region, from the month of September–December of 2015. Quantitative data were obtained from a random sample of 200 students aged 19–30 from three universities. The randomness of the sampling was enhanced by randomizing the time, date and locations of the survey so as to ensure that all students have equal chance of participating in the study.

In what follows, the paper reviews the literature on youth and their green travel tendencies. It then goes on to explain the methods and the results on possible links between youth's sociodemographic variables, awareness, attitude and opinion with green travel tendencies. The theoretical and managerial implications of the study's findings as well as the limitations are discussed at the end of this paper.

Literature review

A survey of the literature shows that age is often used to define 'youth'. For instance, in Reisinger and Mavondo's (2002) study, 'youth' is defined as those persons between the ages of 15 and 30 years old. The World Youth Student and Educational Travel Confederation (Richards, 2007) defines youth as individuals between 16 and 24 years while Ahmad et al. (2012) propose 15–25 years as the age range of young tourists. Much has been written on youth travel particularly relating to backpacking, student exchange, independent travel and green issues (Ahmad et al., 2012; Almossawi, 2014; Elsrud, 2001; Lasuin and Ng Yuen, 2014; Reisinger and Mavondo, 2002; Richards and Wilson, 2004; Shahnaei, 2012). There are also several contributions to the literature on youth's philanthropic activities, responsible travel and volunteer tourism (Alexander and Bakir, 2011; Wearing, 2001). Studies discuss a wide range of issues associated with youth's engagement or participation in social or environmental projects in less developed countries. For instance, Alexander and Bakir's study (2011) found volunteers are inspired to travel

responsibly and to have more compassion towards issues involving social justice, poverty and the environment. The value of volunteering to the host community and tourists' interest in volunteering is now well documented (Benson, 2011).

Other studies show that youth tend to appreciate organic interactions with the local scene preferring to stay at budget accommodation that allows them to have longer stay and more social opportunities (e.g. Richards and Wilson, 2003; Widjojo and Yudianto, 2015). A study by Richards and Wilson (2003) concludes that youth travellers have more time but little budget. They plan and pack their holidays in long duration and a lot of activities, spending more money than other types of tourists. Meanwhile, Malaysian researchers Lim et al. (2015) contend that the young tourists spend most of their money on food and beverage, shopping, entertainment and recreation when they travel. Their findings showed that students have high intention in travelling even when they do not have high income. However, they do not tend to spend on any environmentally related products or services. Widjojo and Yudianto's (2015) study in Indonesia suggests seven influencing factors for green purchase behaviours among youth. They include personal value and motivation (internal factors) as well as references, packaging, label, community and information at the outlet.

Theoretical background

Influenced by the theory of Generational Replacement, Delli Carpini (2006) claims that the attitude of youth can have long-term social implications because how young people think can be taken as a barometer for change in the society. As youth go through periods where they are most impressionable, they are more open to social forces and socialization influences that could shape their beliefs, values and perception of the world throughout their lives (Flanagan, 2004; Jennings, 1989; Smith, 1999). Many surveys have been conducted in the US showing young people as active agents of environmental protection (e.g. Koenenn, 1992). Survey results indicate a high interest of young people in the USA on environmental issues. Whether this interest is shared by the Malaysian youth is yet unknown as there is no similar survey being conducted in this country.

Understanding youth and their environmental behaviour has proven to be complicated due to (1) limited literature on youth and environmental behaviour and (2) the many contradictory opinions in the literature about the link between environmental attitude and behaviour. For example, while some researchers opined that there is a linear relationship between attitudes and behaviours (see Eilam and Trop, 2012; Kollmuss and Agyeman, 2002; Tan and Yeap, 2012), some other researchers have found empirical evidence of flaw in such linear assumption. The latter include studies of Abdul Wahid and Austin (2002), Lee (2008) and Rahbar and Abdul Waheed (2010), all of which have concluded that there is no significant relationship between environmental attitudes and green buying behaviour.

This study does not aim to indulge in the above-mentioned complexity but instead focuses on exploring only the awareness, intention and opinion of young people in environmental issues within the context of travel. This context is important because young people form a significant segment of the domestic travel market in Malaysia. In fact, according to World Travel and Tourism Council (2015), more young people around the world are now not only travelling, but also spending more and exploring more tourism destinations. A study by UNWTO (2012) has revealed that youth represents 20% of total international arrival, generating about USD 182 billion in tourism receipts. This indicates that youth travel is indeed on the rise. Although the latest exact number is not yet publicly available, it is safe to assume that young travellers in Malaysia are on the rise as well since youth between 14 and 25 years of age occupy 16.9% of the Malaysian population (Lim et al., 2015).

The theory of planned behaviour (TPB) by Ajzen (1991) allows understanding an individual's intention to behave and the actual behaviour. TPB is the new and improved edition of the theory of reasoned action (TRA) with the addition of perceived behavioural control. There are three factors of intention in the TPB: The first is an attitude towards the behaviour, which refers to the level of a person's favourable or unfavourable evaluation of the behaviour in question. The second factor is the subjective norm, which refers to the social pressure to perform or not perform the behaviour. The third factor is perceived behaviour control, which is the major difference between TRA and TPB. Perceived behaviour control reflects, based on experience, whether it is easy or uneasy in performing the behaviour (Lin and Chen, 2010). The TPB theoretical framework guided this study on the awareness, intention and opinion of young people in environmental issues within the context of travel.

Environmental awareness, attitude/opinion

Kollmuss and Agyeman's (2002) definition of environmental awareness is adopted. It is defined as 'knowing of the impact of human behaviour on the environment'. It has both cognitive (knowledge-based) and affective (perception based) components but is limited

by (1) the perceived lack of urgency of many environmental issues due to lack of obvious and immediate consequences; (2) the gradual and snail pace change in the environment presents another cognitive barrier which could lead to non-involvement because people only normally respond to quick, immediate changes and (3) the complex and intricate environmental problems of today make it difficult to comprehend and have deep feeling about the problem. This limits our cognitive ability to emotionally engage or get involved.

Environmental awareness is the demonstration of some fundamental knowledge and understanding of the Earth systems, the physical and ecological systems, and knowledge on environmental issues affecting the society, politics, economy, culture and technology. For example, there must be a demonstration of knowledge on issues such as population growth, use of non-renewable resources and biodiversity (Hollweg et al., 2011). Environmental awareness not only implies the knowledge related to the environment, but also the attitudes, values and skills to solve the environmental problem. In addition, it is also a step to lead the citizen to be responsible to the environment (Sengupta et al., 2010). A local study on youth in Kuala Lumpur associated gender, age, level of education, place of residency and citizenship with environmental awareness (see Ibrahim and Asmawi, 2012).

Barr (2007) states that environmental awareness is used interchangeably with concepts such as environmental attitudes. According to Ajzen (1988), an individual with a positive attitude towards something is more likely to undertake a certain related behaviour. Some studies had used the word 'attitude' in their study of environmental behaviour. Several studies acknowledge the role of environmental attitudes in understanding environmental behaviour (e.g. Eilam and Trop, 2012; Hamalainen, 2012; Kollmuss and Agyeman, 2002). According to Lee (2008) attitude is about value judgement, self-perception and likes or dislikes – all attributes of which can also be termed as 'opinion'. For the purpose of this study, the word opinion and attitude is taken to be synonymous because as Manfred Max Bergman (1998) argue, trying to separate the two into different constructs will only lead to confusion. Opinion involves one's ability and confidence to bring about change through their behaviour. Those who perceive themselves as having strong opinion will believe that their actions can make a difference compared to those who do not (Newhouse, 1991). In this study, opinion is the verbal representation of the attitude of youth towards green travel. Attitude is the tendency to act and cannot be seen while opinion is the verbal expression of an attitude (McNemar, 1946).

Behaviour intention

According to TPB behavioural intentions are determined by attitudes towards the behaviour, subjective norms and perceived behaviour control. However, intention would not necessarily turn into action. Hence there is no clear foundation to say that just because a tourist plans to be environmentally friendly, they would change their destination towards those that are more environmentally friendly (Cherian and Jacob, 2012; Hamalainen, 2012). In studies that focus on eco-friendly intentions, there has been a conclusion that there is a strong relationship between subjective norms and eco-friendly intentions. For example, Han et al. (2011) found a link between green image of hotels and tourists intention to visit. Manaktola and Jauhari (2007) found a connection between green attitudes with tendency to prefer ecologically responsible hotels. Meanwhile, Fielding et al. (2008) found links between environmental group membership and self-identity with the intention to engage in green activism.

Green travel

The concept of green travel takes the expectations and aspirations developed for ecotourism and applies it to a much wider context. It is argued that travellers should not be environmentally friendly only when they visit ecotourism destinations. Rather, they need to be so in any travel contexts that they are engaging in. They need to inculcate environmentally friendly thinking and behaviours when they eat at a restaurant, shop in a mall, visit a historical city or are in any travel situations. In short, green travel promotes environmentally friendliness among travellers within and outside the ecotourism context. It is a lifestyle rather than a one-off contribution towards sustainability in tourism and hospitality. Green travel involves practices or policies that minimize or eliminate negative impacts to the environment. However, despite the abundance of research on sustainable tourism and ecotourism, the conclusions of the studies are often quite inconsistent (Dolnicar et al., 2008) and narrowly focus on ecotourism assuming that eco-tourists are more concerned and bring less impact to the environment. In addition, since there is virtually no research to identify green travel or the environmentally friendly tourism among the general population of tourist or specific segment of the visitor population, this study is crucial in adding more knowledge with regards to one dimension of sustainable tourist, i.e. youth and green travel.

Methodology

Data collection was conducted from September to December in 2015 on Malaysian youth who are also

university students between 19 and 30 years old. To abide by the study's resource constrains, the scope was limited to university-going youths in the northern region for the following reasons: they are more responsive to academic surveys compared to less educated youth and they are easier to access in terms of location and availability during the semester. The total number of students at Universiti Utara Malaysia (UUM), Universiti Science Malaysia and Universiti Malaysia Perlis (Unimap) in 2015 was 70,929 (Table 1). Random sampling technique was used by randomizing the time, date and location of survey implementation as well as the students' programmes of study to help ensure that all subjects in the population are being selected by a random process (Tashakkori and Teddlie, 2003). Following guidance from Krejcie and Morgan (1970), from the total amount of 70,317 youths the selected sampling frame, 382 were targeted as sample. However, only 200 usable responses were collected (52.36% respondents rate) due to issues such as incomplete information, lack of willingness to participate, etc.

Self-administered questionnaire was used to collect the data. The questionnaire consists of two parts, i.e. the sociodemographic part and also awareness, intention and opinion of youth towards green travel. The sociodemographic section includes the background of the respondent, which included location of study, gender, age, ethnicity, parent's occupation, how often they travel and how do they travel. For the second part, this questionnaire included items to measure the awareness, intention and opinion constructs of youth towards the environment, social influence and source of information when they travel. Likert scale ranging from 1 to 5 points was adapted. It measured from 5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, 1 = strongly disagree. Questions about green actions they took in the last trip they made were also included. As this is an exploratory research, the development of the survey instrument for this study followed the procedures recommended by Churchill (1979) and DeVellis (1991), i.e. conducting a focus group discussion to determine important issues and devising an item pool that is based on both the relevant literature and the focus group outcome. A couple of experts were consulted to help assess the content validity and of the identified items and clarity of the items that were identified.

Table 1. Number of students' enrolment by gender in public HEIs in 2015.

No.	IPTA	Enrolment
		27,945
1.	UUM	9634
2.	Unimap	33,350
3.	USM	70,929

HEIs: Higher Education Institutions; Unimap: Universiti Malaysia Perlis; USM: Universiti Science Malaysia; UUM: Universiti Utara Malaysia.
Source: Malaysia Educational Statistics (2016).

The resulting instrument was then tested on a group of youth resembling the target population. Finally, the instrument was revised based on the pilot test results. The data collected were analysed using Statistical Package for Social Science to analyse the frequency, mean, mode and median of the respondents' sociodemography. Independent sample T-test was performed to find significant differences between genders on youth awareness, intention and opinion towards green travel. Meanwhile, analysis of variance (ANOVA) test was applied for questions with more than two variables.

Findings

This section presents the study's findings by describing the profile of the respondents, investigating the goodness of measure through validity analyses and presenting the results of the factor analysis. The results of the inference analysis using correlation analysis, regression analysis and structural equation modelling (SEM) are also highlighted.

Background of the respondents

Table 2 presents the respondents' demographic background. The majority of the respondents were students from UUM (47.0%), followed by Universiti Sains Malaysia (25.5%) and Unimap (27.5%). Among them, 35.5% were male compared to 64.5% female. They were aged from 19 to 20 (21.0%), 21 to 22 (34.0%), 23 to 24 (44.5%) and more than 25 (0.5%). Most of the respondents were Chinese (50.0%), followed by Malay (37.5%), Indian (11.0%) and other ethnic (1.5%). In regard to their travelling frequency, 23.5% of the respondents travel once in a few years, 35.0% travel once in a year, between one and five times a year (36.5%) and more than five times a year (2.5%). Their destinations were domestic (54.5%), international (1.0%) and both domestic and international (44.5%).

Data checking

To ensure the reliability of the scales, internal consistency confirmation of the scales was performed by checking the Cronbach's alpha coefficient. The cut-off point for measuring the reliability for this study is coefficient alpha of above 0.7 as recommended by Tabachnick and Fidell (2001) and Hair et al. (2010).

Table 2. Background of the respondents.

	Frequency	Percentage
Institution		
UUM	94	47.0
USM	51	25.5
Unimap	55	27.5
Gender		
Male	71	35.5
Female	129	64.5
Age		
19–20	42	21.0
21–22	68	34.0
23–24	89	44.5
25–30	1	.5
Ethnic		
Malay	75	37.5
Indian	22	11.0
Chinese	100	50.0
Other	3	1.5
Travelling frequency		
Once every few years	47	23.5
Once a year	75	37.5
Between one to five times a year	73	36.5
More than five times a year	5	2.5
Travelling destination		
Only domestic destinations	109	54.5
Only international destinations	2	1.0
Both domestic and international	89	44.5

Unimap: Universiti Malaysia Perlis; USM: Universiti Science Malaysia; UUM: Universiti Utara Malaysia.

Results of reliability analysis indicated the high value of Cronbach's alpha coefficient for all variables as follows: Awareness ($\alpha = 0.841$), intention ($\alpha = 0.846$) and opinion ($\alpha = 0.703$).

Prior to using multiple regression analysis to explore relationships among variables, all the assumptions recommended by Tabachnick and Fidell (2001) such as (1) normality; (2) multicollinearity and singularity; (3) outliers, normality and homodescedascity of residuals and (4) linearity have to be fulfilled. In terms of normality, this study applied the visual confirmation in assessing the normality distribution. It was found that the data were within the normal curve distribution. This suggests that all of the variables were normally distributed. In terms of linearity, which can be observed by examining the scatterplots (Hair et al., 2006), the results showed no clear relationship between the residuals and the predicted values. Assessment of all scatterplots of the standardized residual versus standardized predicted values revealed that in all the plots the residual were scattered with no systematic or curvilinear pattern (U shape distribution) or clustering or residuals as indicated by Tabachnick and Fidell (2007). The randomized pattern of the scatter plots indicated that the assumption of linearity was met. Therefore, the linearity could be assumed.

Next is homoscedasticity or the constant variance of the error term and the variance of the dependent variables is approximately the same in different levels of the explanatory variable (Hair et al., 2006). In this study, there is no systematic pattern of decreasing of increasing residuals, which means that the assumption of homoscedasticity is not violated. With regard to multicollinearity and singularity, the cut-off value for variance inflation factor is less than 10 and tolerance value of more than 0.1 for all independent variables indicates that there is no violation of the assumption for this study.

Analysis

Descriptive data through mean values show that among the proposed green travel attributes, respondents have the highest awareness about littering issue during travel and believe that it is not 'a cool thing' to do. In terms of intention, they have the highest intention to volunteer for a good cause so they could leave a good impact to the local community. They also strongly intend to save water and electricity when staying at hotels during their travel. They opined strongly about several issues related to green travel: First they think it is essential to promote green travel in the country. Next they feel that they (youth) are capable of helping solve the environmental problems. They opined that they can protect the environment by buying environmentally friendly products. They also believed that they need to protect the environment even when others do not do so because green travel is a cool and trendy thing for young people to engage in. When asked about the green actions they take during travel, a majority of them reported that they did not engage in littering (97.0%), they switched off their electricity appliances (92.0%), reduced their consumption of disposable items (88.5%) and cut down their water consumption (88.5%) during travel.

Correlation analysis was carried to determine the relationship among variables studied. In correlation analysis, correlation coefficient (r) illustrates the level of relationship between variables. The number representing the Pearson correlation is referred to as a correlation coefficient. It ranges from -1.00 to $+1.00$, with zero representing absolutely no association between the two metric variables. The larger the correlation coefficient, the stronger the linkage or the level of association. A strong correlation is represented by a coefficient exceeding the value of 0.5 whereas a medium or modest correlation is when the coefficient has a value of between 0.5 and 0.2. Any coefficient

possessing a value less than 0.2 will be deemed as showing a weak correlation. Results found that there were significant relationships between green travel actions and intention towards green travel ($r = 0.277$, $p < 0.01$) and opinion towards green travel ($r = 0.178$, $p < 0.05$). Awareness towards green travel showed the significant association with intention ($r = 0.658$, $p < 0.01$) and opinion ($r = 0.546$, $p < 0.01$). Intention towards green travel also showed the significant relationship with opinion ($r = 0.613$, $p < 0.01$).

As previous studies (e.g. Almossawi, 2014; Hartoyo et al., 2012) have found significant differences among respondents based on sociodemographic attributes, the study also attempted such analysis to find any empirical support for the conclusions than those studies made in terms of gender, age groups and ethnic background. Independent sample t-test and one-way ANOVA were carried out for this purpose. It was found that there was no significant difference in youth awareness, intention, opinion and green travel actions during travel in relation to the three attributes ($p > 0.05$) as shown in Table 3.

Our attempt to find significant differences across sociodemographic variables showed no significant difference in youth awareness, intention, opinion and green travel actions during travel between genders ($p > 0.05$), age groups or ethnicity.

Regression analysis

The purpose of the analysis is to establish linear relationships between the variables to predict values of dependent variable from values of the independent variables. The result is displayed in Table 4. It was found that awareness, intention and opinion towards green travel significantly explained 11.9% variances of green travel actions. However, results indicated only awareness ($B = 0.282$, $t = 3.070$, $p < 0.01$) and intention ($B = 0.415$, $t = 4.265$, $p < 0.01$) play as the significant predictors on green travel actions.

Confirmatory factor analysis (CFA) using SEM

After assessing the psychometric properties measurement scale, the main study construct assessment was conducted using CFA and measurement model (Byrne, 2001). Scale purification was undertaken by means of CFA of individual latent constructs to examine the relationship between the observable indicators and the theoretical constructs and how well a data set fitted a hypothesized CFA model. CFA was also

Table 4. Effect of awareness, intention and opinion towards green travel on green travel actions.

	B	t	Sig.	Tolerance	VIF
Awareness	0.282	3.070	.002	.534	1.872
Intention	0.415	4.265	.000	.475	2.106
Opinion	0.078	.887	.376	.589	1.699
R2	0.119				
F	8.845				
Sig.	0.000				

VIF: variance inflation factor.

Table 3. Differences in youth awareness, opinion, intention and green travel actions between genders, age groups and ethnicity.

	Gender (mean)				
	Male		*Female*		t	Sig
Awareness	3.6526		3.7300		−1.073	0.682
Intention	3.4944		3.4667		0.367	0.071
Opinion	3.2986		3.2527		0.617	0.283
Green travel actions	6.0986		5.7364		1.967	0.420
	Age (mean)				F	Sig
	19–20	*21–22*	*23–24*	*>25*		
Awareness	3.6210	3.6544	3.7753	3.9167	1.340	.263
Intention	3.4000	3.4485	3.5337	3.5000	.755	.521
Opinion	3.1929	3.2412	3.3213	3.7000	.958	.414
Green travel actions	6.0714	5.5441	6.0225	5.0000	2.545	.057
	Ethnic (mean)				F	Sig
	Malay	Indian	Chinese	Other		
Awareness	3.7111	3.8030	3.6700	3.8333	.535	.659
Intention	3.4813	3.4227	3.4880	3.3667	.145	.933
Opinion	3.2560	3.1818	3.2940	3.4000	.385	.764
Green travel actions	5.9200	6.0455	5.7900	5.6667	.340	.796

conducted to assess the psychometric properties of measures in terms of testing convergent and discriminant validity and the reliability properties of the measures to identify internal consistency and adequate fit of scale items. To assess the fit of the observed variables to the latent variables, overall model fit indices were evaluated. In addition, measurement models of both exogenous and endogenous constructs were also constructed to access the psychometric properties and unidimensionality of the measurement scale. Items with low factor loadings and high residuals were eliminated through an interactive process to gain better model fit and more reliable constructs for further analysis of the SEM. After the psychometric properties of measures were estimated, the value of tolerance, covariance among exogenous were examined to identify any multicollinearity problem among predictors in the model.

The CFA model for awareness, intention and opinion towards green travel was designed to test the relationships among the three variables (see Figure 1).

The initial measurement model of Travel ($\chi^2 = 1363.684$, $\chi^2/df = 3.164$, GFI = 0.640, TLI = 0.586, CFI = 0.616, RMSEA = 0.104) did not gain a sufficient model fit on all fit indices. Hence, this model needs to be respecified. Examination on the modification indices suggested that eight (10) items (B11, B12, B21, B22, B23, B24, B25, B16, B27, B31) should be eliminated. The respecified CFA model for green travel is shown in Figure 2.

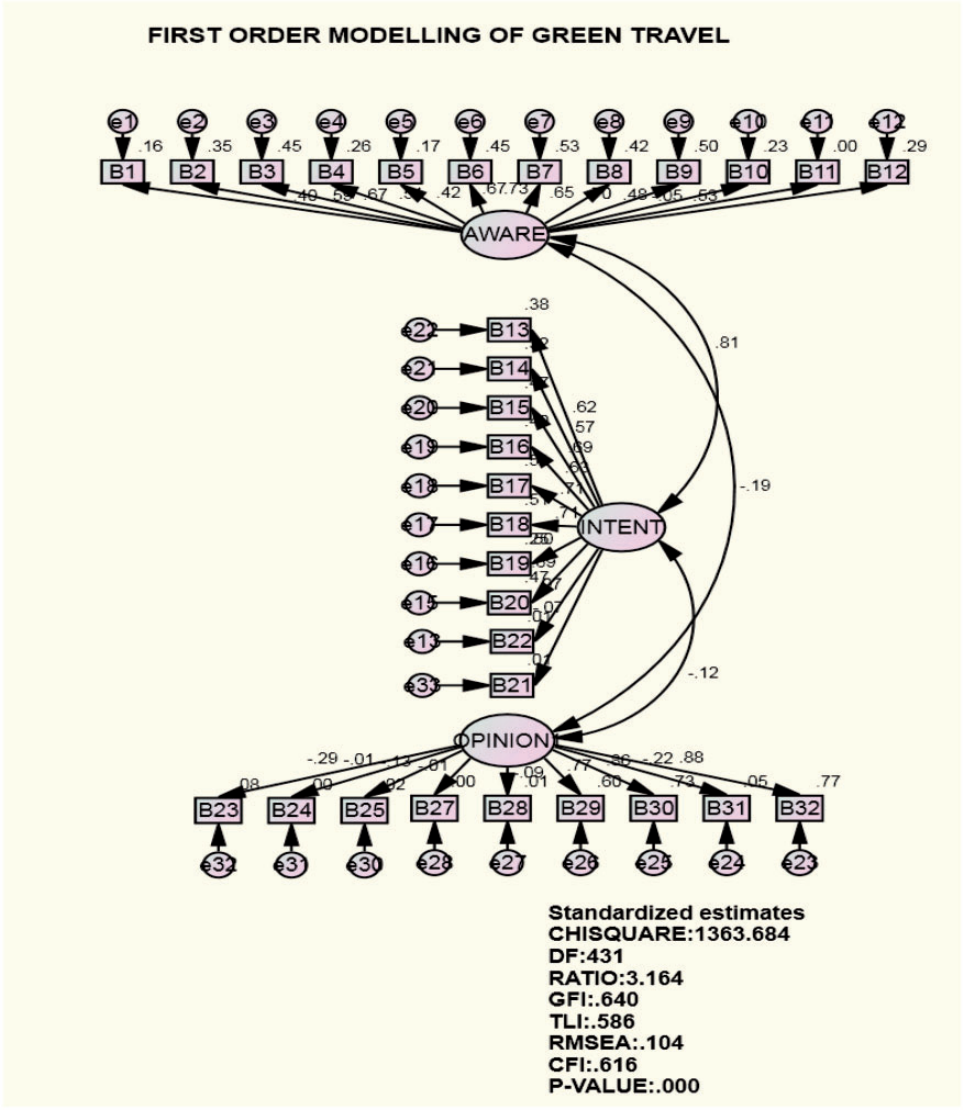

Figure 1. Initial CFA modelling for green travel. CFI: comparative fit index; DF: degree of freedom; GFI: goodness-of-fit index; RMSEA: root mean square error of approximation; TLI: Tucker–Lewis index.

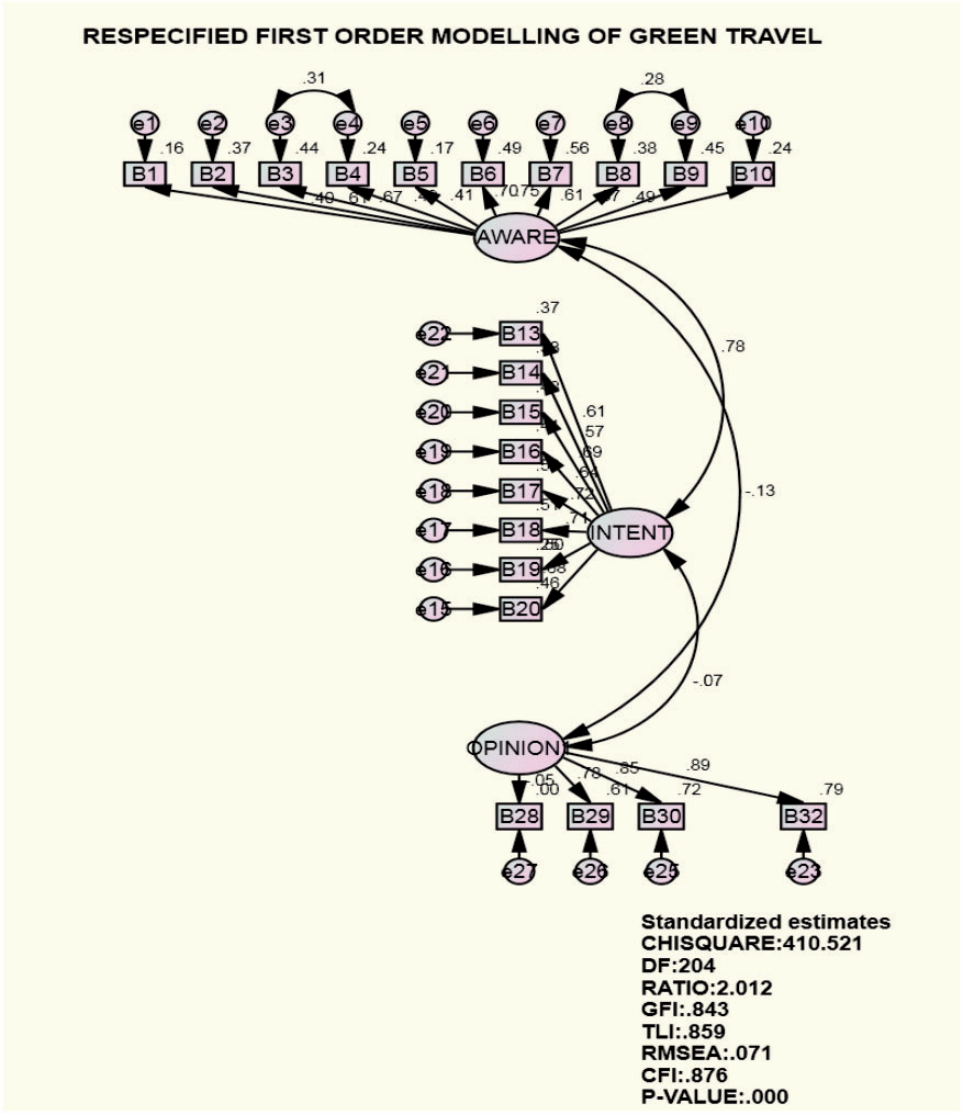

Figure 2. Respecified modelling for green travel. CFI: comparative fit index; DF: degree of freedom; GFI: goodness-of-fit index; RMSEA: root mean square error of approximation; TLI: Tucker–Lewis index.

After the deletion of these two items, the initial measurement model of green travel ($\chi^2 = 410.521$, $\chi^2/\text{df} = 2.012$, GFI = 0.0.843, TLI = 0.859, CFI = 0.876, RMSEA = 0.071) gained a sufficient model fit on more than half of the fit indices. Hence, this model is accepted.

The specified model fit results for the first-order CFA model for green travel indicated a good model fit to the sample data. Most of model fit indices were sufficiently satisfied with their relative recommended thresholds. Model modification was necessary, as the initial first-order CFA model for green travel had model fit indices that were less than satisfactory. The goodness-of-fit results of the first-order CFA model for green travel are summarized in Table 5.

Table 5. Goodness-of-fit results of first-order model for green travel.

	No. of items deleted	Initial value	Final value
Chi-square	10	1363.684	410.521
Degree of freedom ((df)		431	204
Normed Chi square (χ^2/df)		3.164	2.012
Goodness-of-fit index (GFI)		0.640	0.843
Comparative fit index (CFI)		0.616	0.876
Tucker–Lewis index (TLI)		0.586	0.859
Root mean square error of approximation (RMSEA)		0.104	0.071
Sig. (p)		0.000	0.000

Full SEM

The structural equation model presented in Figure 3 was designed to test the relationships that may exist between awareness, intention, opinion towards green travel and green travel actions. The structural equation model included and presented three exogenous and one endogenous variable and the number of estimated parameters in the model was 34.

The model fit results for the structural equation model indicated a good model fit to the sample data. All model fit indices were sufficiently satisfied with their relative recommended thresholds. Model modification was not necessary, as the structural equation model had model fit indices that were more than satisfactory. The goodness-of-fit results of the structural equation model summarized in Table 6 were found to achieve all the value needed.

Effect of awareness, intention and opinion towards green travel on green travel actions

The results of SEM to test the effect of awareness, intention and opinion towards green travel on green travel actions are displayed in Table 7. It was found that 46.6% variance of green travel actions is explained by the three factors. All three factors also showed the significant effect on green travel as follows: awareness ($B = 0.839$, $CR = 5.255$, $p < 0.001$), intention

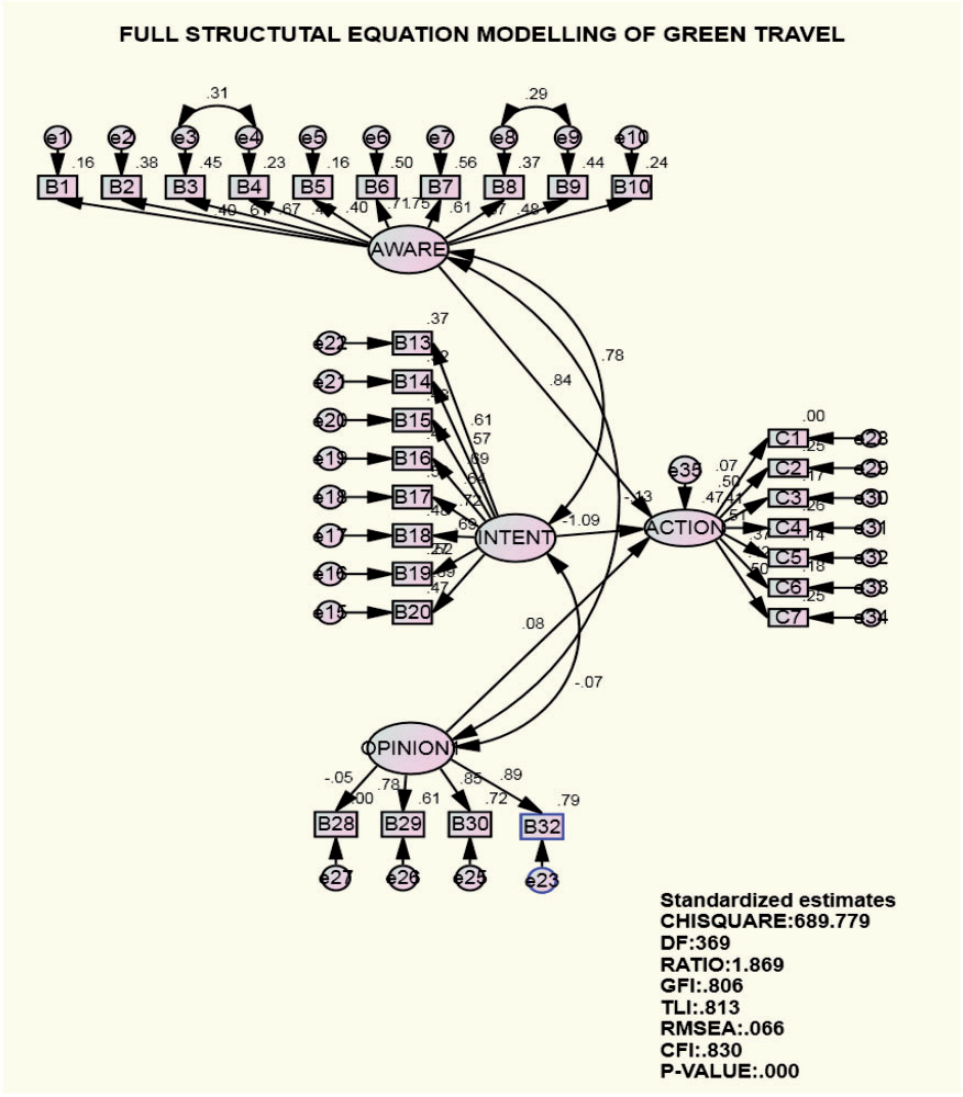

Figure 3. SEM of green travel. CFI: comparative fit index; DF: degree of freedom; GFI: goodness-of-fit index; RMSEA: root mean square error of approximation; TLI: Tucker–Lewis index.

(B = 1.091, CR = 2.750, p < 0.01) and opinion (B = 0.084, CR = 7.471, p < 0.001).

Discussion

The descriptive data manifested what many writers (e.g. Alexander and Bakir, 2011; Almossawi, 2014; Jackson, 2018; Lim, 2017) have suggested about youth and their responsible or positive attitudes/actions during travel. This consistent finding indicates that youth is indeed a key player in the growth of future green travel. Hence there are good opportunities for travel and tourism brands that focus on sustainable tourism to target this growing travel segment. Furthermore, the correlation analysis showed strong correlation between intention and green travel actions and youth opinion and green travel actions while the regression analysis indicated that awareness, intention and opinion towards green travel significantly explained 11.9% variances of green travel actions. However, results indicated only awareness (B = 0.282, t = 3.070, p < 0.01) and intention (B = 0.415, t = 4.265, p < 0.01) play as the significant predictors on green travel actions. This is slightly different from the work of Almossawi (2014) who found positive correlation between all three variables with green buying behaviour within his study context. Meanwhile, this study's SEM results revealed that 46.6% variance of green travel actions is explained by the three factors. All three factors also showed significant effect on green travel.

Table 6. Goodness-of-fit results of structural equation modelling.

	Final
Chi-square	689.779
Degree of freedom (df)	369
Normed Chi square (X^2/df)	1.869
Goodness-of-fit index (GFI)	0.806
Comparative fit index (CFI)	0.830
Tucker–Lewis index (TLI)	0.813
Root mean square error of approximation (RMSEA)	0.066
Sig. (p)	0.000

The findings have helped this study in achieving its objectives of exploring youth awareness towards green travel, identifying youth intention towards green travel and investigating youth opinion about green travel. While it has found a causal effect between youth awareness, attitude and opinion on green travel, it has unfortunately not found any association between the selected sociodemographic variables (gender and race) with green travel like past studies (such as Almossawi, 2014; Gambro and Switzky, 1999; Hamalainen, 2012; Hartoyo et al., 2012; Lasuin and Ng Yuen, 2014). In other words, it does not support previous studies on the relationship between gender, age, race, etc. on green travel. This suggests that perhaps there are other confounding factors that need to be explored in order to understand those relationships better.

Implications of the findings

For industry practitioners, one managerial implication this study highlights is to leverage on the symbiosis between youth and green travel by further enhancing youth awareness, intention and positive attitude towards green travel through environmental education and awareness via formal and informal channels (Sangpikul and Batra, 2007). The formal channels could be educational institutions like schools, colleges or universities with special courses on the environment or ecotourism. Meanwhile, informal channels could include travel to stir, create and build up the interest of youth on environmental issues. Abdul Latiff Ahmad et al. (2012) who studied informal environmental education channels among Malaysian youth contend that environmental education can be found via various sources such as from the youth's own experience, from the media such as television or through travel.

To assist informal environmental education via travel – since it is common knowledge that youth generally appeal to 'cool' and 'trendy' things – a destination management organization can attempt to 'sell' the

Table 7. Causal effect of awareness, intention and opinion towards green travel to green travel actions.

		Estimate	SE	CR
Green travel actions (R^2=0.466)	Awareness	0.839***	0.059	5.255
	Intention	1.091**	0.042	2.750
	Opinion	0.084***	0.160	7.471

CR: critical ratio; SE: standard error.
Note: ***p < 0.001; **p < 0.01.

idea/image that being green is cool and trendy. For example, they could offer environmentally and socially friendly activities to youth and project those activities as cool and trendy. Policymakers could help too, by developing a policy to encourage tourism providers to go in this direction. For example, there could be a tax break for all tourism businesses that offer voluntarism activities aiming at youth. Programmes such as 'clean a village' or 'food for life', etc. that could see young tourists engaging in activities that could help a community should be encouraged. There should also be a policy that encourages institutes of higher learning to work together with tourism providers to expose students to these types of tourism activities. Such programmes could help bring tourism business and help universities achieve the objective of inculcating soft skills in their students. In the long run, the impact could demonstrate what the theory of Generational Replacement has proposed, i.e. a long-term positive social implications beneficial to the environment since a more environmentally friendly youth would also mean a more environmentally friendly society as a whole.

For academic researchers, the study's findings highlighted a causal effect between youth awareness, attitude and opinion on green travel. As 46.6% variance of green travel actions is explained by the three factors, it can be inferred that youth awareness, attitude and opinion play an important role in their green travel engagement. This new insight could add to the existing knowledge on youth and their green travel tendencies. It demonstrates the possibility of using TPB to forecast youth as a generational group, their choices in green travel and predictors of their green travel behaviour. Academic researchers could take this further, by exploring in more detail the possible influence of other factors such as the sociodemographic background, culture or religious affiliation.

Conclusion, limitation and recommendation for future research

The exploratory nature of this study means that there are a couple of limitations that should be acknowledged. First, it is limited in terms of coverage. The study's limited resources only allowed for inclusion of university students as sample. Hence, youth without tertiary education were excluded. In other words, the study's target population and cross-sectional approach in data collection limit the generalizability of its findings. Second, the technics used to enhance 'randomness' of responses, while practical, were not ideal and may have had some impact on the representativeness of the data. Such shortcomings should not deter future researchers from pursuing this topic because there is clearly an ample need for further research to better understand youth and green travel. Future researchers could improve their research design by expanding the target study population and using a bigger sample that is more representative of the youth population to ensure more meaningful findings. Future researchers could also ask more probing questions such as what factors could drive youth to be more 'green' when they travel, what barriers could limit youth from engaging in green travel and how to 'sell' green travel as a cool thing for youth. Moreover, they could conduct a longitudinal study that could provide more insights on the issue so their findings could be more informative and meaningful.

Acknowledgements

We would like to thank Universiti Utara Malaysia for providing the grant for this study.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

This research is funded by Universiti Utara Malaysia's Research Generation Scheme.

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Author Biographies

Azilah Kasim (Scopus Index = 10; Google Scholar H index = 12) is a Full Professor at the School of Tourism, Hospitality and Event Management, Universiti Utara Malaysia (UUM), Sintok, Kedah, Malaysia. She received her PhD in Tourism from Universiti of East Anglia, United Kingdom; her MSc. from Michigan State University, USA; and her BSc. from Brock University, Canada. Now she leads her school's center of excellence called Langkawi International Tourism and Hospitality in UUM. Azilah is a quality accreditation panelist for Malaysia Qualifications Agency (MQA) and a member of the Malaysian Geopark Implementation Technical Committee. She is a cited author in her field and a reviewer for many international academic journals. She is also a national/regional representative and board member for Asia Pacific Tourism Association (APTA) and an editorial board member of many international journals such as Journal of Tourism and Hospitality Insights, Tourism and Spirituality, and On Sustainability. Currently Azilah is actively pursuing her research interests and publishing in the area of corporate social responsibility, corporate environmentalism, environmental management, hotel management and tourism marketing.

Professor **Eugenia Wickens** was awarded her doctorate in 1999 in the Sociology Department at Oxford Brookes University, UK. She is a widely published authority and her substantial portfolio of research outputs comprises journal papers, book chapters and edited books. Professor Wickens is the Editor-in-Chief of the Journal On-Tourism & Sustainability ISSN: 2515-6780. She has played a leading role in the organisation of several international conferences and is currently Chair of the 10th International Conference on 'Sustainable Niche Tourism, Vietnam, April 2019. Professor Wickens has extensive teaching experience, having taught both sociology and tourism. Currently, as well as writing and publishing papers, Professor Wickens supervises 2 PhD students at Bucks New University and 1 PhD student at Reading University.