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# Do mountain tourists demand ecotourism? Examining moderating influences in an Alpine tourism context

## Abstract

*Ecotourists appreciate nature and are willing to learn about nature and ecology. Therefore ecotourism is often seen as a product package that supports sustainable tourism development. This study contributes to existing research in the field of ecotourism as it investigates how travel motives and environmental concern of mountain tourists influences their actual demand for ecotourism. A survey of mountain tourists in the Austrian Alps was conducted and reveals a positive relationship between environmental concern and ecotourism demand. The study measured travel motives, which are compatible and incompatible with ecotourism and showed how these motives influence actual demand of ecotourism. Furthermore it is postulated that education, income and the intention to revisit the destination moderate the relationship between environmental concern, mountain tourists' motives and the tourists' demand for ecotourism. For destination marketing it can be stated that higher educated mountain tourists with a high disposable income are a vital market segment, which should be targeted for ecotourism in the mountains. Research recommendations are highlighted and focus on loyal visitors, as it remains unclear whether loyalty with an ecotourism destination strengthens the demand for ecotourism.*

**Key words:** mountain tourists; ecotourism; loyal visitor; Alps; Austria.

## Introduction

The UNWTO (2010) predicts a constant growth of the tourism industry in the future generating additional flows of tourists around the world. In terms of environmental impacts of tourism, up to date, tourism already accounts for about 5% of all carbon dioxide emissions worldwide (UNWTO, 2008). The increasing global concern about the physical environment can be interpreted as a chance for tourism marketers to create or to address a new market for “ecotourism” within established tourism markets (Fairweather, Maslin & Simmons, 2005; Peattie & Moutinho, 2000). Sustainable tourism products but also eco-tourism which includes the travellers' appreciation of nature and willingness to learn more about nature and ecology (Weaver, 2001), are sensed as means to mitigate the impact of tourism-related greenhouse gas emissions. Eco-tourism is growing and already generates eight billion

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visits a year (Balmford, Green, Anderson, Beresford & Huang 2015); the UNWTO highlights that the global spending on ecotourism “is expected to increase at a higher rate than the tourism industry as a whole” (CREST, p. 5). Thus, interest in ecotourism and ecotourism-related developments has been steadily growing among researchers, public policy makers, consumers, and practitioners during the past three decades. In order to identify environmental-friendly behavior or environmental attitudes, a large amount of tourism research investigated tourists who already participate in nature-based tourism forms (Dolnicar, Crouch & Long, 2008). Environmental attitudes or environmental concern amongst other populations of tourists, which also include package tourists or mass tourists, were neglected. Although, tourism research contributed to the understanding of eco-tourist’s push and pull-motivations and their profiles and behaviors, it remains unclear whether and to which degree these motives and the tourists’ environmental concern influence ecotourism demand. The study at hand contributes to existing research on ecotourism by first investigating how the mountain tourists’ travel motives and environmental concern influence the demand for ecotourism. The authors thereby distinguish between travel motives both compatible and incompatible with ecotourism standards in order to better understand commonalities and differences between ecotourism and mountain tourism. Similar motives can serve as a starting point for ecotourism managers and sustainable tourism initiatives seeking to open up new tourism segments for ecotourism products. Second, this article sheds further light upon the antecedents of demand for ecotourism by examining interaction effects. Education and income are investigated as a moderating effect, as prior studies established direct effects of income and education on both travel motives as well as demand for ecotourism. Third, the moderating role of the intention to revisit a destination upon the relationship between travel motives and the demand for ecotourism is investigated. Therefore, this research contributes to theory and practice by enabling a better understanding of relationships between antecedents of demand for ecotourism, and by deriving viable implications for ecotourism managers and sustainable tourism initiatives.

## Conceptual framework and hypotheses

Ecotourism has emerged as one of the most widely discussed and debated concepts within the tourism sector (Orams, 1995; Weaver & Lawton, 2002). However, there is considerable debate over what exactly the term ‘ecotourism’ means (Blamey, 1997; Lindberg, Enriquez & Sproule, 1996; Peattie & Moutinho, 2000). Ecotourism originally developed from the term “ecological tourism” (Fennell, 2007) and was used as an abbreviation to describe various offers (e.g. eco-tours) of responsible tourism. Ceballos-Lascuráin (1987, p. 14) defined ecotourism as “travelling to relatively undisturbed or uncontaminated natural areas with the specific objective of studying, admiring, and enjoying the scenery and its wild plants and animals as well as many cultural manifestations (both, past, and present) found in these areas.” This definition does already highlight major needs and demand patterns of eco-tourists: Learning is a central element of ecotourism (Price, 2003). Furthermore, ecotourism also includes the individual’s appreciation of nature (Ceballos-Lacurain, 1996). According to Orams (1995, 2001) and Weaver (2001) the term ‘ecotourism’ is partially a result of the increased recognition of, and reaction to the negative impacts caused by mass tourism to natural areas. Nature-based tourism or environmentally-oriented tourism is usually understood as ‘ecotourism’ and often used interchangeably (Mehmetoglu, 2005). Tickell (1991, p. XI) highlights this appreciation when defining eco-tourism as “travel to enjoy

the world's amazing diversity of natural life and human culture without causing damage to either." This underlines the need for sustainable management and sustainable treatment of natural resources. Sirakaya, Sasidharan and Sonmez (1999) conducted a content analysis of more than 100 ecotourism definitions and found that ecotourism is often associated with "environmentally friendly, responsible travel, educational travel, low-impact travel, ecocultural travel, sustainable/non-consumptive tourism, and community involvement" (p. 171). Sharpley (2006) considered eco-tourism from a consumption perspective and highlighted that the development of eco-tourism is "dependent upon responsible, environmentally appropriate behavior" (p. 19) before, during and after the trip. This paper bases the conceptualization of ecotourism on the definition by The International Ecotourism Society (TIES, 2006) which proposes *ecotourism as responsible travel to natural areas that conserves the environment and improves the well-being of local people*.

Backmann and Morais (2001) pointed out that ecotourism research usually covers economic studies (e.g. such as Peake, Innes & Dyer, 2009), ecological studies (e.g. Lindberg, *et al.*, 1996), or social-psychological studies (e.g. Blamey & Braithwaite, 1997). When examining the methods used it becomes obvious that in the area of qualitative research ecotourism research is dominated by case study investigations in various continents analyzing various units such as regions or destinations (e.g. Buckley, 2004), resorts (e.g. Ryan & Stewart, 2009), firms (Choo & Jamal, 2009), and islands (Powell & Ham, 2008). Quantitative research usually covers on-site surveys or mail-out surveys mainly focusing on the analysis of eco-tourist behaviors (e.g. Lemelin, Fennell & Smale, 2008). Some of these contributions attempt to reveal segments of eco-tourists based on individual environmental awareness, concern or attitude (e.g. Dolnicar *et al.*, 2008; Weaver & Lawton, 2002, 2007; Zografos & Allcroft, 2007). Lee and Moscardo (2005) found that environmentally aware consumers might be more likely to have pro-environmental behavior than other consumers. Environmentally aware consumers attempt to make ecologically correct decisions about the products they buy (Roberts & Bacon, 1997) and as a consequence are more committed to the environment. Within the ecotourism segment, Weaver and Lawton (2002) used behavioral and opinion statements to differentiate between hard and soft eco-tourists. While hard eco-tourists, who are highly committed to show affinities with wilderness type experiences show a strong environmental commitment, soft eco-tourists demonstrate less commitment to the environment. Eco-tourists are often characterized as tourists showing strong environmental attitudes. In the past, environmental attitudes, such as the "crucial construct in environmental psychology" (Milfont & Duckitt, 2010, p. 80) were measured using mainly ecology scales (Maloney, Ward & Braucht, 1975), the New Environmental Paradigm (NEP) scale (Dunlap & Van Liere, 1978), and the environmental concern scale (Weigel & Weigel, 1978). Apart from traveling, meta-analysis has shown that individuals having a higher level of environmental concern are more likely involved in environment preserving activities (Hines, Hungerford & Tomera, 1987). For instance, Roberts and Bacon (1997) found that environmental values measured by the NEP (New Environmental Paradigm) scale (Dunlap, Van Liere, Mertig & Jones, 2000) positively correlate with environmentally conscious behavior such as recycling, energy conservation, and petitioning. This underlines the fact that many researchers discordantly refer either to environmental values, attitudes, and concerns. The NEP scale is not a direct measure of environmental attitudes (Hawcroft & Milfont, 2010) but it has been treated as measuring "environmental attitudes, beliefs, values, and worldview" (Dunlap *et al.*, 2000, p. 428). Dunlap (2008) believes that it is most accurate to interpret the NEP as a measure of environmental

beliefs. Furthermore, he states, that his personal preference is the term “ecological worldview” as “the NEP scale measures the degree to which respondents view the world ecologically.” (p. 10).

However, also the term ‘environmental concern’ has been used to refer to environmental attitudes and in earlier research both terms have been used synonymously (e.g. Dunlap & Jones, 2003). Ong and Musa (2012) defined environmental concern according to Dunlap and Jones (2002, p. 485) who interpret it as “a segment of environmental attitudes, which refer to the degree to which people are aware of problems regarding the environment and support efforts to solve them and/or indicate a willingness to contribute personally to their solution.” Also, Jurowski, Uysal, Williams, and Noe (1995) concluded that the level of environmental concern measured through the NEP scale influences support for conservation policy and preferences for recreational facilities in a national park. Thus, environmental concern will influence consumers or tourists’ travel behavior decisions.

Therefore hypotheses one is proposed:

*H1:* The environmental concern of mountain tourists positively influences their demand for ecotourism.

According to Crompton (1979) and Iso-Ahola (1982) motivation is one of the most important variables explaining tourist behavior. In general, motivation is regarded as psychological and biological needs and wants (Crompton & McKay, 1997; Yoon & Uysal, 2005). Murray (1964) defines motivation as an internal factor that arouses, directs, and integrates an individual’s behavior and activity. Dann (1977) stated that tourism motivation is a meaningful state of mind, which adequately disposes an actor or a group of actors to travel. From an anthropological point of view, tourists are motivated to escape everyday life and seek authentic experiences (MacCannell, 1977). Their motives are the starting point that launches the decision process (Crompton & McKay, 1997). Among others, eco-tourists follow the motives of experiencing nature and being active (Weaver & Lawton, 2002). Eco-tourists’ appreciation of nature is also reflected in other segments, such as mountain tourists and skiers: Mountain tourism includes all forms of tourism activities that take place in mountain regions. Amongst these distinct forms are ski and adventure tourism (e.g. climbing and hiking), cultural tourism and ecotourism (Maroudas, Kyriakaki & Gouvis, 2004). Dolnicar (2004) investigates a broad array of relevant travel motives of alpine winter tourists like relaxation, budget, skiing, mountains, fun, comfort and many other more. Other authors identified the segment of naturalists among skiers who are also attracted by mild mountain activities enjoying mountain nature (Alexandris, Kouthouris, Funk & Giovani, 2009). Many of their travel motives (e.g. relaxation, fun, comfort, budget) can be classified into motives not in conflict with ecotourism aims, and motives incompatible with ecotourism products. While, for instance, motives regarding visiting an unspoiled nature or authentic culture are addressable with ecotourism products, motives like skiing or seeking a great variety of entertainment facilities will be difficult to bring in accordance with ecotourism standards (Alexandris *et al.*, 2009; Konu, Laukkanen & Komppula, 2011). Thus, in this study travel motives are defined as compatible or incompatible with ecotourism depending on if the fulfillment of the motive is in accordance (i.e., compatible) or in conflict (i.e., incompatible) with the requirements and goals of ecotourism. Two hypotheses are therefore proposed:

*H2a:* Mountain tourists’ travel motives compatible with ecotourism standards positively influence the demand for ecotourism.

*H2b:* Mountain tourists' travel motives incompatible with ecotourism standards negatively influence the demand for ecotourism.

Crouch, Devinney, Dolnicar, Huybers, Louviere and Oppewal (2005) found that environmentally caring tourists differ significantly in socio-demographics. Demographic variables such as gender, age, income or nationality are thereby often a starting point for distinguishing eco-tourists from other tourism segments (Dolnicar & Leisch, 2008; Fennell, 2007; Weaver & Lawton, 2002, 2007). Dolnicar, Crouch, and Long (2008) outlined characteristics of environmental-friendly tourists such as a higher level of education, higher income and interest in learning. Building upon these findings it can be expected that a higher level of education and a higher level of income moderates the relationship between mountain tourists' travel motives, environmental concern and demand for ecotourism:

*H3a,b:* The higher the tourist's level of education a) the more positive the relationship between ecotourism compatible travel motives and demand for ecotourism, and b) the more negative the relationship between ecotourism incompatible travel motives and demand for ecotourism.

*H3c:* The higher the tourist's level of education, the more positive the relationship between environmental concern and demand for ecotourism.

*H4a,b:* The higher the tourist's level of income a) the more positive the relationship between ecotourism compatible travel motives and demand for ecotourism, and b) the more negative the relationship between ecotourism incompatible travel motives and demand for ecotourism.

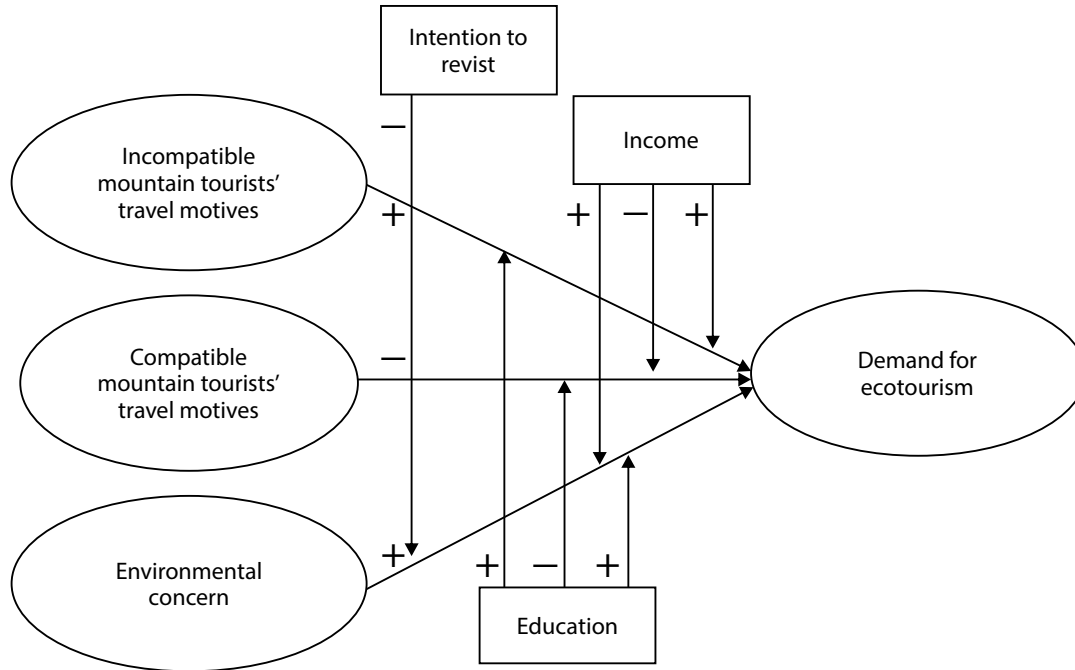
*H4c:* The higher the tourist's level of income, the more positive the relationship between environmental concern and demand for ecotourism.

Among mountain tourists, a large proportion of loyal tourists exist who frequently spend their holidays at the same destination (KMU Forschung Austria, 2008). In the marketing literature, consumer loyalty often refers to repeat purchase or re-patronization of a product or service (Oliver, 1999). Consumer loyalty thus encompasses both an attitudinal and a behavioral component (e.g. Dick & Basu, 1994). In a tourism context, the attitudinal component of consumer loyalty refers to the intention to visit a destination, while the behavioral component is characterized by a probability of visiting a destination (Yoon & Uysal, 2005). Thus, if a tourist feels attached to a certain destination, he or she will be loyal to that destination. The behavioral measurement approach, however, has been criticized as it does not explain the influencing factors that drive a tourist's willingness to revisit a destination (Yoon & Uysal, 2005). In this paper, the focus is on the attitudinal component of loyalty that is understood as future revisit intention of a destination. As loyal tourists are emotionally attached to a certain destination, they do not intend to switch to another destination (e.g. Oppermann, 2000). Therefore it can be expected that the intention to revisit a non-ecotourism destination will have a negative effect on the relationship between environmental concern and the demand for ecotourism:

*H5:* The higher the tourist's intention to revisit a non-ecotourism destination, the more negative the relationship between environmental concern and demand for ecotourism.

Figure 1 shows the study model and summarizes the proposed relationships.

Figure 1  
Study model and proposed relationships



## Method

A survey of mountain tourist was conducted in Austria. The Stubaital in Tyrol was selected as an appropriate area. The destination offers both strong winter and summer products and families are a major target segment. The glacier secures strong winter seasons. Furthermore the portfolio of summer products has been strengthened during the last years by developing nature based products such as a wild water path where tourists experience and learn more about the relevance and importance of water in the mountains (see [www.stubai.at](http://www.stubai.at)) (Strobl & Peters, 2015, p. 85). First, tourists were addressed in springtime at the glacier cable car station between daytime (9am - 4pm). Tourists filled out the questionnaire in nearby coffee shops and restaurants or in the parking area. In total, 254 questionnaires have been filled out. Second, an online questionnaire was created and the link was distributed among tourists who were in the Stubaital during the last 2 years. Furthermore, the link was published on region specific web platforms such as the Stubaital Facebook page. Through these channels another 82 completed questionnaires could be collected. Finally, the authors collected a random sample of 336 mountain tourists among visitors of the destination Stubaital located in Tyrol, Austria. The data was collected from different places located within the destination (e.g., in public places such as in tourist information centers, restaurants, cafes, etc.) by means of a self-administered questionnaire.

First, study participants answered questions regarding their current holidays. More specifically, respondents were asked to indicate their overall satisfaction with their stay (e.g., “All in all, I am very satisfied with my holidays”), their intention to revisit the destination and their intention to recommend the destination to others. These items were drawn from the work by Yoon and Uysal (2005). Then, the respondents answered questions about their activities during their stay (e.g., “visiting friends and relatives”, “shopping”, “partying”, “doing sports”). Next, the questionnaire included items measuring travel motives. Based on the work by Dolnicar and Leisch (2003) and Dolnicar (2004), eight items were used to measure respondents’ travel motives in a mountain tourism setting (e.g., “When I chose this holiday-resort (...) an unspoiled nature and natural landscape played a major role for me”, (...) a well-organized and easygoing travel experience played a major role for me. (...), the authentic experience of nature played a major role for me, (...) perfect conditions for doing sports played a major role for me”, etc.). After reading the definition of ecotourism by The International Ecotourism Society (TIES, 2006) (i.e., *ecotourism as responsible travel to natural areas that conserves the environment and improves the well-being of local people*), respondents indicated their demand for ecotourism on a three-point rating scale from 1 = “not at all interested” to 3 = “very interested.” The measurement of demand for ecotourism is in line with the suggested procedure by Zografos and Allcroft (2007) who used a 3-point scale for travelers to indicate their predisposition to ‘do eco-tourism’ (p. 49). Then, respondents answered questions measuring their environmental concern. The revised New Ecological Paradigm (NEP) scale by Dunlap, Van Liere, Mertig, and Jones (2000) provides the basis for measuring environmental concern. Six items of the revised NEP were used to measure environmental concern (e.g., “When humans interfere with nature it often produces disastrous consequences”). A four-point rating scale from 1 = “agree” to 4 = “disagree” measured both travel motives and environmental concern. Finally, participants responded to some general questions about their holidays (e.g., “type of accommodation”, “length of stay”, “travel party”) and some socio-demographic questions. A pilot test with 25 respondents (60% females, average age = 21.5 years) ensured proper questionnaire design with minor changes in wording of the questions. The data was analyzed using an exploratory factor analysis to extract factors of travel motives. Cronbach’s alpha and AVE were calculated for the extracted factors. A moderator analysis was then performed with the help multiple hierarchical regression analyses.

## Results

The average age of respondents is 40.0 years and 41.1% are employees. 61% are male, however the genders do not differ significantly regarding their level of education ( $t = -0.29, p > 0.77$ ), job position ( $t = -1.67, p > 0.10$ ), and monthly income ( $t = 1.16, p > 0.24$ ). Concerning the participants’ nationalities, the majority is German (60.7%) followed by Austrian (10.7%), British (7.1%), Belgian (5.7%), and Dutch (3.9%) nationalities. The remaining 11.9% of respondents are from other countries such as Italy, Switzerland, and Poland. 252 respondents filled in the German version of the questionnaire and 84 individuals completed the English questionnaire. On average, participants spend 2.25 days at the destination. The majority of respondents stay in guesthouses (25.0%) and upper-class hotels (23.50%). The majority of 92.3% of study respondents indicate to visit the destination for sports reasons. 68.5% of respondents spend their holidays in alpine regions at least twice a year on a regular basis.

An exploratory factor analysis was conducted first to identify underlying factors of travel motives and environmental concern. The results revealed three factors for travel motives (i.e., *perfect sports conditions*, *authentic experience of nature*, *well-organized and easygoing experience*) and two factors for environmental concern (i.e., *environmental abuse* and *human interference*). All factor loadings varied between 0.65 and 0.86.

Travel motives often stimulate destinations to reconsider their destination supply chain or to adjust their offers due to the attractiveness of certain customer segments. Due to these requirements (e.g., sports, family and childcare, entertainment and security facilities) of the travel motives *perfect sports conditions* and *well-organized and easygoing travel experience* the authors classify these two dimensions as incompatible with ecotourism standards and travel motives *authentic experience of nature* as highly compatible with ecotourism requirements. To assess the validity and reliability of the extracted factors, Cronbach's alpha (e.g. Churchill, 1979), and average variance extracted (AVE) were calculated separately for each factor. Table 1 presents the psychometric properties of the applied scales. The values for Cronbach's alpha exceeded the critical threshold of 0.6 and the values for AVE the critical threshold of 0.5 (Nunnally, 1967). The respective items comprising one factor were averaged to one index value for the ongoing analysis.

Table 1  
Psychometric properties of measures

	No. of items	M	SD	$\alpha$	AVE
<b>Travel motives</b>					
Perfect sports conditions	2	3.61	0.54	0.70	0.77
Authentic experience of nature	3	3.02	0.61	0.67	0.62
Well-organized & easygoing	3	2.21	0.65	0.64	0.58
<b>Environmental concern</b>					
Environmental abuse	3	3.34	0.63	0.62	0.57
Human interference	3	3.13	0.67	0.61	0.56
Demand for eco-tourism	1	1.49	0.69	-	-

Note: M = mean, SD = standard deviation,  $\alpha$  = Cronbach's alpha, AVE = average variance extracted.

Multiple hierarchical regression analyses were performed to test the proposed hypotheses. For each of the three moderating variables (i.e., level of education, income, and intention to revisit) two separate hierarchical regression analyses were conducted (i.e., model 1 and model 2) with model 1 including main effects and model 2 including two-way interactions between independent and moderator variables. Table 2 presents the results of the regression analysis. To facilitate interpretation of interaction effects, all independent variables were mean-centered to reduce multicollinearity among interaction terms and individual components (Aiken & West, 1991). The inspection of the variance inflation factor for predictor and control variables suggests that no multicollinearity exists. A comparison of model 1 with model 2 shows that the inclusion of the interaction effects contributes significantly to the model's power in explaining the variance of demand for eco-tourism (model 2<sub>education</sub>:  $F = 2.08$ ,  $p < 0.10$ ; model 2<sub>income</sub>:  $F = 4.42$ ,  $p < 0.01$ , model 2<sub>intention to revisit</sub>:  $F = 2.38$ ,  $p < 0.05$ ).



Table 2  
Results of multiple hierarchical regression analysis

	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
<b>Main effect</b>						
EA	0.17**	0.15**	0.16**	0.15**	0.17**	0.16**
HI	0.20**	0.22**	0.21**	0.23**	0.21**	0.22**
PSC	-0.09♦	-0.09♦	-0.08♦	-0.11*	-0.09♦	-0.11*
AEN	0.24**	0.25**	0.24**	0.22**	0.24**	0.26**
WOE	-0.15**	-0.15**	-0.15**	-0.16**	-0.14**	-0.13*
<b>Control variables</b>						
Sex	0.12*	0.12**	0.13*	0.15**	0.13*	0.12*
Age	0.14**	0.14**	0.15**	0.14**	0.14**	0.15**
<b>Interaction terms</b>						
EDU	-0.00	-0.02				
EDU x EA		-0.12*				
EDU x HI		0.01				
EDU x PSC		-0.08				
EDU x AEN		0.11*				
EDU x WOE		-0.01				
INC			-0.07	-0.08		
INC x EA				-0.11*		
INC x HI				0.06		
INC x PSC				-0.11*		
INC x AEN				-0.02		
INC x WOE				-0.14**		
REV					-0.03	-0.05*
REV x EA						-0.02
REV x HI						-0.11*
<b>Adjusted R<sup>2</sup></b>	0.24	0.25	0.25	0.29	0.24	0.25
<b>Hierarchical F</b>	13.74	9.40♦	14.33	11.00**	13.80	9.59*

Notes: Dependent variable: Interest in eco-tourism.

Sex coded as 0 = male and 1 = female; EA = environmental abuse; HI = human interference; PSC = perfect sports conditions; AEN = authentic experience of nature; WOE = well-organized & easygoing; EDU = level of education; INC = income; REV = intention to revisit; All coefficients presented are standardized regression coefficients.

♦significant at  $p < 0.10$ , \* significant at  $p < 0.05$ , \*\* significant at  $p < 0.01$  (two-tailed).

H1 proposed that tourists' environmental concern positively relates to the demand for ecotourism. The results reveal a positive relationship between both factors of environmental concern (i.e., environmental abuse and human interference) and demand for ecotourism (environmental abuse:  $\beta_{EA} = 0.17$ ,  $p < 0.01$ ; human interference:  $\beta_{HI} = 0.20$ ,  $p < 0.001$ ) which is in favor of H1. Thus, the more tourists worry about environmental abuse and the more they consider human interference in natural

environments, the higher their demand for ecotourism. H2 proposed that mountain tourists' travel motives significantly influence demand for ecotourism with H2a proposing a positive relationship between compatible travel motives and ecotourism and H2b proposing a negative relationship between incompatible travel motives and ecotourism. The results show that, on the one hand, travel motives compatible with ecotourism such as seeking an *authentic experience of nature* positively influence the demand for ecotourism ( $\beta_{\text{AEN}} = 0.24, p < 0.001$ ). On the other hand, travel motives incompatible with ecotourism standards such as *perfect sports conditions* have a negative influence on the demand for ecotourism ( $\beta_{\text{PSC}} = -0.09, p < 0.10$ ). The results further reveal that the travel motive *well-organized and easygoing experience* negatively impacts demand for ecotourism ( $\beta_{\text{WOE}} = -0.15, p < 0.01$ ). Thus, the results support the influence proposed in H2a and H2b. In terms of interaction effects between the predictor and moderating variables, the results are partly inconsistent. In H3a and H3b, a stronger effect of compatible and incompatible travel motives on demand for ecotourism with an increasing level of education is proposed. In line with H3a a higher level of education positively moderates the relationship of compatible ( $\beta_{\text{AEN}} = 0.11, p < 0.05$ ) travel motives and demand for ecotourism. For of incompatible motives, the moderating effect of education between *perfect sports conditions* and demand for ecotourism is significant ( $\beta_{\text{PSC}} = -0.08, p < 0.10$ ;  $\beta_{\text{WOE}} = -0.01, \text{n.s.}$ ). Thus, H3b can be supported partially. H3c postulated a more positive relationship between environmental concern and demand for ecotourism for a higher level of education. The data, however, do not support this hypothesis. Against the authors' expectations, a significant negative relationship between concern about environmental abuse on demand for ecotourism must be observed with an increasing level of education ( $\beta_{\text{EA}} = -0.12, p < 0.05$ ). The moderating role of education on the relationship between concern about human interference and demand for ecotourism is not significant ( $\beta_{\text{HI}} = 0.01, \text{n.s.}$ ). H4a and H4b proposed a stronger relationship of compatible and incompatible travel motives on demand for ecotourism with an increasing level of income. While the relationship of compatible travel motives and demand for ecotourism is not significant ( $\beta_{\text{AEN}} = -0.02, \text{n.s.}$ ; H4a not supported), the relationship of incompatible travel motives and demand for ecotourism is significantly moderated by the level of income ( $\beta_{\text{PSC}} = -0.11, p < 0.05$ ;  $\beta_{\text{WOE}} = -0.14, p < 0.01$ ). Thus, in line with H4b, the more income tourists have, the more negative the relationship of incompatible travel motives (*perfect sports conditions* as well as *well-organized and easygoing experiences*) on demand for ecotourism. H4c postulated a more positive relationship between environmental concern and demand for ecotourism for a higher level of income. Against the expectations, a significant negative relationship of concern about environmental abuse on demand for ecotourism must be observed with an increasing level of income ( $\beta_{\text{EA}} = -0.11, p < 0.05$ ). The moderating role of income on the relationship between concern about human interference and demand for ecotourism is not significant ( $\beta_{\text{HI}} = 0.06, \text{n.s.}$ ). Therefore, H4c cannot be supported. Finally, H5 proposed a more negative relationship between environmental concern and demand for ecotourism for a higher intention to revisit a non-ecotourism destination. While the proposed relationship can be observed for concern for human interference ( $\beta_{\text{HI}} = -0.11, p < 0.05$ ), this observation is not significant for concern for environmental abuse on demand for ecotourism ( $\beta_{\text{EA}} = -0.02, \text{n.s.}$ ), thus H5 can be partially supported.

## Discussion

The results of this study clearly demonstrate that among mountain tourists specific travel motives are compatible while others are incompatible with ecotourism. As for eco-tourists, mountain tourists also seek authentic natural experiences when travelling. On the one hand, ecotourism managers and initiatives should seek to build on and satisfy travel motives that positively influence the demand for ecotourism. On the other hand, selective communication instruments (e.g., brochures, websites) should seek to invalidate the incompatibility of mountain tourists' travel motives with ecotourism. Therefore, within the segment of mountain tourists, ecotourism compatible products and services should be developed specifically addressing aspects of sports and comfort. Furthermore, as environmental concern positively influences ecotourism demand, addressing the advantages of ecotourism such as conservation of nature and well-being of local people in marketing initiatives will further foster the demand for ecotourism. Today, these marketing initiatives mainly focus on higher-income segments, and interpret ecotourism as a niche product. However, environmental-friendly travels might also be communicated to a broader segment, which is willing to spend more money to address their environmental concern.

In line with prior research, it can be highlighted that environmental concern positively influences demand for ecotourism (Weaver & Lawton, 2002; Uysal, Jurowski, Noe & McDonald, 1994). Environmental concerned individuals tend to behave environmental-friendly at home and obviously do also demand environmental-friendly tourism products. Dolnicar (2010) identified a large overlap of individuals labeled as “environmentally friendly at home” and those who are “environmentally friendly on vacation”. She also underlines that “external circumstances clearly play a role in how much or how often individuals are in the position to behave in such a way, the predisposition to do so is a personal one.” (Dolnicar, 2010, p. 729). Existing empirical research describes eco-tourists as having above average income and education (e.g. Dolnicar, Crouch & Long, 2008; Wurtzinger & Johansson, 2006). The findings reveal a negative impact of education and income on the relationship between environmental concern and demand for ecotourism. This finding indicates that higher levels of income and education do not necessarily strengthen the relationship of pro-environmental attitudes and demand for ecotourism.

## Conclusion

The growing awareness concerning environmental issues as well as the increasing presence of related topics in the media together with a lack of knowledge explaining ecotourism demand motivated the research at hand. Most of the existing studies focused on describing characteristics of eco-tourists distinguishing them from other tourists (e.g. Dolnicar, *et al.*, 2008; Weaver & Lawton, 2002; Zografos & Allcroft, 2007). This paper investigated how characteristics of non-eco-tourists such as mountain tourists and their travel motives influence the demand for ecotourism. Especially mountain tourists show similarities in their travel motives to eco-tourists. Therefore, a better understanding of the influence of characteristics of mountain tourists enables ecotourism managers and ecotourism initiatives to target a new possible tourist segment among mountain tourists.

It can be assumed that future cohorts of travelers across various levels of income and education show stronger environmental concern and therefore demand for ecotourism. New generations of travelers from

well-developed countries show a great interest in ways of low-budget and at the same time sustainable or pro-environmental traveling (e.g. backpacker traveling, volunteer tourism) (Gray & Campell, 2007; Oi & Laing, 2010; Palacios, 2010). Destination marketing organizations can therefore develop market segmentation and differentiated strategies to develop well-focused marketing campaigns, referring to environmentally concerned ecotourism demand across various cohorts and generations.

Future research should seek to investigate further non-linear relationships between demand for ecotourism and level of education as well as level of income. On the other hand, education and income strengthen the positive relationship of compatible travel motives on demand for ecotourism. Thus, higher educated mountain tourists with higher disposable income can be a vital target segment. Marketers should thereby focus on identifying and satisfying appropriate travel motives to increase interest in ecotourism.

The mountain tourists' intention to revisit a non-ecotourism destination dampens the positive relationship of ecotourism-compatible travel motives and demand for ecotourism. Further research should analyze whether this holds true for the reverse relationship: Does loyalty with an ecotourism destination further strengthen demand for ecotourism? Ecotourism initiatives should in this respect try to cooperate with partner destinations in the alpine arc to offer a variety of ecotourism products to their tourists. This could help increase spending among loyal travelers while the costs for acquiring first-time visitors remain low.

Despite the contributions achieved in investigating the antecedents of the demand for ecotourism, this study faces some limitations. First of all, the research at hand is based on quantitative research testing hypotheses, which demand the measurement of complex and highly discussed constructs. Although, the authors attempted to derive construct measurement from earlier research it is recommended to clarify certain construct assessments, such as environmental concern, with the help of qualitative research. Qualitative research can dig deeper into consumer values and their relation to environmental concern and demand. Second, only one destination was investigated opening up the possibility that the results are biased by destination-specific variables. This study should therefore be replicated in other destinations with different tourist segments in order to validate the findings for travel motives which are compatible or incompatible with ecotourism and thereby increase the generalizability of findings. Further, an eminently high proportion of German tourists comprised the sample. Findings from prior studies show that regional identity and therefore geographic characteristics (country of origin) can play a crucial role in tourist behavior (Bordessa, 1993; Carrus, Bonaiuto & Bonnes, 2005). Thus, future research should investigate differences in behavior of mountain tourists based on nationality and (perceived) distance to the destination. Furthermore, environmental concern is prone to social desirability biases. Other study methods could involve a controlled experimental setting to test these findings.

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## References

- Aiken, L. S. & West, S. G. (1991). *Multiple Regression: Testing and Interpreting Interactions*. Newbury Park, London, New Delhi: SAGE publications Inc.
- Alexandris, K., Kouthouris, C., Funk, D. & Giovani, C. (2009). Segmenting Winter Sport Tourists by Motivation: The Case of Recreational Skiers. *Journal of Hospitality Marketing & Management*, 18(5), 480-499.
- Backman, K. F. & Morais, D. B. (2001). Methodological Approaches Used in the Literature. In D. B. Weaver (Ed.), *The Encyclopedia of Ecotourism* (pp. 597-610). Oxon, UK: CABI Publishing.
- Balmford, A, Green, JMH, Anderson, M., Beresford, J. & Huang, C. (2015). Walk on the Wild Side: Estimating the Global Magnitude of Visits to Protected Areas. *PLoS Biol* 13(2), online first: e1002074. doi: 10.1371/journal.pbio.1002074.
- Blamey, R. K. (1997). Ecotourism: The Search for an Operational Definition. *Journal of Sustainable Tourism*, 5(2), 109-130.
- Blamey, R. K. & Braithwaite, V. A. (1997). A Social Values Segmentation of the Potential Ecotourism Market. *Journal of Sustainable Tourism*, 5(1), 29-45.
- Buckley, R. (2004). Ecotourism Land Tenure and Enterprise Ownership: Australian Case Study. *Journal of Ecotourism*, 3(3), 208-213.
- Bordessa, R. (1993). Geography, Postmodernism, and Environmental Concern. *The Canadian Geographer*, 37(2), 147-156.
- Carrus, G., Bonaiuto, M. & Bonnes, M. (2005). Environmental Concern, Regional Identity, and Support for Protected Areas in Italy. *Environment and Behavior*, 37(2), 237-257.
- Ceballos-Lacurain, H. (1996). *Tourism, Ecotourism and Protected Areas*. Gland, Switzerland: International Union for Conservation of Nature and Natural Resources.
- Ceballos-Lascuráin, H. (1987). The future of ecotourism. *Mexico Journal*, January, 13-14.
- Choo, H. & Jamal, T. (2009). Tourism on organic farms in South Korea: a new form of ecotourism? *Journal of Sustainable Tourism*, 17(4), 431-454.
- Churchill, G. A., Jr. (1979). A Paradigm for Developing Better Measures of Marketing Constructs. *Journal of Marketing Research*, 16(1), 64-73.
- CREST [Center for Responsible Travel] (2015). *The Case for Responsible Travel: Trends & Statistics 2015*. Retrieved July 27, 2015, from [www.responsibletravel.org](http://www.responsibletravel.org).
- Crompton, J. L. (1979). Motivations for pleasure vacation. *Annals of Tourism Research*, 6(4), 408-424.
- Crompton, J. L. & McKay, S. L. (1997). Motives of visitors attending festival events. *Annals of Tourism Research*, 24(2), 425-439.
- Crouch, G. I., Devinney, T., Dolnicar, S., Huybers, T., Louviere, J. & Oppewal, H. (2005). New horses for old courses: Questioning the limitations of sustainable tourism to supply-driven measures and the nature-based context. ANZMAC 2005 (CD) *Conference Proceedings of the Australian and New Zealand Marketing Academy*, Fremantle, Western Australia, 5-7 December 2005.
- Dann, G. M. S. (1977). Anomie, ego-enhancement and tourism. *Annals of Tourism Research*, 4(4), 184-194.
- Dick, A. S. & Basu, K. (1994). Customer Loyalty: Toward an Integrated Conceptual Framework. *Journal of the Academy of Marketing Science*, 22(2), 99-113.
- Dolnicar, S. (2004). Insights into Sustainable Tourists in Austria: A Data-based A Priori Segmentation Approach. *Journal of Sustainable Tourism*, 12(3), 209-218.
- Dolnicar, S., Crouch, G. I. & Long, P. (2008). Environment-friendly Tourists: What Do We Really Know About Them? *Journal of Sustainable Tourism*, 16(2), 197-210.
- Dolnicar, S. & Leisch, F. (2003). Winter Tourist Segments in Austria: Identifying Stable Vacation Styles Using Bagged Clustering Techniques. *Journal of Travel Research*, 41(3), 281-292.

- Dolnicar, S. & Leisch, F. (2008). An Investigation of Tourists' Patterns of Obligation to Protect the Environment. *Journal of Travel Research*, 46(4), 381-391.
- Dolnicar, S. (2010). Identifying tourists with smaller environmental footprints. *Journal of Sustainable Tourism*, 18(6), 717-734.
- Dunlap, R. E. (2008). The New Environmental Paradigm Scale: From Marginality to Worldwide Use. *The Journal of Environmental Education*, 40(1), 3-18.
- Dunlap, R. E. & Van Liere, K. D. (1978). The new environmental paradigm. *Journal of Environmental Education*, 9(4), 10-19.
- Dunlap, R. E. & Jones, R. E. (2003). Environmental attitudes and values. In R. Ferná ndez-Ballesteros (Ed.), *Encyclopedia of psychological assessment, Vol. 1* (pp. 364-369). London: Sage.
- Dunlap, R. E., Van Liere, K. D., Mertig, A. G. & Jones, R. E. (2000). Measuring Endorsement of the New Ecological Paradigm: A Revised NEP Scale. *Journal of Social Issues*, 56(3), 425-442.
- Fairweather, J. R., Maslin, C. & Simmons, D. G. (2005). Environmental Values and Response to Ecolabels Among International Visitors to New Zealand. *Journal of Sustainable Tourism*, 13(1), 82-98.
- Fennell, D. A. (2007). *Ecotourism*. London and New York: Routledge.
- Gray, N. J. & Campell, L. M. (2007). A decommodified experience? Exploring aesthetic, economic and ethical values for volunteer ecotourism in Costa Rica. *Journal of Sustainable Tourism*, 15(5), 463-482.
- Hawcroft, L. J. & Milfont, T. L. (2010). The use (and abuse) of the new environmental paradigm scale over the last 30 years: A meta-analysis. *Journal of Environmental Psychology*, 30(2), 143-158.
- Hines, J. M., Hungerford, H. R. & Tomera, A. N. (1987). Analysis and synthesis of research on responsible environmental behaviour: A meta-analysis. *Journal of Environmental Education*, 18(2), 1-8.
- Iso-Ahola, S. E. (1982). Toward a social psychological theory of tourism motivation: A rejoinder. *Annals of Tourism Research*, 9(2), 256-262.
- Jurowski, C., Uysal, M., Williams, D. R. & Noe, F. P. (1995). An examination of preferences and evaluations of visitors based on environmental attitudes: Biscayne Bay national park. *Journal of Sustainable Tourism*, 3(2), 73-86.
- Konu, H., Laukkanen, T. & Komppula, R. (2011). Using ski destination choice criteria to segment Finnish ski resort customers. *Tourism Management*, 32(5), 1096-1105.
- KMU [Kleine und Mittlere Unternehmen] Forschung Austria (Austrian Institute for SME Research) (2008). *Tourismus und Freizeitwirtschaft*. Retrieved July 28, 2015, from [www.kmuforschung.ac.at](http://www.kmuforschung.ac.at).
- Lee, W. H. & Moscardo, G. (2005). Understanding the Impact of Ecotourism Resort Experiences on Tourists' Environmental Attitudes and Behavioural Intentions. *Journal of Sustainable Tourism*, 13(6), 546-565.
- Lemelin, R. H., Fennell, D. & Smale, B. (2008). Polar Bear Viewers as Deep Ecotourists: How Specialised Are They? *Journal of Sustainable Tourism*, 16(1), 42-62.
- Lindberg, K., Enriquez, J. & Sproule, K. (1996). Ecotourism questioned - Case Studies from Belize. *Annals of Tourism Research*, 23(3), 543-562.
- MacCannell, D. (1977). *The Tourist*. New York: Schocken.
- Maloney, M. P., Ward, M. P. & Braucht, G. N. (1975). A revised scale for the measurement of ecological attitudes and knowledge. *American Psychologist*, 30(7), 787-790.
- Maroudas, L., Kyriakaki, A. & Gouvis, D. (2004). A community approach to mountain adventure tourism development. *Anatolia: An International Journal of Tourism and Hospitality Research*, 15(1), 5-18.
- Mehmetoglu, M. (2005). A case study of nature-based tourists: Specialists versus generalists. *Journal of Vacation Marketing*, 11(4), 357-369.
- Milfont, T. L. & Duckitt, J. (2010). The environmental attitudes inventory: A valid and reliable measure to assess the structure of environmental attitudes. *Journal of Environmental Psychology*, 30(1), 80-94.

- Murray, E. J. (1964). *Motivation and Emotion*. Englewood Cliffs, NJ: Prentice Hall.
- Nunnally, J. C. (1967). *Psychometric Theory* (1<sup>st</sup> ed.), New York: McGraw-Hill.
- Oi, N. & Laing, J. H. (2010). Backpacker tourism: sustainable and purposeful? Investigating the overlap between backpacker tourism and volunteer tourism motivations. *Journal of Sustainable Tourism*, 18(2), 191-206.
- Oliver, R. L. (1999). Whence Consumer Loyalty? *The Journal of Marketing*, 63, 33-44.
- Ong, T. F. & Musa, G. (2012). Examining the influences of experience, personality and attitude on SCUBA divers' underwater behaviour: A structural equation model. *Tourism Management*, 33(6), 1521-1534.
- Oppermann, M. (2000). Tourism Destination Loyalty. *Journal of Travel Research*, 39(1), 78-84.
- Orams, M. B. (1995). Towards a more desirable form of ecotourism. *Tourism Management*, 16(1), 3-8.
- Orams, M. B. (2001). Types of ecotourism. In D. B. Weaver (Ed.), *The Encyclopedia of Ecotourism* (pp. 23-36). Oxon, UK: CABI Publishing.
- Palacios, C. M. (2010). Volunteer tourism, development and education in a postcolonial world: conceiving global connections beyond aid. *Journal of Sustainable Tourism*, 18(7), 861-878.
- Peake, S., Innes, P. & Dyer, P. (2009). Ecotourism and conservation: factors influencing effective conservation messages. *Journal of Sustainable Tourism*, 17(1), 107-127.
- Peattie, K. & Moutinho, L. (2000). The Marketing Environment for Travel and Tourism. In L. Moutinho (Ed.), *Strategic Management in Tourism* (pp. 17-37). London: CABI International.
- Perkins, H. E. & Brown, P. R. (2012). Environmental Values and the So-Called True Ecotourist. *Journal of Travel Research*, 51(6), 793-803.
- Powell, R. B. & Ham, S. H. (2008). Can Ecotourism Interpretation Really Lead to Pro-Conservation Knowledge, Attitudes and Behaviour? Evidence from the Galapagos Islands. *Journal of Sustainable Tourism*, 16(4), 467-489.
- Price, G. G. (2003). Ecotourism Operators and Environmental Education: Enhancing Competitive Advantage by Advertising Environmental Learning Experiences. *Tourism Analysis*, 8(2), 143-147.
- Roberts, J. A. & Bacon, D. R. (1997). Exploring the Subtle Relationships between Environmental Concern and Ecologically Conscious Consumer Behavior - Dimensions of Environmental Concern. *Journal of Business Research*, 40(1), 79-89.
- Ryan, C. & Stewart, M. (2009). Eco-tourism and luxury – the case of Al Maha, Dubai. *Journal of Sustainable Tourism*, 17(3), 287-301.
- Sharpley, R. (2006). Ecotourism: A Consumptive Perspective. *Journal of Ecotourism*, 5(1&2), 7-22.
- Sirakaya, E., Sasidharan, V. & Sonmez, S. (1999). Redefining Ecotourism: The Need for a Supply-Side View. *Journal of Travel Research*, 38(2), 168-172.
- Strobl, A. & Peters, M. (2015). Stubaial. In H. Pechlaner, P. Beritelli, S. Pichler, M. Peters & N. Scott (Eds.), *Contemporary Destination Governance: A Case Study Approach* (pp. 81-92), Bridging Theory and Practice, Vol. 6. Bingley, UK: Emerald.
- Tickell, C. (1991). Foreword. In E. Cater & G. Lowman (Eds.), *Ecotourism: a sustainable option?* (pp. IX-X). Brisbane: John Wiley and Sons.
- TIES. (2006). *TIES Global Ecotourism Fact Sheet*. Washington, DC: The International Ecotourism Society (TIES).
- UNWTO. (2008). *Climate Change and Tourism: Responding to Global Challenges*. World Tourism Organization and the United Nations Environment Programme: Madrid, Spain. Retrieved July 28, 2015, from <http://sdt.unwto.org/sites/all/files/docpdf/climate2008.pdf>.
- UNWTO. (2010). UNWTO World Tourism Barometer. *UNWTO World Tourism Barometer*, 8(1), 1-60.
- Uysal, M., Jurowski, C., Noe, F. P. & McDonald, C. D. (1994). Environmental Attitude by Trip and Visitor Characteristics. *Tourism Management*, 15(4), 284-94.

- Weaver, D. B. (Ed.). (2001). *The Encyclopedia of Ecotourism*. Oxon, UK: CABI Publishing.
- 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.
- Weaver, D. B. & Lawton, L. J. (2007). Twenty years on: The state of contemporary ecotourism research. *Tourism Management*, 28(5), 1168-1179.
- Weigel, R. & Weigel, J. (1978). Environmental concern : The development of a measure. *Environment and Behaviour*, 10(1), 3-15.
- Wurtzinger, S. & Johannsson, 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.
- Zografos, C. & Allcroft, D. (2007). The Environmental Values of Potential Ecotourists: A Segmentation Study. *Journal of Sustainable Tourism*, 15(1), 44-66.

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