Pro-environmental Attitudes, Behaviors and Tourist Decisions

A Literature Review

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**Abstract**

The near universal ability of individuals from economically developed countries to travel to far-flung destinations around the world in the pursuit of relaxation or recreation provides current and future generations of travelers a lifetime of opportunities to interact with natural environments. Just as the international tourism industry continues to grow by leaps and bounds, so do concerns regarding tourism’s direct and indirect environmental impacts on natural environments. The attitudes, behaviors and choices of tourists in respect to the environment may well hold an important key to understanding how their collective actions may be able to minimize negative impacts on the environment, and contribute to global environmental conservation efforts. This landscape of concern and opportunity provides the backdrop through which this literature review will investigate theories and models relevant to understanding pro-environmental attitudes and behaviors. Over the last 30 years, a broad array of research has presented a wide range of theories, models and frameworks related to environmental attitudes and behaviors, with the ultimate goal of understanding the nature and relationship between pro-environmental attitudes and behaviors. Research has offered only glimpses of a complete understanding of this relationship, and as such it remains unclear how pro-environmental attitudes can be cultivated, are in turn influenced, and what role both of these factors have in affecting tourist decisions. This broad study focuses on research pertaining to understanding where pro-environmental attitudes originate, how that are shaped, their relationship with actual behavior, and the potential impact these studies may have in consumer behavior and responsibilities of international tourists.

**Introduction**

Individuals seeking natural environments in which to rest, relax, recreate and explore are ubiquitous in the modern tourism industry, along with an ever-expanding list of destinations to consider in their pursuits. Bricker (2013) addresses the size and scale of the current tourism landscape by noting that “today’s modern traveler has spawned a multi-trillion-dollar industry with a global reach and impact that can cause environmental havoc” (p. xvii). Budeanu (2005) accurately assesses the unique relationship between tourists and the natural environment in her study:

“Tourism and nature are closely interlinked, since much of tourism depends directly on the environmental quality of its product. However, as pristine landscapes and exquisite sceneries become popular, they gradually become replaced by anonymous sites made of concrete and steel, with no personality and evolve into types of facilities that are perfectly replicable anywhere in the world as nature is gradually wiped out by tourism developments. Pollution, waste generation and land degradation, all too frequently occur as a consequence of the success of overpopulated destinations, where tourists compete with locals for available resources (water, land), and with biodiversity species (for their basic needs of food, water or breeding habitat) leading to over exploitation of the natural resources. (p. 92)

Pro-environmental attitudes – in the form of growing global concerns over the state of the planet, unsustainable development, and disappearing nature – have given voice and reason to efforts which address tourism’s effects on natural environments. Attempts to link these attitudes to actual pro-environmental behavior have been largely unsuccessful, however several factors and have been shown to be clearly linked to environmentally responsible outcomes. Individual and collective pro-environmental attitudes have led to the formation of many organizations which work to understand responsible tourism growth with respect to natural environments - such as the World Commission on Environment and Development and the International Ecotourism Society (TIES) (Bricker 2013). A selection of TIES’ principles - meant for adoption by those who implement, participate in and market ecotourism - include minimizing physical impacts, building environmental awareness and respect, providing direct financial benefits for environmental conservation, and helping raise sensitivity to the environmental climates of host countries. My graduate work in the PRT program will focus on understanding how and why tourists make decisions which may directly affect the natural environment. In response to the growing awareness of global tourism’s ability to impact the environment, this literature aims to increase an understanding of the links between environmental attitudes and behaviors. By providing an overview of research related to these topics, and examining the complex relationships of environmental beliefs, values, choices and behavior, I hope to illuminate the paths towards producing environmentally responsible behavior in global tourism.

**Analysis of Pro-environmental Attitudes**

**Values as a Foundation for Attitudes**

While there are many approaches to understanding attitudes, we can begin by providing a common understanding of attitudes as an enduring set of beliefs about an object which reflect individual values or a value-orientation. Attitudes often determine how facts are interpreted, and prompt individuals to behave in particular ways toward an object. As values function as both a foundation and an organizing system for attitudes, they are often viewed as determinants of attitudes. Environmental values refer to those values that are specifically related to nature or that have been found to correlate with specific environmental attitudes or concerns. Pro-environmental attitudes are traditionally understood to be comprised of cognitive (logical) and affective (emotional) components, incorporating beliefs and behavioral intentions regarding environmentally related activities or issues (Bricker, 2015, p. 180).

Paul Stern - a distinguished researcher in the field of social psychology and pro-environmental behavior - argued that psychology is relevant to global environmental change because human behavior itself must be controlled in order to limit large-scale environmental change (Stern, 2002). Stern firmly established social psychology’s critical role in understanding pro-environmental behavior by observing that global environmental changes matter to people because of their potential to harm what they value. Stern also contributed an important theory for understanding pro-environmental attitudes: value-belief-norm theory (VBN). VBN theory suggests that values create beliefs, which in turn impact attitudes towards behavior, which then affect intentions, and finally result in behavior. Stern’s VBN theory proposes that all individual pro-environmental behaviors are rooted in the belief that valued environmental resources are threatened, and that individual actions can - and should - contribute to preventing or minimizing these threats (Stern *et al*, 1999). Stern’s VBN theory emerged from research examining pro-environmental social movements, and attempted to address how such pro-environmental social movements interact with personal norms. While the VBN model demonstrates the importance of values and norms as a basis for predicting attitudes, the model itself is still relatively weak as an indicator of general pro-environmental behavior. Stern’s earlier studies identified altruistic (others), egoistic (self) and biospheric (all living things) value-orientations which may all co-exist in the same individual, and all influence behavior in separate ways (Stern *et al*., 1993). VBN theory built upon this research to suggest that pro-environmental behavior depends critically on the salience of specific beliefs and values in specific contexts. The idea of recognizing the unique influence of specific beliefs, values and intentions on specific environmental behaviors emerges as an important theme across this literature review.

**Components of Attitude**

Several researchers have attempted to investigate pro-environmental attitudes by examining the antecedents and components of attitude. In a study investigating consumer satisfaction with regard to ecological issues, Leoniduo (2010) found that individuals can simultaneously exhibit both inward and outward environmental attitudes, with each of these attitudinal directions influencing a different aspect of actual behavior in specific situations (Leoniduo *et al*, 2010). This author argued that individuals in communities may be exposed to a broad range of pro-environmental communication efforts in their communities, with different messages emphasizing individual arguments, collective arguments, tradition-oriented themes, politically-related points or legally-related statements. These varying types of pro-environment messages may be tailored to speak directly to pre-existing cultural or personal attitudes in order to resonate with specific groups of individuals. The understanding that individuals possess both inward and outward attitudes adds additional challenges in interpreting the variety of impacts pro-environmental attitudes have on actual behavior in different societies (Leoniduo *et al*, 2010). Maloney and Ward (1973) conducted a related study measuring relationships between environmental knowledge, degree of emotionality and levels of verbal and actual commitment to ecological issues. Their study concluded that the most effective way to modify environmentally relevant behaviors is to understand how attitudes are formed and expressed in specific communities and individuals. Understanding the unique relationship model between these three “antecedents” of attitude gives strength and focus to efforts meant to influence pro-environmental attitudes in specific communities. Based on Maloney and Ward’s three-part model, other research has confirmed the significant influence of cultural values on attitudes towards pro-environment purchases, and noted that ecological affect (emotion) exerts much stronger influence on the attitudes that ecological knowledge (Chan, 2001). Research exploring specific components of pro-environmental attitudes has highlighted the broad array of variables and dimensions which characterize attitudes and expressions of attitudes.

**An Ecological Worldview**

The ‘biospheric’ value-orientation mentioned above references a distinct value-orientation focused on valuing the environment (as opposed to oneself or other people), and has emerged as an important idea in regards to measuring general environmental attitudes. Dunlap and Van Liere (1978) provided a basis for biospheric values when their research described the “environmental paradigm” which constitutes a fundamental part of an individual’s “primitive” belief system. Dunlap and Van Liere argued that an individual’s environmental paradigm has the ability to influence a wide range of concerns and attitudes, expressed their belief that widespread environmental concerns were awakening a new environmental worldview at the time of their study, and introduced their New Environmental Paradigm (NEP) scale as an attempt to create a tool capable of measuring beliefs about relationships between humans and the natural environment. The NEP scale contrasts anthropocentric (“humans have a right to exploit the natural environment”) and eco-centric (“values the ecosystem for its own sake”) world views, and measures responses to 14 carefully constructed statements to measure pro-environmental attitudes. Some examples of NEP scale statements are:

* “When humans interfere with nature it often produces disastrous consequences”
* “Plants and animals exist primarily to be used by humans”
* “The earth is like a spaceship with only limited room and resources”

Although Dunlap and Van Liere’s scale has been widely applied in research – studies have been unable to link individuals’ NEP scale measurements to accurate predictions of specific pro-environmental behaviors. This gap between ecological attitude and pro-environmental behavior has been demonstrated in a wide variety of research applications, and acknowledged by the authors themselves (Dunlap & Van Liere, 1978;Arcury and Christianson, 1990; Fransson and Garling, 1999; Kim *et al*, 2011). The NEP scale was revisited by the authors 20 years after its initial introduction in order to update the scale’s measuring statements and reflect on its application to the field of environmental attitude (Dunlap *et al,* 2000).

While acknowledging the limitations of the NEP scale, we can recognize its unique value as a research tool able to measure pro-environmental attitudes over time. Although there has not been considerable longitudinal research employing the NEP scale, a unique study carried out in Kentucky in the 1980’s attempted to measure the stability of environmental worldviews over time. The findings showed that across the entire population of the state, only one group of individuals - those residing in a community which experienced a “critical environmental experience” - increased their environmental worldview over time (Arcury & Christianson, 1990). This finding is important as it identifies experience-based knowledge and understanding as a singular reliable predictor of increasing pro-environmental attitude. The impact of direct experience on affecting pro-environmental attitudes will be revisited later in this review.

Additional significant studies acknowledging an ecological worldview have focused the implicit connections between man and nature. Moving beyond the limits of egoistic and biospheric concerns, Schultz argued that the types of attitudes and concerns a person develops about environmental issues are associated with the extent to which an individual believes s/he is a *part* of nature. (Shultz *et al*, 2004). Such studies are significant because in continuing to address *why* people develop their environmental attitudes at a psychological level, they involve the ideas of cultural associations with nature. Here again we see cultural, personal and affective factors play a significant role in determining pro-environmental attitudes, an in turn how these are expressed.

**The Attitude-Behavior “Value-Action” Gap**

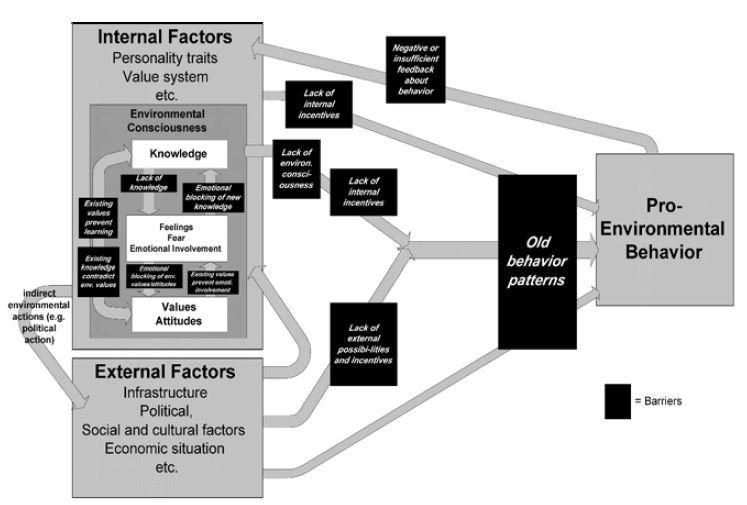
Much of the research into understanding the relationship between environmental attitudes and behaviors works to address and explain the “value-action gap”. This refers to the gap between the expression of pro-environmental knowledge, awareness and intent, and the actual display of pro-environmental behavior. A broad consensus which emerges from the literature on this topic is the recognition that shaping pro-environmental behavior is such a complex task that it cannot be effectively visualized through one single framework or diagram. This consensus has not stopped research efforts to illuminate factors which may influence the value-action gap in a wide range of specific circumstances, as these factors may serve to increase general understanding. Kollmuss and Agyeman (2002) released an important paper which explored and analyzed important factors related to the value-action gap found across a broad range of research, and provided a model for demonstrating the complex landscape of factors which may affect pro-environmental behavior (Figure 1). 

Figure 1: Kollmuss and Agyeman’s pro-environmental behavior model.

Their study pointed out specific individual factors in the value-action gap which have the ability to influence one another, and highlighted the strength of “old habits” as a significant barrier to pro-environmental behavior. Although this study explicitly acknowledged the absence of a direct relationship between “pro-environmental consciousness” (environmental knowledge, values, attitudes and emotional involvement) and pro-environmental behavior, they did conclude that synergies between internal and external factors work to exert the largest positive influence on pro-environmental behavior (Kollmuss and Agyeman, 2002). A selection of these factors are highlighted in the literature review below.

**Direct Versus Indirect Experiences**

Direct experiences with the environment (such as visiting a destroyed natural area) may prove to be instrumental in narrowing the value-action gap, as they have been shown to exert a stronger influence on pro-environmental attitude and behavior than indirect experiences (such as learning about a problem in school). Gardner and Stern’s (1996) research addressed the ability of environmental education and knowledge (indirect experience) to influence pro-environmental attitudes and behavior. Their study investigated barriers which lie inside individuals (i.e. attention, knowledge, and behavioral commitment), as well as those which exist outside individuals (i.e. socioeconomic background, available technology and inconvenience). The authors concluded that the role of environmental education can only be expected to induce pro-environmental behavior when such barriers are *low*, and only when such pro-environmental behavior is compatible with people’s deeper values. This is one of many explanations as to why promoting pro-environmental attitudes through conventional education has been historically unsuccessful in predicting pro-environmental behaviors (Gardner and Stern, 1996). A separate notable study focused on the possibility of shaping pro-environmental attitudes and behaviors through **non-formal** education environments, and successfully identified several factors which contributed to the adoption of environmentally sustainable practices (Ballantyne and Packer, 2005). The authors argue that the ability of non-formal (“free” or “experiential”) learning environments to affect pro-environmental behavior is significant, as such environments “allow learners to engage with and in the environment, to observe the evidence and effects of environmental mismanagement, and to explore and construct their environmental knowledge, skills, attitudes, beliefs and behaviors in personally relevant and meaningful ways” (Ballantyne & Packer, 2005, p. 12). Demonstrably personal experiences appear to provide unique opportunities to shape individuals’ environmental values, and in turn influence pro-environmental behavior. Research into the ideal balance of pro-environmental national policies and pro-environmental local activities and efforts yielded a similar conclusion in regards to the role of direct and indirect experience in affecting behavior (Blake, 1999). Blake’s study addressed the value-action gap between collective pro-environmental attitudes and actual pro-environmental behaviors demonstrated by communities. His study concluded that in order to maximize pro-environmental behavior in response to collective pro-environmental attitudes, greater emphasis must be placed on the recognition of relevant stakeholders to “personalize” the actual behavior. When pro-environmental responsibilities and partnerships are managed indirectly (or “impersonally”), and stakeholders are not recognized for their individual contributions, communities are far less likely to reflect collective pro-environmental attitudes (Blake, 1999).

**Cultural Norms**

Social and cultural environmental norms have been shown to influence how pro-environmental behavior may be suppressed or demonstrated. Kollmuss and Agyeman’s (2002) study predicts that when a dominant culture of social norms, cultural traditions and family customs fail to address environmental conservation and sustainability, pro-environmental behavior is less likely to occur and the gap between attitude and action will widen. In this type of situation, individual pro-environmental behavior may be suppressed in the absence of explicit cultural approval. Research also shows that local differences across countries and regions in regards to economic opportunity, local infrastructure development, and cultural habits can contribute to the value-action gap. A multi-country study measuring environmental concerns across large populations of young adults in Europe found that although environmental issues have become more prominent in national news topics across all countries, significant differences in pro-environmental behaviors continue to exist across almost all measured variables (do Paco et al, 2013). Because behavioral changes often reflect cultural norms, even though a measure of environmental awareness throughout a culture may increase over time, changes in actual pro-environmental behavior will not. Research in this field continues to demonstrate how cultural, situational and contextual factors play an enormous and amorphous role in determining actual specific environmental behaviors.

**Theories of Pro-environmental Behavior**

As has been shown in this review, attempting to create a prediction model for responsible environmental behavior is not a simple process. Several meta-analyses of environmental behavior research have attempted to determine which variables appear to be most influential in motivating individuals to take responsible environmental action, and have been effective only in determining variables known to be *associated* with responsible environmental behavior. A selection of these variables includes: knowledge of issues, knowledge of action strategies, locus of control, attitudes, verbal commitment, individual sense of responsibility and perceived threats to personal health (Hines *et al*, 1987; Fransson and Garling, 1999). While each of these variables were identified in attempts to formulate a reliable environmental behavior model, the researchers ultimately concluded that none of the variables are likely to operate without interacting with others, and unfortunately the majority of the studies which were analyzed failed to measure interactions among these variables. I see an opportunity for future research, dedicated specifically to investigating interactions between significant variables and factors, to increase our understanding of the value-action gap.

More recent research by Steg and Vlek (2009) proposed an Integrated Framework for Encouraging Pro-Environmental Behavior (IFEP) which reflects the broad range of motivations, situational factors and normative goals which predict pro-environmental behavior. This framework emphasized a need to strengthen normative goals related to pro-environmental behavior by activating and supporting biospheric values around individuals, as well as investigating the overlap of hedonic and gain goals with pro-environmental behavior. (Steg & Vlek, 2009; Steg & Vlek, 2014). These authors suggest that future research should be focused on identifying cognitive, motivational and structural factors which threaten environmental sustainability. Once identified, these factors can be addressed directly in an attempt to facilitate the emergence of pro-environmental behaviors. They also argue that pro-environmental behaviors will be more easily adopted when individuals understand them to be aligned with recognized normative considerations (status, comfort, etc.).

Other attempts to create a coherent theory of pro-environmental behavior have taken a different route, and produced conceptual frameworks with the intent to define, classify, cause and change environmentally significant behavior. The hope is that these frameworks can then be used to identify and target specific behaviors with the intent of creating a myriad of separate and focused pro-environmental behavior theories suitable to different specific situations (Stern, 2000). The strength of any pro-environmental behavior theory will continue to be judged by its ability to identify, understand and integrate significant relevant factors for influencing pro-environmental behavior in specific situations.

**Promoting Pro-Environmental Attitudes in Tourists**

How can we employ the expansive and complex research of pro-environmental attitudes and behavior to minimize the value-action gap, and influence environmentally responsible tourist behavior? Volumes of research on tourist behavior have contributed to our understanding of approaches and strategies.

**Elaboration Likelihood Model**

Increasing tourist knowledge of environmental issues has been investigated as a method for influencing pro-environmental attitude and behavior. Knowledge in the form of persuasion through communication is at the heart of the Elaboration Likelihood Model (ELM), which seeks to understand knowledge which has the ability to change attitude (Petty & Cacioppo, 1996). The ELM proposes two main routes through which people can be persuaded through communication – the central and peripheral routes. The central route requires individuals to invest a significant amount of mental effort (“elaboration”) to evaluate and process communication, with attitudes changed through this route shown to be accessible, persistent over time, predictive of behavior and resistant to change. The peripheral route involves far less mental effort, and is seen when individuals are not motivated or capable of investing mental resources in communication. Individuals use peripheral cues as non-message aspects of communication to decide if they are persuaded or not. These cues can involve credibility of the source, how an individual feels during and after receiving a message, and the number of arguments offered (Petty & Cacioppo, 1996). Research applying the ELM to outdoor recreation tourists interacting with the National Forest Service confirmed that while information communicated to visitors did change attitudes, typical periphery cues in the study did not ultimately have any direct effect on acceptance of behavior change (Manfredo and Bright, 1991). This demonstrates how successful use of the ELM is dependent on an accurate understanding of the knowledge of the target audience for communication, a recognized weakness of the model. Outlining different communication strategies to address tourists with differing levels of relative knowledge may be one way to employ the ELM to successfully influence pro-environmental attitude.

**Tourist Experience Interpretation**

Experience interpretation is another tool which has been investigated as a mechanism for promoting environmental attitudes and behaviors in tourists. Interpretation has received attention in research as it is a visitor behavior management tool already in place at many tourism destinations. While a recent study concluded that interpretation was effective in influencing a significant degree of responsible environmental behavior at a specific tourist site location, extended and residual impacts on pro-environmental behavior off-site were not found (Kim *et al*, 2011). Kim’s study implies the limited effectiveness of interpretation to promote environmental behavior, a topic addressed in Gardner and Stern’s (2006) work when they noted that interpretive/educational efforts do not seem to quickly or easily change individual ethics or basic values, and as such do not adequately influence general pro-environmental behavior off-site.

**Environmentally Responsible Behavior in Consumers**

Although many case studies have shown demonstrable negative environmental impacts of both global and local tourism, the reality is that tourism will continue to grow as an industry because of the economic opportunity it provides for communities. Working to understanding when, where, how and why tourists demonstrate environmentally responsible behavior is a critical step of understanding how to leverage the power of tourists to influence positive environmental outcomes. Tourists function as consumers of goods and services, and pro-environmental tourist behavior can be investigated by examining research into understanding and influencing consumer behavior.

**Environmental Protection and Awareness**

A growing consciousness among tourists regarding the environmentally damaging and destructive effects of mass tourism has emerged in the last 25 years. Consumers have an increasing awareness of environmental issues and concerns related to environmentally unsustainable tourism practices. Ogonowska and Torre’s (2012) case study on the tourism industry’s response to this awareness observes that sub-populations of environmentally conscious tourists do shape the portfolio of tourism products provided to consumers, and can contribute to new environmental norms which affect consumer behavior across larger populations. This process is gradual, and happens when and where the tourism industry responds to the needs of a market demanding demonstrations of environmental responsibility. Ogonowska and Torre aknowledge an important truth about environmentally-aware consumers in their paper - namely that such consumers fall into two categories: those who search for environmentally-responsible tourism products, and those who demonstrate more interest in other characteristics of tourism services (prices, luxury standards, etc.). Studies such as these demonstrate that while environmental awareness is growing in the tourism industry, environmental norms continue to exert less influence on behavior that traditional norms and concerns.

Research indicates that general pro-environmental attitude and awareness may be linked to consumer investigation of environmentally responsible tourism possibilities, however often times final behaviors and decisions do not reflect these attitudes. The timing of consumer investigation and access to environmental information is an important element to consider in these scenarios. A recent study of British tourist consumers revealed that although a majority (52%) of consumers claimed they searched for environmental information about intended tourism destinations *prior to* booking and purchasing travel arrangements, a significant amount of consumers (47%) carried out this information search only *after* booking and purchasing travel arrangements – when such information is far less likely to affect their decisions (Miller, 2003). Such studies illustrate how the effects of pro-environmental attitudes may fade into the background of more salient consumer concerns and demands, and not directly influence pro-environmental purchase behavior.

**Consumer Demand**

Research into consumer demand for pro-environmental tourism plays a large part in understanding how tourism operators and destinations are able to provide and support pro-environmental efforts for consumers. Many studies have observed that the tourism industry provides and promotes pro-environmental tourism activities only if and when *individuals* are willing to pay more for environmentally responsible tourism. Studies investigating consumer demand and operator support for environmentally responsible tourism showed that consumers across several different countries considered environmental factors “very important” when deciding on travel purchases (Chafe, 2005; Mainieri *et al*, 1997). Although significant interest in pro-environmental services seems to remain constant across a range of nationalities, there are large variances in understandings of tourism operator responsibilities to protect and preserve the local environment, as well as in consumer responsibilities to demand these services. Environmental certification programs in the tourism industry represent an effort to provide consumers with clear indications of environmentally-friendly hotels and service providers, and research into environmental performance certifications has shown an ability for their presence to impact consumer choices (Chafe, 2005). Tourist intentions and demands measured through surveys demonstrate that a while broad range of tourism consumers certainly care about the environment and state high concerns for ecological components of a vacation, additional testing of consumer purchase habits is needed to connect these intentions to actual behaviors. Chafe’s (2005) environmental sustainability paper concluded that while a significant majority of tourists state their high concerns for ecological components of holidays, they do not convert this concern to action when they purchase. Research into “green-buying” behaviors has focused on environmentally beneficial (“friendly”) products and their influence on consumer demand. Manieri’s (1997) study on the influence of environmental concern on consumer behavior showed that although many consumers indicate a willingness to sacrifice economic growth for environmental protection, their general environmental attitudes and concerns are not displayed in purchasing behavior. The *strength* of consumer pro-environmental attitudes has been studied in an effort to identify if the characteristics of conviction or extremity have the ability to determine actual behavior. Research into this topic has indicated that the actual dimensions of pro-environmental attitude moderate their effect on consumer behavior (Alwitt and Berger, 1993). Studies of consumer demand for pro-environmental goods and services reveal the ambiguity of consumer beliefs regarding their own environmental responsibility when making purchase decisions. In addition, they highlight the differences between consumer beliefs and actual consumer behavior and practices.

**Specific Tourism Demographics**

Work to understand which tourist demographics demonstrate stronger pro-environmental behavior has been attempted across many types of consumers, tourists and recreationists. Unfortunately, multiple studies have demonstrated trouble directly linking general pro-environmental attitude to behavior based on specific demographics (Uysal *et al*, 1994; Vining and Ebreo, 1992). A study of visitors to the U.S. Virgin Islands – a popular nature-tourism destination - found that a far more important indicator of pro-environmental attitude and behavior amount tourists was trip-behavior, rather than any specific demographic. The reality that demographics play a minor role in identifying environmentally-responsible behavior has limited the role of studies directed towards specific tourists. Nature-based tourism activities usually contain elements of education, recreation and adventure, and tourists pursuing nature-based destinations are understood to possess high levels of both knowledge and concern for the environment. Nature-based tourists provide a population of consumers suspected to potentially demonstrate higher levels of environmentally responsible behavior, even though the troubling potential for natural recreation tourism to damage and degrade natural resources and destinations has been highlighted in related research. Recent studies of nature-based tourism and outdoor recreationists have not linked these specific demographics to pro-environmental behavior, however they have indicated a significant relationship between non-educational factors – such as place attachment, perceived value, satisfaction and recreation involvement – and pro-environmental behavior (Kim et al, 2011; Thapa, 2010). Exploring how these factors may be translated into other types of non-nature based tourism holds potential for transferring this strong relationship to pro-environmental behavior.

**External Costs**

Any model attempting to link pro-environmental attitudes to environmentally responsible behavior must strive to incorporate considerations of the various contexts within which individuals act. With regards to tourists, this means attempting to incorporate external conditions and costs related to consumer demands and choices into any findings linking pro-environmental attitudes to actual tourist behavior. Theories developed must include perceptions of external conditions as well as the external conditions themselves (Guagnano *et al*, 1995). There have been several attempts to simplify external conditions into theoretical models in order to predict behavior. Diekman and Preisendorfer (2003) presented a low-cost/high-cost hypothesis in order to explain the weak relationships between pro-environment attitude and behavior, and proposed that tourists choose pro-environmental behaviors that demand the least cost. They argue that if the time, energy and economic costs of a pro-environmental behavior are *low* enough, then a tourist’s environmental attitudes can directly influence the behavior. However when these costs are *high*, the idea that masses of tourists will choose to “live for their environmental conviction” by paying high costs is not supported by their research (see Figure 2).

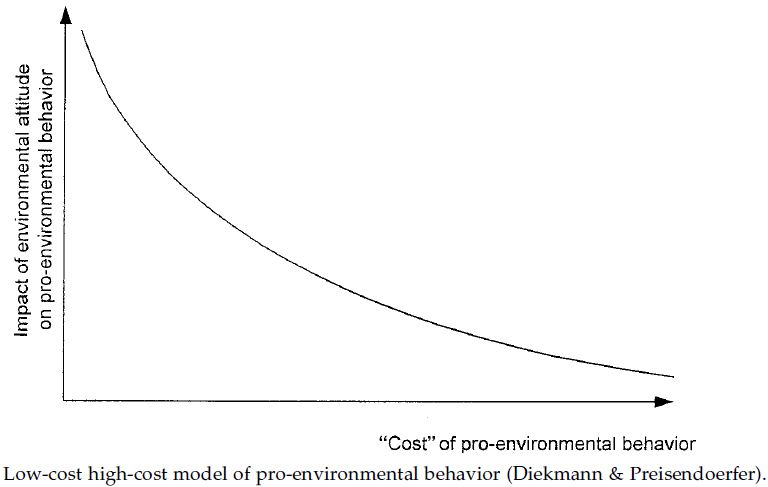


Figure 2: Model depicting Diekman and Preisendorfer’s low-cost/high-cost hypothesis

Research originating in the field of business and marketing provides significant contributions to an understanding of what limits pro-environmental attitudes and actual consumer behaviors. A study of the interaction between business and the environment yielded another useful tool for simplifying external conditions - a “green purchase perception matric” (*see Figure 3*) (Peattie, 2001). A review of ecological, environmental and sustainable marketing efforts by businesses, and their responses to consumer demand and behavior, produced a tool for classifying pro-environmental consumer choices.

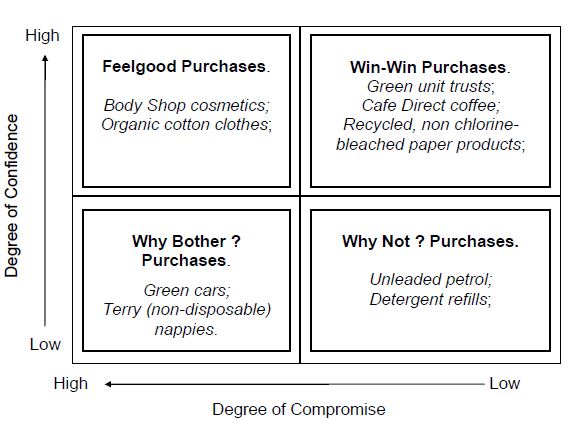


Figure 3: Peattie’s Green Purchase Perception Matrix

This model captures an understanding of a subset of external factors when considering if and when consumers may behave in pro-environmental ways. When consumers believe that an environmental issue is real and that their purchase will make an impact, their consumer behavior is far more likely to reflect ecological consciousness and awareness. The ability of a tourist to understand this information and shape these beliefs will clearly vary depending on each specific situation and choice. This truth may provide clues for understanding how and when environmentally responsible behavior can be influenced. Regardless of the situations, tourists as consumers demonstrate the four recognized important needs for consumers – information, control, the ability to make a difference and the ability to maintain a current lifestyle.

A promising framework for understanding how pro-environmental behavior can be encouraged in tourists may yet emerge through efforts to identify relevant external costs for tourists, as well as working to classify tourist behavior in terms of qualities which a purchase may exhibit. Rather than attempting to evaluate an individual’s level of environmentalism – working to understand how a tourism product can reflect ecological consciousness and provide consumers a degree of control and confidence may yield more accurate strategies aimed at influencing pro-environmental consumer behavior. These concepts shift considerable responsibility for shaping pro-environmental behavior away from individual attitudes, and into the realm of tourist industry providers.

**Conclusion**

In conclusion – this literature review has attempted to examine some of the many issues and factors which surround individual environmental behaviors. The value-orientations and belief systems which form the foundation and constraints of environmental attitudes provide a platform for understanding attitudes, as they themselves reflect social, cultural and environmental norms, as well as direct experiences with natural environments. While value systems in and of themselves provide a basis for understanding general environmental attitudes, a tremendous amount of research has demonstrated that specific attitudes towards specific environmental behavior are difficult to predict because of the dynamic relationships between these constructs.

Individual ecological worldviews also provide an avenue for understanding assumptions and originations of pro-environmental attitude, however these worldviews have historically been unable to predict specific individual behaviors. Environmental paradigm measurements can continue to be used as valuable tool for tracking long-term changes and trends in general environmental attitudes, as well as for identifying specific experiences which demonstrate a link to significant changes in individual environmental consciousness. Additional research investigating the bi-directional expression characteristics (inwards and outwards) of attitudes and paradigms – which have shown to be malleable in response to specific targeted messaging reflecting social and cultural norms – is a promising area for continued research.

The value-action gap which exists between pro-environmental attitudes and actual individual environmentally responsible behaviors continues to be the biggest challenge for creating a reliable framework for understanding pro-environmental behavior. Efforts to identify significant factors in the complex landscape of pro-environmental behavior continue to direct research in this area towards targeted and focused studies of meaningful factors. The role of traditional environmental knowledge, education and communication methods in shaping attitudes has been shown to only moderately affect attitudes in specific contexts. While emotional influences and differences between verbal and actual commitments undermine and overshadow traditional educational methods – promising findings in non-traditional educational experiences have suggested they will have a prominent role in stimulating lasting pro-environmental behavior for future generations.

Integrated frameworks for understanding individual pro-environmental behavior recognize that environmental challenges must be recognized and addressed as collective public issues, with all of the understood variables involved. When individual actors believe that their actions are not able to contribute significantly to a solution, incentives for not taking action induce them to hold back personal contributions. Research into stimulating environmental concern in tourists may help to overcome this incentive by convincing tourists of the worth of their small, individual contributions.

In addition to a wide range of variables that influence actual pro-environmental consumer behavior, the influence of situational or contextual factors, and barriers or constraining factors such as income, infrastructure, habit and convenience need to be considered. Reflections of all of these factors can be found in the volumes of research attempting to accurately predict tangible consumer behaviors – with implications for the tourism sector. Research focused on identifying relevant external costs for consumers to demonstrate pro-environmental behavior provides the most compelling avenues to understanding how tourist behavior can be shaped towards positive environmental impacts. Governments, institutions, organizations and tourism service providers have an opportunity to do much more in this realm, by expanding their influence onto tourism suppliers and customers, and steering them to adopt more responsible attitude towards nature and society. When such opportunities are aligned with pre-existing individual values and beliefs, and compliment the information and empowerment tourists demand when acting as consumers – the results offer hope that pro-environmental tourism can contribute to – rather than compromise - the conservation and protection of the world’s natural environments.

**References**

Alwitt, L.F. and Berger, I.E. (1993) Understanding the link between environmental attitudes and consumer product usage: measuring the moderating role of attitude strength. *Advances in Consumer Research* 20, 189-194.

Arcury, T. and Christianson, E. (1990) Environmental Worldview in Response to Environmental Problems. Kentucky 1984 and 1988 Compared. *Environment and Behavior* 22(3), 387-407.

Ballantyne, R. and Packer, J. (2005) Promoting environmentally sustainable attitudes and behavior through free-choice learning experiences: what is the state of the game? *Environmental Education Research* 11(3), 281-295.

Blake, J. (1999) Overcoming the ‘Value-Action Gap’ in Environmental Policy: tensions between national policy and local experience. *Local Environment* 4(3) 257-278.

Bricker, K.S., Black, R. and Cottrell, S. (2015) *Sustainable Tourism & The Millennium Development Goals*. Jones and Bartlett Learning, Burlington, Massachusetts

Bricker, K.S. and Donohoe, H. (2015) *Demystifying Theories in Tourism Research*; CABI, Oxfordshire, UK

Budeanu, A. (2005) Impacts and responsibilities for sustainable tourism: a tour operator’s perspective. *Journal of Cleaner Production* 13, 89-97.

Buedanu, A. (2007) Sustainable tourist- behavior-a discussion of opportunities for change. *International Journal of Consumer Studies* 31, 499-508.

Chafe, Z. (2005) *Consumer Demand and Operator Support for Socially and Environmentally Responsible Tourism*. Center on Ecotourism and Sustainable Development, International Ecotourism Society. Working Paper No. 104

Chan, R.Y.K. (2001) Determinants of Chinese Consumers’ Green Purchase Behavior. *Psychology and Marketing* 18(4), 389-413.

Diekman, A. and Preisendorfer, P. (2003) Green and greenback: the behavioral effects of environmental attitudes in low-cost and high-cost situations*. Rationality and Society* 15(4), 441-472.

do Paco, A., Alves, H., Shiel, C. and Filho, W.L. (2013) A multi-country level analysis of the environmental attitudes and behaviors among yound consumers. *Journal of Environmental Planning and Management* 56(10), 1532-1548.

Lu, J. and Nepal, S.K. (2009) Sustainable tourism research: an analysis of papers published in the Journal of Sustainable Tourism 17(1), 5-16.

Dunlap, R.E. and Van Liere, K.D. (1978) The new environment paradigm: a proposed instrument and preliminary results. *Journal of Environmental Education* 9, 10-19.

Dunlap, R.E., Van Liere,, K.D., Mertig, A.G. and Emmet Jones, R. (2000) Measuring endorsement of the new ecological paradigm: a revised NEP scale. *Journal of Social Issues* 56, 425-442.

Fransson, M. and Garling, T. (1999) Environmental concern: conceptual definitions, measurement methods and research findgins. *Journal of Environmental Psychology* 19, 369-382.

Gardner, G.T. and Stern, P. C. (1996) *Environmental Problems and Human Behavior*. Allyn & Bacon, Needham Heights, Massachusetts

Guagnano, G.A., Stern, P.C. and Dietz, T. (1995) Influences on attitude-behavior relationships. A natural experiment with curbside recycling. *Environment and Behavior* 27, 699-718.

Hines, J.M., Hungerford, H.R. and Tomera, A.N. (1987) Analysis and synthesis of research on responsible behavior: a meta analysis. *Journal of Environmental Education* 18, 1-8.

Jackson, T. (2005) *Motivating Sustainable Consumption: A Review of Evidence on Consumer Behavior and Behavioral Change*. Poly Studies Institute, London. Report to the Sustainable Development Research Network.

Kim, A.K., Airey, D. and Szivas, E. (2011) The multiple assessment of interpretation effectiveness: promoting visitors’ environmental attitudes and behaviors. *Journal of Travel Research* 50, 321-334.

Kollmuss, A. and Agyeman, J. (2002) Mind the gap: why do people act environmentally and what are the barriers to pro-environmental behavior. *Environmental Education Research* 8(3), 240-260.

Leoniduo, L.C., Leoniduo, C.N. and Kvasova, O. (2010) Antecedents and outcomes of consumer environmentally friendly attitudes and behavior. *Journal of Marketing Management* 26(13-14), 1319-1344.

Maloney, M.P. and Ward, M.P. (1973) Ecology: let’s hear from the people. An objective scale for the measurement of ecological attitudes and knowledge*. American Psychologist* 28, 583-586.

Mainieri, T., Barnett, E.G., Valdero, T.R., Unipan, J.B. and Oskamp, S. (1997) Green buying: the influence of environmental concern on consumer behavior.  *Journal of Social Psychology* 137(2), 189-204.

Manfredo, M.J. and Bright, A.D. (1991) A model for assessing the effects of communication on recreationists. *Journal of Leisure Research* 23(1), 1-20.

Miller, G. (2003) Consumerism in sustainable tourism: a survey of UK consumers. *Journal of Sustainable Tourism* 11(1), 17-39.

Ogonowska, M. and Torre, D. (2012) Sustainable tourism and the emergence of new environmental norms. *European Journal of Tourism Research* 6(2), 141-153.

Peattie, K. (2001) Towards sustainability: the third age of green marketing. *The Marketing Review* 2, 129-146.

Petty, R.E. and Cacioppo, J.T. (1996) *Attitudes and Persuasion: Classic and Contemporary Approaches*. Wm. C. Brown, Dubuque, Iowa.

Schultz, P.W., Shriver, C., Tabanico, J.J. ad Khazian, A.M.. (2004) Implicit connections with nature. *Journal of Environmental Psychology* 24, 31-42.

Steg, L. and Vlek, C. (2009) Encouraging pro-environmental behavior: an integrative review and research agenda. *Journal of Environmental Psychology* 29, 309-317.

Steg, L. and Vlek, C. (2014) An integrated framework for encouraging pro-environmental behavior: the role of values, situational factors and goals. *Journal of Environmental Psychology* 38, 104-115.

Stern, P.C. (1992) *Psychological Dimensions of Global Environmental Change*. Report to the Commission on Behavioral and Social Science and Education, National Research Council.

Stern, P.C., Dietz, T. and Kalof, L (1993); Value Orientations, gender and environmental concerns. *Environment and Behavior* 24, 332-348.

Stern, P.C., Dietz, T., Abel, T. Guagnano, G.A. and Kalof, L. (1999); A value-belief-norm theory of support for social movements: the case of environmentalism. *Human Ecology Review* 6, 81-97.

Stern, P.C. (2000) Towards a coherent theory of environmentally significant behavior. *Journal of Social Issues* 56, 407-424.

Thapa, B. (2010) The mediation effect of outdoor recreation participation on environmental attitude-behavior correspondence. *Journal of Environmental Education* 41(3), 133-150.

Uysal, M., Jurowski, C., Noe, F.P. and McDonald, C.D. (1994) Environmental attitude by trip and visitor characteristics: US Virgin Island National Park. *Tourism Management* 15(4), 284-295.

Vining, J. and Ebreo, A. (1992) What makes a recycler? A comparison of recyclers and non-recyclers. *Environmental and Behavior* 22(1), 55-73.

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