

# **Can Devotion to Nature be Nurtured?**

**The Effects of Childhood Experiences with  
Nature, Environmental Problems, and Family Values  
on the Development of Personal “Pro-Environmental” Attitudes and Behaviors**

**Ruth Klotz-Chamberlin  
The University of Chicago  
Department of Environmental Studies  
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Advisor: Richard Taub**

## Introduction

Human impacts on our environment are causing increasing concern among scientists. But people in the United States and other countries have a wide range of responses to suggestions that individuals, communities and economic or political organizations need to change behaviors and “save” the environment or even sustain human habitation of our earth. While many environmental problems call for physical and biological scientific analysis, we also need to study relevant social and political questions that arise. Why do some people respond to scientific warnings regarding dangerous human impacts on the natural world and others do not? Why do some people adopt attitudes and behaviors that they believe will support the health of the natural environment and others give the question little or no attention?

Environmentalists often place great urgency on the need for humans to behave in certain ways that will minimize environmental impact. They would argue that it is our responsibility, as humans who inhabit the earth and have used natural resources for our own benefit, to ensure future generations of the same benefits. Environmentalists have “faith” in their actions—a belief that their actions will both demonstrate their dedication to upholding responsibility and also relieve part of the problem. On the other hand, there are individuals who do not quite see the urgency for personal action. Most environmental problems are long-term in nature and thus it is difficult for an individual to experience change—in either a positive or negative light. Therefore many people do not worry about their individual behaviors because they do not believe they have personal negative impacts. Those that *do* believe humans are causing negative impacts on our environment may still not believe they should be held personally accountable and thus change their

preferred behavior. They also may have great “faith” in the capacity for human technological innovation—the idea that we will adapt our way of life with more efficient technology to suit our growing needs. These conflicting points of view demonstrate how thoroughly environmental issues are tied to their social context.

Understanding how people form environmental perspectives will provide a sociopolitical background that is vital when responding to many environmental problems. Why is there such disagreement in the ideas about how humans should regard the natural environment? What are the developmental factors that influence the way a person thinks about her role and responsibility to protect nature? It is important that Environmental Studies look at the person in her social context to explore the ways in which people form their environmental attitudes and values.

The focus of my research is to investigate why some people are committed to environmental protection—and hence exhibit “conservation behaviors”—while others are not. These conservation behaviors include (but are not limited to) recycling, choosing to ride a bike or walk rather than drive, driving a more fuel efficient car, making consumer choices based on ecological considerations, limiting consumption, and supporting organizations, policies and political campaigns that not only believe environmental issues are important, but are offering promising solutions. A lack of commitment may either stem from not believing a certain environmental problem exists, not believing an individual can do anything to change it, not having the resources and capability to pursue change, or perhaps simply not caring enough to change personal behavior.

My hypotheses for this investigation of commitment to environmental protection concern two aspects of an individual’s development—both *what* certain individuals

believe and also *how* they have developed those ideas. Regarding *what* individuals believe, my first hypothesis is that individuals who consider themselves “environmentalists” are more likely to feel a personal responsibility to protect the natural world. If a person does not believe there is an individual responsibility for environmental protection, she would not be compelled to show any conservation behavior. This notion of responsibility will be connected to other aspects of the individual’s moral development, as I hypothesize environmentalists will have a much broader conception of what deserves protection. Likewise, people who adopt particular behaviors based on the sentiment of responsibility may also believe individuals hold a good deal of control over environmental problems. Environmentalists must feel they are having a personal impact and relieving part of the problem—or else focusing individual behavior on environmental protection would be hopeless.

Considering *how* certain individuals develop these ideas, there are several factors that come into play from both the social and natural environment. I hypothesize the strongest influence on an individual’s beliefs will be parental attitudes and behaviors.<sup>1</sup> However, for environmentally dedicated individuals who diverge from their parent’s concerns, I believe they will have developed their environmental commitments because of some influential childhood experiences with nature. These experiences may include learning about environmental problems in school, being directly impacted by an environmental problem, or perhaps developing a notion of spirituality that is connected to nature and other living things in the world. For individuals who are not concerned with

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<sup>1</sup> Although it is common in this modern era for children not to grow up with their biological parents, for purposes of this study, “parental attitudes” are used as an over-arching category for attitudes and values of the most prevalent guardian. All of the participants in this study grew up with at least one biological parent.

environmental problems, aside from parental attitudes and values, I hypothesize that they will have had less experience with environmental problems impacting them directly.

Additionally, religious individuals with no environmental commitment will more likely hold a religious practice or interest that does not include principles for the treatment of nature or connection to other aspects of the natural world.

This study will contribute to the interdisciplinary understanding of human behavior if we can reach qualitative conclusions about the influences that govern certain types of attitudes and behaviors. Furthermore, in this modern era, if environmental problems increasingly warrant our attention and commitment, environmental educators, in particular, will find it necessary to identify the factors that contribute to such dedicated behavior.

## **Literature Review**

In order to give a proper theoretical background on the influences that determine certain attitudes and behaviors in an individual, we must first understand how the field of human development arose as a study of the person and her social context. Edward Krupat analyzes the progression of the field of psychology in his book, *People in Cities: The Urban Environment and its Effects* (1985). Krupat explains that early psychologists were mainly concerned with the inner workings of the individual as somewhat isolated from his or her social surroundings before the mid-1900s. After Lewin (1951) asserted that behavior is a function of the person *and* the environment, social psychology grew to consider the interaction between the person and their social context. This foundation is vital for understanding the influences that guide certain attitudes and values.

Of particular interest are theorists who have explored larger contexts of influence and the interplay between developing persons and their changing environments.

Bronfenbrenner (1979) discusses activities, roles and relationships within settings and their larger cultural context in order to frame a “social ecology” of human development.

Similarly, Weisner (1984) describes an “ecocultural niche” of activity settings that result from adapted family responses to opportunities and constraints of the environment.

These authors are only two of many influential theorists who have developed ways of thinking about our social and “ecological” influences.

It must be noted that after the 1960s, an even more crucial theoretical transformation took place, as there was a desire to apply social psychological knowledge to a general concern for the natural environment. The result was a theoretical emphasis on the possible effects of the physical environment, “the ecological context in which behavior was embedded” (Krupat, 1985, p. 5). Human development evolved into an interdisciplinary approach of social and cultural psychology, emphasizing the importance of both the social and physical environment. This understanding is crucial to any study of developmental effects on attitudes and behaviors regarding the human relationship with nature. For instance, if particular physical environments influence human development in particular ways, how do experiences with the *natural* physical environment, or absence of such experiences, play a role in influencing human responses to the natural world? Before we can take up this fundamental question it is important to address discoveries in the field of human development concerning the complex relationship between persons and their “social and physical” environments.

First of all, an analysis of influences that stem from these “social and physical” environments must take into account whether the individual is holding an “active” role in the formation of ideas. Piaget (1970) makes a distinction between “self-constructed” and “socially-constructed” knowledge that is crucial to discern when analyzing value development. For example, is an individual acting out of social convention from an idea that was simply passed on by his family, community or culture? Or are there certain experiences that lead to rational reflection on the proper form of action to take? Piaget conceives of self-constructed knowledge as “individual invention,” which is important to moral psychology theorists such as Kohlberg (1969, 1970), Shweder (1982), and Turiel (1978). Turiel, for example, argues that moral codes are constructed by each individual out of common experiences in social interaction. Although he is not speaking directly about moral codes concerning *nature*, Turiel makes the claim that individuals will reflect on what is “right” through their own perception of experience. Shweder sums up this point of view in his 1982 article, “Beyond Self-Constructed Knowledge: The Study of Culture and Morality.” Shweder asserts, “Mindful of the universal goal of survival, the child is said to be able to recognize the unfortunate and unpleasant consequences of attacks on persons, property, and promises, for example, and these perceived consequences stimulate the construction of moral codes” (Shweder, 1982, p. 55). Shweder and Turiel give concrete ideas regarding how individuals develop “moral” ideas from childhood.

Influenced by Piaget, both Shweder and Turiel argue that moral codes draw from a reflection on personal experience and self-constructed knowledge. Shweder’s example of the child’s perception of harm on persons or property will contribute greatly to our

exploration of environmental values. It may be possible that some children or communities will extend this notion of “harm” to things outside of the physical self. Through experience and self-constructed knowledge, individuals may extend moral ideas to other biological entities—animals, plants, or even a general care for the planet.

These theories will aid further discussion of how individuals come to form different conclusions about what is “moral” or “right,” but in order to study how a person thinks of their relationship with the natural world, we must first clearly define what “environmentalism” means. The term is ambiguous at best and could conjure several interpretations of varying strength depending on who is asked to provide a definition. For purposes of this study, environmentalism may be described as “activism aimed at protecting the environment or improving its condition, particularly nature” (Wikipedia Encyclopedia, 2001). Environmentalism is a socially constructed term, with meanings and implications for each individual. This is important to keep in mind while asking people to describe their environmental values—or lack thereof—because individuals may have varying ideas of what the term implies.

Roderick Frazier Nash (1989) makes valuable claims about how meaning is constructed in order to give insight into how meaning may be interpreted. Nash explains that people constitute elements of their world in and through language, convention, and practice. Unsurprisingly, these elements may include natural objects such as trees and rivers. Different cultures assign not only different words, but different meanings and valuations to these objects. Nash insightfully warns us of the complexity and variability of personal meaning.



One must be careful, however, not to assume this learning and shaping of reality is strictly mediated by social interaction. Kay Milton (2002) explains that in order to learn from social interaction, we must treat it as a source of information. Similarly, we must be able to treat our non-social environment as another source of information. She concludes, “In order to examine what kinds of experience generate what kinds of knowledge, we need to consider a human being’s relationship with their total environment, not just their social environment” (Milton, 2002, p. 41). This is congruent with the findings of Krupat (above) and pushes theorists Bronfenbrenner and Weisner to add the natural environment to their set of developmental influences. Milton’s work will be helpful when examining personal experiences with nature and how they may affect dedication to environmental issues later in life.

There has been a moderate amount of research involving physical environmental influences on an individual—and considerable work on value formation—but environmental attitudes are a somewhat new topic in the field of psychology. One of the main influences on positive environmental attitudes that has been studied is the work on “significant life experiences.” Tanner (1980) investigated the backgrounds of members of environmental organizations and asked participants what led them “to choose conservation work.” Responses were scored in a number of categories—natural areas, parents, teachers, books, other adults, solitude outdoors, travel abroad, etc.—but Tanner found an overwhelming majority of respondents mentioned experiences with “natural areas” (78%). Although this is an important contribution to the study of environmental value development, the study may be somewhat skewed due to the limited sample. Tanner interviewed members of environmental preservation groups, which is both a

homogeneous and biased collection of people. It seems likely that this sample, especially, would place a great weight on significant childhood experiences in natural areas. In this way, Tanner's data were incomplete.

Peterson's master's thesis (1982), "Developmental Variables Affecting Environmental Sensitivity in Professional Environmental Educators," makes an additional empirical contribution to the understanding of motivations behind environmental concern and commitment. Peterson explores attitudes, sensitivity, interest, and dedication among environmentalists by asking: "What factors or experiences do you feel were instrumental in developing your attitude toward the natural environment?" Her study produced similar results to Tanner's, listing influences according to their rate of mention. Again the "outdoors" was at the top of the list, followed by family, the study of natural systems, books, and the love for one's place of origin.

Both Peterson's and Tanner's studies have drawbacks, in that they each explored only one side of environmental attitudes—those of dedicated, environmentally aware and actively committed individuals. Further research must support their work, not only by exploring a more complete range of influences, but also by identifying factors that lead to attitudes or behaviors that are not particularly "pro-environmental."

One problem is that "pro-environmental" behavior is an extremely broad and ill-defined behavioral category. Henk Staats (2003) suggests developing a list of single acts that together can be considered to adequately represent pro-environmental behavior. Stern (2000) contributes to our understanding of different behaviors by outlining five categories:

- *Environmental activism* (e.g., actively participating in or leading environmental initiatives)

- *Non-activist political behaviors* (e.g., joining an organization, voting, signing a petition, or writing a check)
- *Consumer behaviors* (e.g., purchasing “green” products, recycling, reducing energy use, and alternating consumption habits)
- *Ecosystem behaviors* (e.g., putting up bird boxes, planting sea oats, counting wildlife populations, promoting prescribed fire)
- *Other behaviors which are specific to our expertise or workplace* (e.g., reducing waste in the production process, establishing mortgage criteria for energy efficient houses, suing a polluter, etc.)

We may say that an individual holds positive environmental attitudes if an individual displays behaviors from at least one of these categories. More “environmentally committed” individuals should demonstrate behaviors in each of these categories and a highly dedicated person will exhibit consistent behaviors throughout many aspects of their life.

Gene Myers (1998) explores the relationship that children have with animals and the resulting developmental effects in his book, *Children and Animals: Social Development and Our Connections to Other Species*. The focus of Myers’s work is on the connection children feel with animals and how their sense of “other” relates to the child’s own self-reflection. He also includes an extensive discussion on how relationships with animals affect moral development. A classroom discussion is cited during which the teacher asks: “Would you squish a spider in your house?” The class replies, “no,” and one child, Solly adds, “because it has to have its freedom” (Myers, 1998, p. 147). This example poses several interesting questions for the development of attitudes and behavior. As Myers has shown, children are learning how to ascribe “rights” to animals—even “scary” animals like spiders. This can have major implications

later in life as they have more strongly formed ideas of what is “right” and “wrong;” and as they extend their circle of caring beyond humans to encompass nonhumans as well.

The theory of *biophilia* also sees emotions as crucial in the formation of certain attitudes and beliefs about the natural environment. Wilson (1984) initially proposed biophilia as “an innate tendency to affiliate with natural things” (Kahn and Kellert, 2002, p. 1). Several issues regarding the biophilia hypothesis have been explored by Peter Kahn (2002) and other authors (Kaplan and Kaplan 1989, Nickerson 2003). Wilson introduces the role of emotion in attraction or aversion to certain ideas and discusses how biophilia could explain the ways in which we form ideas regarding the natural environment. Emotional connections are additionally a focus in Kay Milton’s *Loving Nature: Towards an Ecology of Emotion* (2002). Milton explores the ways in which enjoying, identifying with, and valuing nature may influence attitudes of protection for nature.

If Wilson and Milton are correct in the correlations they propose between emotional connections and care for nature, what are the concrete ways in which emotional connections are formed? More importantly, how are emotional connections with nature manifested? Many of the authors mentioned above focus on outside influences that may affect the ways a person thinks about their role in the natural world, but there is limited work that explores how a person actually *does* think about and reflect on this role. Barbara McDonald, of the USDA Forest Service, has investigated these ideas in her work on the spirituality of environmentalists (2001). She cites Joel Kovel’s definition of spirituality: “The ways people seek to realize spirit and soul in their lives” (Kovel, 1991, p. 2). McDonald explains that spirituality is “the most enduring

connection between people and the natural world,” indicating that spirituality is a way of living that focuses on the elimination of barriers. She found several themes of spirituality in her interviews with eighteen environmental activists. These themes include connectivity to the natural environment (and to others, God, everything), tolerance of other religious beliefs, creativity in terms of ideas that help protect the environment, care for the earth, a guiding ethic that it is wrong to degrade the natural world, as well as a feeling of being “called” to work on behalf of the natural world. McDonald provides valuable conclusions in that she believes spirituality is a way people find meaningful connections between self and other. Spirituality is an outward manifestation of an individual’s worldview and ideology.

These ideological beliefs, so deeply connected to the nature of environmentalism, are part of the reason some people reject environmentalist principles in the first place. Because concern for the environment evolves on such a personal level—and ideas about how humans should behave in relation to the natural world are ambiguous and variously interpreted—it is no surprise that some people would not be inclined to dedicate themselves to environmental protection. Staats describes a “social dilemma” involved in performing pro-environmental behaviors as he states: “Individual decisions in which personal advantages are maximized will harm the collective interests of society by doing great damage to the environment” (Staats, 2003, p.193). Many individuals do not want to give up luxuries—or even necessities—for public good. Likewise, individuals that *do* exercise personal restraint (for example, by not driving), are still punished by both suffering from the harm caused by the general public’s air pollution, and from a reduction in their own direct benefit from time saved and comfort. For this reason, it is particularly

interesting to examine the psychological conditions that would form the basis of a collective reorientation towards environmentally sustainable behavior. What conditions would foster widespread ideas of owning responsibility rather than “passing the buck”?

In light of the above research, which speculates on the types of interactions and experiences that would spark individual interest in environmental protection, further exploration of what these experiences are, as well as how a person thinks of their role in the protection of the natural world, is necessary in order to gain further understanding of how environmentally dedicated behavior or non-dedicated behavior is developed. All of these authors have greatly contributed to our understanding of the motivations behind certain attitudes and behaviors towards the environment. To extend their research, I aim to explore childhood experiences from a variety of people in order to contrast the developmental influences that produce positive, negative, or indifferent attitudes towards the environment.

## **Methodology**

Data collection for this study included semi-structured interviews<sup>2</sup> as well as a fixed-form survey. Semi-structured interviews were chosen as the most appropriate form of data collection for this topic of inquiry because questions in this format trigger participants to talk about a particular aspect of their life or experience. Questions are open-ended enough for the respondents to draw on what they feel is personally important, but focused enough to be able to compare across cases. Semi-structured interviews provide the clearest way to obtain first hand accounts of how childhood experiences affect current attitudes and behavior.

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<sup>2</sup> See Bernard, 2002, p. 205 for a recent textbook discussion of this interview method.

The interviews were loosely divided into three parts and aimed to document three aspects of the participant's experience with nature and environmental issues:

- *Family background and childhood experiences* (including demographic information, childhood experiences in nature, childhood activities and parental attitudes).
- *Present behavior* (in regards to daily activities, diet, conservation behaviors, political standpoints and religious practice or interest).
- *Present attitudes* (as explored through participants' responses to more "ideological" questions about nature and the environment).

Although these aspects were all touched upon, the questions were not formally divided up for the interviewee and the general flow of the interview was continuous and conversational. The questions were designed for the participant to explain what his or her experience has been (general demographics, where they grew up, what types of activities they were involved in, parental attitudes, etc.) as well as what they currently believe and practice in regards to environmental issues.

Many of the questions were formed to address themes raised by previous authors. For example, Krupat (1985) introduces the influence of urban and rural settings; thus I asked participants where they spent the majority of their childhood (including specific cities or countries). In order to explore the ideas raised by Tanner (1980) and Peterson (1982), I asked participants generally about their childhood activities, vacations, and schooling. If participants identified themselves as "environmentalists," I followed Tanner and Peterson's example (see p. 9) and asked participants why *they* feel they hold as much concern for the environment as they do (what types of experiences, people, or events they believe contributed most to their "care" for nature). Most of the questions

that focused on “present behavior” aimed to get a clear picture of what each participant does currently and how this fits into their own self-conception of being an “environmentalist” or “non-environmentalist.” Lastly, questions that addressed “present attitudes” were also inspired by previous research. I wrote questions that pertained to spiritual and religious practices because of McDonald’s findings (2001) and the question regarding how much individual responsibility people believe they hold was formed from my reflection of Nash (1989) and Staats (2003). For a list of questions asked in the semi-structured interviews, see Appendix A.

Data collected through the semi-structured interviews are reliable by two means. First, given the conversational nature of the interview, I was able to probe any responses that were unclear or contradictory. Second, participants were told before the start of the interview that all aspects of their identity would be kept confidential in this study. I explained that the purpose of the study was to identify where their attitudes and behaviors may have come from and how they were developed, but not to pass any judgment on what those attitudes or behaviors are. For this reason, participants had no incentive to be untruthful and we may assume all responses were accurate expressions of the participants’ perspectives and experiences.

Personal narratives through interviews are often criticized for their lack of scientific structure. It is often said that each individual has a biased perception of their past that may not be generalizable or perhaps should not be taken as “fact” to analyze in quantitative tables. However, I believe each individual’s perception of his experience is just as valuable as “fact,” and that perception is exactly what I am interested in looking



at. Value lies in what each interviewee emphasizes and perceives as “important” in their childhood experiences and the development of their beliefs.

The subjects of the study were undergraduate students, both male and female, ages eighteen to twenty-five. The sample was recruited mainly from the pool of undergraduates at the University of Chicago; however, three undergraduates from the University of Illinois at Chicago were also interviewed to form a more diverse sample pool. This age group was chosen as a particularly interesting sample because college is a time when most people have formulated personal ideas of what is “right and wrong” and are now prioritizing what is important to them (rather than what was important to their parents). At the same time, this age group seemed young enough to be able to remember and recount their experiences with nature and environmental problems during childhood and to provide insight into how those experiences may have affected their current environmental attitudes and behaviors.

Fifteen interviews were conducted with six female and nine male undergraduates. There was an even distribution of participants who considered themselves “environmentalists” (seven of the fifteen) as opposed to those who did not have any particular interest in environmental issues, which was important for comparing their experiences and ideas.

A good sample is entirely unbiased, random, and should include participants of varying social, cultural, and economic backgrounds. Possible methodological errors may have occurred due to the homogeneity of University of Chicago students and the short time I had to conduct interviews. However, I tried to limit bias by not interrupting the

interviewees, monitoring my facial expressions and by continuing to interview participants until I had attained a variety of experiences.

Some participants were recruited by contacting all of the Environmental Studies concentrators and asking if they would like to participate in this study—seven respondents were interviewed. A number of other students of varying concentrations were recruited through personal contacts and random approaches, in the case of students at the University of Illinois, Chicago. I hypothesized that Environmental Studies concentrators would more likely be highly dedicated to issues regarding the environment, although there are many routes to responsible environmental behavior other than concentrating in that field. Similarly, concentrating in Environmental Studies does not necessarily mean you hold a personal interest in protecting the environment. For this reason, I tried to find both Environmental Studies concentrators and other undergraduates who had a variety of interests and attitudes about the ways in which people should behave in relation to the environment. I hoped this would provide comparative data in order to distinguish factors contributing to environmentally active behavior as opposed to developmental factors contributing to behavior that holds no particular interest in environmentalism.

Fifteen interviews were sufficient to capture several themes of experience and behavior. However, in order to more accurately analyze the demographics of people who hold certain attitudes and exhibit particular behaviors, additional data was collected using a fixed-form survey (see Appendix B). Students were recruited for this survey at the Student Center of the University of Illinois, Chicago. The University of Illinois is more culturally and racially diverse than the University of Chicago, and therefore offered the

opportunity to study a wide range of undergraduates. Students were solicited in a busy corridor of the Student Center, which diminished researcher-bias since everyone was addressed. However, there was still some bias in that the sample was self-selecting and not completely random. Although this situation is not ideal for scientific research, I feel that the sample provided an accurate depiction of student beliefs. Participants were briefed about the subject of the study after they had agreed to complete the survey. This limited the self-selecting bias somewhat because the students who chose to complete the survey were not purely interested in talking about environmental issues, they were simply willing to take about ten minutes and complete a survey.

In summary, data collected from the semi-structured interviews are for qualitative analysis on the influences of childhood experiences and exposure to environmental issues, which lead to either pro-environmental or non-environmental (negative or indifferent) attitudes later in life. Data collected from the surveys provide further support for the specific demographics of these “environmentalists” (i.e., environmentally conscious and active individuals) versus “non-environmentalists” (i.e., environmentally indifferent or passive individuals).

### **Interview Results**

Out of the fifteen semi-structured interviews, seven participants replied “yes” when asked if they would self-identify themselves as “environmentalists,” and eight participants replied “no.” It must be noted that all of the participants’ names were changed in order to maintain confidentiality. Throughout my analysis, I have re-named all individuals who self-described themselves as “environmentalists” with names

beginning with the letter “A” and all individuals who did *not* consider themselves environmentalists with names beginning with the letter “B.” This will hopefully make differing viewpoints easier to follow for the reader. The method of categorizing participants based on self-identification was based on Staat’s idea of “self-identity as the salient part of an actor’s self which relates to a particular behavior” (Staat, 2003, 196). Therefore if the participants, themselves, consider their attitudes to be of one nature or the other, that is what should be the basis of an analysis of their value development.

Within the eight “non-environmentalists,” it is important to note that three of them (Benjamin, Brian and Beth) added an explanation to the effect that they believe environmentalism is important and necessary; however, they, themselves do not “do enough” in order to consider themselves “worthy” of the environmentalist title. This is interesting as it raises the issue of judgment—whether it is self-judgment or judgment in the eyes of others—that is intimately tied to environmentalism. This emphasizes that environmental problems are not only scientifically based, but are considered moral problems as well. The moral aspect entails social ideas of what are “right” and “wrong” actions to take when considering the environment in social policy and personal behavior.

### Demographics:

The ethnicities of participants in the interviews were primarily Caucasian and South Asian (resulting from the relative lack of cultural diversity at the University of Chicago). Twelve participants had grown up entirely in the United States, while one man, Avery, had spent most of his childhood in an urban city in Poland; Amanda had also spent two years living in Poland; and Blake had grown up in rural India. I decided to

include these three participants in my analysis of the data because their own cultural experiences will bring additional insight to the questions and themes in play. Since they each have spent at least some time in the United States, I suspect they would be able to include ideas and experiences from both cultures. Aside from ethnicity, three participants explained that they spent the majority of their childhood in a “rural” setting (Brenden, Brice, and Blake), while four lived in very urban settings (Bridgett, Beth, Brian, and Avery). The remaining eight grew up in towns and suburbs of medium size. In addition, eight participants said they grew up in “low-middle” or “middle” class households, while seven described their families as “upper-middle” or “upper” class. **Table 1** displays participants and their basic demographic information.

**Table 1**

*Interviewees and Their Demographic Information:*

Name	Age	Gender	Ethnicity	Social Class	Place of Origin	Size of City of Origin	Self-Described “Environmentalist”?
<b>Abby</b>	20	F	Caucasian	Upper-Middle	Ogden Dunes, IN	Suburban	Yes
<b>Alex</b>	20	M	Caucasian	Upper-Middle	Bloomington, IL	Suburban	Yes
<b>Amanda</b>	20	F	Caucasian	Upper	Greenwich, CN	Suburban	Yes
<b>Amber</b>	20	F	Caucasian	Upper-Middle	Madison, WI	Suburban	Yes
<b>Andrew</b>	20	M	Caucasian	Middle	Rhode Island	Suburban	Yes
<b>Angela</b>	20	F	Caucasian	Low-Middle	Boulder, CO	Suburban	Yes
<b>Avery</b>	21	M	Caucasian	Middle	Poland	Urban	Yes
<b>Benjamin</b>	22	M	Asian	Upper	Muncie, IN	Suburban	No
<b>Beth</b>	20	F	Caucasian	Middle	Chicago, IL	Urban	No
<b>Blake</b>	22	M	South Asian	Middle	Ahmedabad, India	Rural	No
<b>Bob</b>	23	M	Caucasian	Upper-Middle	Arlington, VA	Suburban	No
<b>Brenden</b>	22	M	Caucasian	Middle	Missouri	Rural	No
<b>Bria</b>	21	F	South Asian	Upper-Middle	Indianapolis, IN	Urban	No
<b>Brian</b>	21	M	African American	Middle	Chicago, IL	Urban	No
<b>Brice</b>	22	M	Caucasian	Upper-Middle	Kennett, MO	Rural	No

*Family Background and Childhood Experiences:*

The first major part of the interview involved describing childhood experiences that related to a number of topics including family practices, schooling, religious

involvement, personal hobbies, and experiences with nature. I will be describing five major observations that arose from comparing childhood experiences among my interviewees.

Based on the work of Gene Meyers (1998), I asked participants about their experiences with pets and animals. All participants, with the exception of Blake, described family pets, which initially did not leave me with any conclusions (except the fact that pets in America are quite popular). However, after further analysis, it turned out that the majority of participants who described themselves as “non-environmentalists” primarily owned dogs and cats (with the exception of Benjamin, who referred to fish). The self-described “environmentalists,” on the other hand, included descriptions of less typical, more “unusual” pets in the American cultural eye—such as hermit crabs, frogs, sea turtles, birds, guinea pigs and a snail. It is difficult to determine whether these individuals simply spoke more of their childhood pets (and the others may have only mentioned the “major” ones) or if there really was a separation such that “environmentalists” may have adopted animals they saw outside or perhaps were interested in a wider range of species. Since these are limited data and six “environmentalists” additionally had dogs and cats as pets, I only include this finding as an interesting observation. We need more focused work on pets and the emotional connection to animals in order to determine if this singular factor has any impact on environmentalist attitudes later in life.

A second major observation, coincidence or otherwise, is that when asked, “Did you watch much T.V. as a child?” several of the self-described environmentalists answered, “no.” Abby, Andrew, and Alex were all restricted (either as a result of their

parents not allowing television or not having access to a television or cable). Amanda, Amber, and Angela each watched limited television, perhaps out of preference or habit. Avery was the only “environmentalist” who described himself as watching “a lot” of television as a child. On the other hand, the exact opposite was true of the “non-environmentalists.” Bria was the only one of these participants to say she was restricted in her watching to one hour per day. Benjamin described “below average” TV viewing, but every other non-environmentalist participant described “a lot” or “normal/average.”

The third observation relates to parental attitudes and parental conservation behaviors while the participant was growing up. Participants who did not describe themselves as environmentalists were fairly consistent in discussing their parents’ attitudes. None of these participants described parents who were very concerned with environmental problems, with the exception of Brian (one of the “non-environmentalists” mentioned at the beginning of this section who strived to behave in environmentally-conscious ways, but thought he did not do “enough” to be given this title). Brice, Benjamin, Blake, and Beth explained clearly that neither of their parents had any particular interest or concern in environmental problems. When I asked Boris if his parents have any interest or concern in environmental problems or exhibit any “conservation behaviors” he explained, “I mean, we recycle and compost a little bit, but everybody does that. Nothing as extreme as riding a bicycle rather than driving.” Brenden explained similar behaviors with his parents—recycling at a “level of practicality.” Bria mentioned that her mother tried not to be wasteful, but thought this was more of a cultural or religious practice (growing up Hindu) rather than having any concern for environmental protection in itself.

Self-described environmentalists were more likely to describe their parents as having concern for the environment, but this was by no means unanimous. Andrew and Brian described both parents as having “a lot” of concern. Amber and Angela described their mothers as being particularly concerned with protection of the environment. Amber explained, “My mom is *very* concerned. She never takes plastic bags from the store when she shops. And in a restaurant, she won’t even take straws from the waiter.” Abby, Alex, Amanda, and Avery described their parents’ environmental values as somewhat practical or not “as extreme” as their own interest. Even in these cases, however, participants told of some exposure to conservation behaviors—all mentioned recycling and all told of a childhood experience that included some knowledge of environmental issues or varying degrees of family conservation behaviors.

The fourth set of observations relates to education. The type and size of participant’s schools were recorded as well as information regarding whether or not the participant was ever taught about environmental problems in school. Alex, Amber, Angela, Andrew, Brian, and Blake all attended public school throughout childhood. The remaining participants attended private institutions for part or all of their schooling (private schools, boarding schools, or parochial schools). Surprisingly, there was an even number of environmentalists and non-environmentalists who spoke of environmental education. Alex, Andrew, Avery, Brian, Benjamin, and Bria each remember being taught about environmental problems in school (mostly in science classes, but on a few occasions there were specific classes or environmentally-oriented clubs in high school). The remaining nine participants did not recall being taught about environmental problems in school. These results are interesting and would benefit from further study. For



example, because there are equal numbers of “environmentalists” and “non-environmentalists” who remember environmental education, perhaps differences lie in how much this education *impacted* certain individuals. A future study could probe the topic of education further, asking more specifically about how involved students were in learning about environmental problems or how involved the teacher was (and if this impacted the student’s perception) in these types of lessons.

The fifth and final set of results in this section on childhood experiences relates to outdoor experiences during childhood and the formation of emotional connections to the natural environment. When asked, “what types of activities were you interested during childhood?” the majority of participants responded with formal activities (such as sports, music, drama, etc.). There was no significant majority of environmentalists or non-environmentalists who spoke of certain structured outdoor activities (such as soccer or tennis) and Amber, Andrew, Brenden, and Blake all brought up unstructured activities such as playing in the street with friends, playing outdoors, and fishing.

There were, however, a few accounts of significant outdoor experiences—usually among the “environmentalists”—when participants talked about vacations or trips their families went on during childhood. Boris, Brian, Abby, Amanda, Amber, Angela, and Avery all mentioned hiking or camping during childhood. This may relate to parental attitudes—perhaps more “environmentalist” parents would be inclined to take their families on vacations “in nature.” Boris, Brice, and Amber remembered visiting national parks. One explanation for why there was not a majority of environmentalists that mentioned trips to national parks is that these vacations may stem from not only an environmental interest, but a *historical* one as well. The remaining participants (a non-

environmentalist majority) only mentioned places they visited (for example, Florida, Mexico, Japan) or reasons for the vacation such as “to visit family.”

Another section during the interview where participants had the opportunity to discuss connections to the outdoors or specific experiences with nature was in relation to a question directed to the self-described environmentalists: “Were there any significant persons, events, or experiences that you believed contributed to your interest in the natural environment?” Abby, Amber, and Angela each gave detailed descriptions of their childhood experiences with nature. Abby and Angela described the beauty of their childhood environment, explaining they were almost “in awe” of the natural world. Amber gave a specific memory of the woods by her house, describing it as a “sanctuary” where she could refresh from the “cars and sound and noise.”

#### *Present Behaviors:*

The second part of the interview was devoted mainly to understanding current attitudes and behaviors of participants. Loosely following Stern’s ideas (2000) about differing realms of pro-environmental behavior (see p.10), participants were asked about their conservation behaviors. All of the self-described environmentalists reported that they currently recycle—two added that they at least *try*. This conditional response was much more prevalent for non-environmentalists—four described that they recycle only “when it is convenient,” and two said they never recycled.

To further understand differing consumer behaviors, participants were also asked about their diet. Six of the “environmentalists” said that they are currently taking ecological considerations into their diet (restricting their diet to vegan or vegetarian,

limiting meat consumption, buying organic or fair trade products, etc.). Two of the “non-environmentalists” currently limit their meat consumption for cultural or religious reasons.

In regards to political activism, six out of seven environmentalists are registered to vote, four are registered democrats, and two marked “other” on the survey (unspecified if green party, libertarian, etc.). Seven out of eight non-environmentalists are registered to vote; four are registered democrats, two republicans, and one unspecified. All of the registered environmentalists reported that the stance of a political candidate on environmental issues influences their decisions in political campaigns.

Participants were also asked whether they participate in any charitable activities, such as volunteering, donating money or actively supporting any charitable organizations. Six environmentalists and three non-environmentalists listed charitable organizations that they supported either by donating money or volunteering time. Out of the six environmentalists, three listed environmental organizations (including the Sierra Club, Environmental Defense, the Jane Goodall Institute, and the Natural Resources Defense Council) as being a recipient of some portion of their charity giving. One non-environmentalist mentioned donating money towards “tsunami relief.” Other organizations that were mentioned included the Red Cross, Democracy for America, Amnesty International, and National Breast Cancer Foundation.

The last question pertaining to “current behaviors” focused on the religious or spiritual practices of participants, as they were asked, “Do nature or environmental concerns play a significant role in your spiritual or religious practice or interest?” This

question was not applicable to Alex, Andrew, Brenden and Beth, who were neither religious nor spiritual. **Table 2** displays each participant's response:

**Table 5**

*Religious and Spiritual Practice of Interview Participants*

<b>Name</b>	<b>Religious?</b>	<b>Spiritual?</b>	<b>Do nature or environmental concerns play a role in this practice or interest?</b>
<b>Abby</b>	No	Yes	<b>Yes:</b> I mean, I don't believe in a creator, I guess I sort of just believe in nature. I believe in some natural force, physical force forming the universe and creating the earth and all this stuff. I mean, there's some sort of spiritual connection to nature. It's a really powerful sort of thing and it can be very intimidating for human beings.
<b>Alex</b>	No	No	<b>N/A</b>
<b>Amanda</b>	Yes	Yes	<b>Yes:</b> I have a respect for nature and biology. I am in awe of the environment. It is such a wonderful and complex system.
<b>Amber</b>	No	Yes	<b>Yes:</b> The only spiritual feelings I've had have been in nature. In nature I can meditate and clear my head.
<b>Andrew</b>	No	No	<b>N/A</b>
<b>Angela</b>	No	Yes	<b>Yes:</b> Growing up in the beauty of Colorado, I thought, there must be <i>something</i> to this.
<b>Avery</b>	Yes	No	<b>Yes:</b> I believe I am part of the environment. Nature is part of everything. God created everything for a reason. I don't just take care of myself, I should take care of my body and the environment and have respect for everything.
<b>Benjamin</b>	Yes	No	<b>Slightly:</b> There is an overtone of being good to the environment and treating animals with respect in Islam, but the "end" of conservation is not there.
<b>Beth</b>	No	No	<b>N/A</b>
<b>Blake</b>	Yes	Yes	<b>No</b>
<b>Boris</b>	Yes	No	<b>No</b>
<b>Brenden</b>	No	No	<b>N/A</b>
<b>Bria</b>	No	Yes	<b>Slightly:</b> My mother is Hindu, which has some connection to principles of how we should treat the earth and other animals. I am not religious like her. I do things out of habit, but not necessarily because I want to conserve.
<b>Brian</b>	No	Yes	<b>Yes:</b> My mother is very spiritual, she exposed me to a lot of different things when I was a child. I read a lot of different texts, mostly Buddhist texts now, and that has a lot to do with nature and things that are alive. Like a bug, a fly has just as many rights as a human, so it's really non-aggressive. Life can't exist without nature, so it should be respected.
<b>Blake</b>	Yes	Yes	<b>No</b>

As this table shows, environmentalists incorporate their dedication to nature into their spiritual interest almost universally. Amber's response is one of the most interesting—admitting she has no spiritual feelings or experiences outside the realm of the natural environment.

Present Attitudes and Ideologies:

The final portion of the interviews attempted to get a clear idea of what peoples' attitudes and values regarding the environment currently are. Three main questions were asked in order to explore participants' judgment of nature's "rights," individual responsibility to protect nature, and individual control over environmental problems. Participants were first asked: "Do you believe nature (including animals, forests, open spaces, etc.) has 'rights'? Why or why not? And what sort of rights if so?" Responses can be divided into approximately four categories.

Four people answered affirmatively, nature *does* have rights, and gave reasons based on "inherent value of nature." Examples include: "Yes, because they are biological entities that have a right to be here and not be dominated over" (Abby). "Yes, animals have rights and should not be 'just killed.' We are all one big organism, every part deserves respect" (Amber). "Yes, animals and land do not belong to anyone. They have the 'right' not to be exploited" (Andrew). Or, "Yes, it has self-preservational rights" (Beth).

A second group answered ambiguously, but gave anthropocentric reasons for why nature should be "respected." These responses include: "People have a right to a healthy environment" (Alex), or, "Nature has inherent value. It should have the right to live because it must be preserved for the sake of human experience" (Amanda). Avery, Angela, and Boris gave similar arguments—hesitant to equate the rights of nature to human rights—but saw some duty humans had to protect nature.

A third group of participants did not ascribe rights to nature. Brice explained: "No, it is a resource to be used. It may be preserved for future use if people wish." Bria

gave similar reasons agreeing, “it is a public good.” Benjamin summarized this point of view saying: “No. Rights are obligations. We are not obligated, but it might be in our interest. Nature does not have the right over us though.”

The final cluster of responses avoided a direct answer. Blake explained that he had never given it much thought, “Probably, but I do not value them. I haven’t thought about it.” Brenden avoided a position saying, “I am reluctant to accept arguments based on ‘intrinsic value’ and such.”

The second question that participants were asked in order to explore their ideas about the individual’s role in relieving environmental problems was, “To what extent do you feel individuals have *control* over environmental problems (such as pollution, diminishing resources, consumption, etc.)?” Participants responded in essentially two ways. Some took the stance that individuals have *a lot of* control and were optimistic with this idea (as Alex said, “Change is important on all levels. Add all of the individual actions up and we have a lot of control”). Others took the stance that *in theory* individuals have a lot of control, but there is a practical constraint because we are currently not doing enough. Boris’ response exemplifies this idea: “We have complete control, but we won’t do anything...we’re too apathetic.” Andrew echoed, “If we wanted to, we would, but it’s not a priority now. The government might have more [control] than individuals at this point.”

Benjamin gave a good insight as to why individuals may not be exercising control. He explained, “It’s based on a buzz. Things will get done if there’s a buzz, an interest. And that always has to come on a very individual level.” Avery, Blake, and

Beth all described a limited amount of control, constituting the third and final group of responses to this question.

The last question regarding present attitudes towards environmental protection was, “To what extent do you feel it is *your responsibility* to ensure protection of the environment?” As predicted, environmentalists agreed that individuals have a great responsibility to ensure environmental protection. Environmentalists spoke of an “inherent responsibility” (Amanda) and a “moral obligation” (Abby) to preserve nature. Some self-described non-environmentalists agreed there is great individual responsibility (Beth and Brian). Others believed we have a “conditional” individual responsibility, like Bria, who said, “as long as we are not sacrificing too much.” Similarly, Benjamin explained, “We’re sort of obligated to not screw things up for future generations, but we can’t do everything. Some people will care, others won’t.” Brenden believes there is somewhat of a responsibility, but greater weight must be placed on present day problems. Boris, Brice and Blake did not believe there is much, or any, individual responsibility for environmental protection. When asked this final question, Boris replied, “Minimally. It’s hard to pay for rent right now. I don’t have the time or money to be saving the planet.”

### **Survey Results**

As explained earlier, a fixed-form survey was created to obtain an accurate description of environmental attitudes from a more diverse sample of college students. Of the thirty-seven completed surveys, nineteen were completed by female participants and eighteen by male participants. Three surveys were incomplete or determined

ineligible by age constraints, leaving thirty-four surveys to be tabulated and analyzed for data. **Table 3** outlines the specific ethnicities of survey participants.

**Table 3**

*Race and Ethnicity of Survey Participants*

<b>Subject</b>	<b>Number</b>	<b>Percent</b>
Asian or Pacific Islander	13	38
Black or African American	1	3
Hispanic or Latino	8	24
Middle Eastern	2	6
White	10	29
<i>Total</i>	<i>34</i>	<i>100</i>

Fourteen participants self-identified themselves as “environmentalists” (41%) and the average age of participants was 19.7 years (20 years for males and 19.4 for females). Standard chi-square tests were used to test for the significance of differences between the two specialty groups (environmentalists and non-environmentalists). Just as in the interviews, these tests were also categorized by three parts of the individual’s development.

*Family Background and Childhood Experiences:*

The purpose of this set of questions was to test whether there was a significant difference among social class, parents’ concern for environmental problems, amount of television watched during childhood, or recollection of any environmental education received between environmentalists and non-environmentalists. In order to determine whether these differences were “significant,” chi-square tests were performed by drawing 2 x 2 contingency tables (Freund 2001, 386). In general, the hypotheses tested in the analysis of a contingency table are the Null Hypothesis “H<sub>0</sub>” (which proposes that the two variables under consideration are independent) and the Alternate Hypothesis “H<sub>A</sub>”



(which proposes that the two variables are *not* independent, i.e., that there is a significant relationship between the two). In these tests the chi-square statistic,  $X^2$ , must be  $\geq 3.84$  in order to reject the Null Hypothesis and proclaim a relationship between the two variables.<sup>3</sup> **Tables 4 and 5**, on the following page, display contingency tables comparing environmentalism with the variables of Social Class and Parents' Concern for Environmental Problems. Chi-square tests were also performed for the variables of Environmental Education and Amount of Television Watched During Childhood, but because these variables did not prove to have a significant relationship with environmentalism, these tables are located with other non-significant chi-square tests in Appendix C.

For each contingency table, I have included the total number of people who answered each response as well as the percentage (marked in red in parentheses). The chi-square statistic is marked in blue.

**Table 4:** *Environmentalism and Social Class:*

	Environmentalists	Non-Environmentalists	Totals
Identified as upper-middle or upper class	7 (50%)	5 (25%)	12
Identified as low or middle class	7 (50%)	15 (75%)	22
Totals	14	20	34

**Chi-Square = 2.26**

<sup>3</sup> 3.84 is the critical value of  $X^2$ , testing significance within 5% for a 2 x 2 table with 1 degree of freedom (Freund 2001, page 391, Table III page 573).

**Table 5: Environmentalism and Parents' Concern for Environmental Issues**

	<b>Environmentalists</b>	<b>Non-Environmentalists</b>	Totals
<b>Parents had concern</b>	<b>13 (59%)</b>	<b>10 (37%)</b>	23
<b>Parents did not have concern</b>	<b>9 (31%)</b>	<b>17 (63%)</b>	26
Totals	22	27	49

**Chi-Square = 2.36**

**Tables 4 and 5** show that there are, indeed, differences among the percentage of responses between the two groups and the corresponding variables of childhood experience. Environmentalists in this survey tend to be of higher social class and have parents that are concerned with environmental problems. Although these two tests did not produce statistics that maintained significance levels within 5% (in fact, they were closer to a level within 10%), they suggest quantifiably different childhood experiences between self-described environmentalists and non-environmentalists, which may be proved statistically significant in future research with larger and more diverse sample groups.

*Present Behaviors:*

The purpose of this set of questions was to determine whether there was a significant difference between the two groups in regards to recycling behaviors, volunteer/charitable behaviors, political activism, or spiritual practice. Since these behaviors were all inquired about in the interviews, these tests (only) were conducted with the sample size of 49 (34 surveys plus 15 interviews). Chi-square tests were again performed to test significance, and again, none of the tests produced a statistic that maintained a significance level within 5%. However, the tests comparing recycling

behaviors, charitable behaviors, and spirituality between the two groups produced a value of  $X^2$  that was extremely close to the critical value. **Tables 6, 7, and 8**, respectively, show these three comparisons, and the number (and percentage) of responses that each specialty group gave.<sup>4</sup>

**Table 6:** *Environmentalism and Recycling behaviors*

	Environmentalists Non-Environmentalists		Totals
Recycles “usually” or “always”	14 (67%)	11 (39%)	25
Recycles “never” or “when it’s convenient”	7 (33%)	17 (61%)	24
Totals	21	28	49

**Chi-Square = 3.61**

**Table 6** displays the—perhaps obvious—proposition that environmentalists recycle more often than non-environmentalists. Although this comes to no surprise (as recycling is one of the most well-known “conservation” behaviors) it nevertheless supports the conclusion that there are different everyday behaviors between those who are consciously trying to cut back on their personal environmental impact and those who give this question little thought. **Table 6** further demonstrates that recycling has not been proven in popular culture as an easy, positive, and effective process to participate in. If this were so, non-environmentalists in this study would probably have a much closer recycling percentage to the environmentalists.

<sup>4</sup> See Appendix C for other tables comparing “Present Behaviors.”

**Table 7: Environmentalism and Charitable Behaviors**

	Environmentalists	Non-Environmentalists	Totals
Volunteers or actively supports a charitable organization	15 (71%)	14 (50%)	29
Does not volunteer or actively support a charitable organization	6 (29%)	14 (50%)	20
Totals	21	28	49

**Chi-Square = 2.27**

A similar comparison is made in **Table 7**, the relationship between environmentalism and “charitable behaviors.” Survey participants who defined themselves as “environmentalists” were more likely to also volunteer or donate to charitable organizations (*any* charitable organization, not just environmentally affiliated ones). Although there are still a significant number of non-environmentalists who have these charitable behaviors, one can only speculate that environmentalists are perhaps more likely to feel responsible for other social problems.

**Table 8: Environmentalism and Spirituality**

	Environmentalists	Non-Environmentalists	Totals
Identifies as “spiritual”	18 (86%)	17 (61%)	35
Does not identify as “spiritual”	3 (14%)	11 (39%)	14
Totals	21	28	49

**Chi-Square = 3.68**

One of the most striking comparisons of the survey is shown in **Table 8**—the relationship between Environmentalism and Spirituality. This relationship produced the closest statistic to the critical value of  $X^2$ , supporting McDonald’s work of 2001 on the spirituality of committed environmental activists.

Present Attitudes:

Finally, the third set of questions aimed to test whether there was a significant difference between the two groups regarding people who described a personal or individual responsibility to protect the environment, individual control over environmental problems, or responses to two hypothetical questions involving environmental preferences (see Appendix B for hypothetical scenario questions). **Tables 9 and 10** give the breakdown of participants' responses to the most significant of these "Present Attitudes" questions based on their specialty group.

**Table 9:** *Environmentalism and Individual Responsibility to Protect the Environment*

	Environmentalists	Non-Environmentalists	Totals
Believes individuals have "moderate" or "entire" responsibility	12 (86%)	12 (60%)	24
Believes individuals have "no" or "slight" responsibility	2 (14%)	8 (40%)	10
Totals	14	20	34

**Chi-Square = 2.63****Table 10:** *Environmentalism and Preferred Vacation Type (Hypothetical Scenario #2)*

	Environmentalists	Non-Environmentalists	Totals
Prefers "Eric's" vacation	10 (71%)	9 (45%)	19
Prefers "Nicole's" vacation	4 (29%)	11 (55%)	15
Totals	14	20	34

**Chi-Square = 2.32**

**Tables 9 and 10** display differences among the percentage of responses between the two groups. As the survey results show, environmentalists were more likely to believe individuals have moderate or entire responsibility to protect the environment. This supports my initial hypothesis of the relationship between perceived responsibility

and likelihood to act on that perception. In regards to differing responses to Hypothetical Scenario 2, environmentalists were much more likely to prefer “Eric’s” vacation (pristine natural beauty) to “Nicole’s” (recreational activities and people to share them with).<sup>5</sup>

Other tests were run in order to compare the relationship between social class and a number of other variables. None of these tests proved significant and so are presented only in Appendix C. Although none of the chi-square tests in any of the three areas of questions produced a statistic that attained a 5% significance level, several of them were close enough to support the claim that further research (with a larger and more diverse sample of people) may produce significant findings. These statistics are therefore not proof, but evidence of probable and quantifiable differences between the two self-identified groups.

## **Discussion**

There are clearly different ways that non-environmentalists and environmentalists think of their roles in relation to the natural world. Both the interviews and surveys supported the idea that present ideologies concerning nature and environmental problems correlate with people’s attitudes and how they choose to behave. One of the most telling themes for how individuals justify their actions is individual responsibility, displayed by participants’ discussion of their active or inactive role in ensuring environmental protection.

Participants differed in their answers explaining how much responsibility each person has, as a result of differing representations of the future. Scientists, political

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<sup>5</sup> This preference was verified as truly “environmentalist” rather than classist, as a test between social class and preferred vacation type can be found in Appendix C.

authorities, and popular culture all have a large amount of uncertainty in their predictions of the severity human impacts will have on our environment. Different representations of the future are associated with diverse behaviors and intentions in the present. In conjunction with the theories of Turiel and Shweder, stated at the beginning of this paper, individuals absorb information that is available, yet construct for themselves a way of living that they feel reflects what is important, based on their own experience.

The question regarding individual responsibility is helpful in discerning what individuals perceive as “important” because it separates current and future concerns. Several of the non-environmentalists seemed to put more weight on the necessities of the current generation. Bria phrased her emphasis on the current population by saying we have responsibility for the future, “without sacrificing too much.” Why is it that most of the environmentalists gave no such condition in their response to uphold responsibility? Abby believes, “There is a moral obligation to the people who come after and people who are with you and you want them to be able to have water to drink and food to eat and a stable climate. You should do something to keep the environment the same as it was before.” With this explanation, Abby is indirectly making the claim that future generations have similar “rights” (or value) as the current one. She powerfully asserts that environmental protection is a *moral* issue and that unborn generations of the future “should be” given rights. This argument presupposes there *are* in fact major environmental problems threatening future generations—problems that can be relieved or minimized by a change in individual, societal, or political practice. Abby has formed a personal representation of the future, based on her own direct experiences with environmental problems.

An exploration of responses to Hypothetical Scenario #2 may produce additional insight regarding different representations of the future. As was stated in the results, environmentalists were more likely to prefer “Eric’s” vacation—a calm, pristine, secluded lake that does not allow motorboats and is not heavily visited. We might speculate that environmentalists need these “escapes” into nature in order to refresh their spirit and mind. Environmentalists may feel as though we are heading towards an earth with “too many” people and “too much” technology. A calm and quiet vacation would offer environmentalists a chance to get away from it all and feel renewed by being in nature. Non-environmentalists, on the other hand, were more likely to prefer “Nicole’s” vacation, a much busier vacation spot with jet skiing and motorboats. Non-environmentalists are not so worried about what the future will hold. They appear to be less critical of the number of people or the amount of technology the earth can support. For non-environmentalists, enjoyment of the present day is of greater concern (as related by Boris, Brenden, Bria, and Benjamin).

One of the other significant differences between the practices of environmentalists versus non-environmentalists is the predominance of spirituality within environmentalists. Avery provided a good example for how some religious environmentalists see their role in nature (see **Table 2**). However, this study found that many environmentalists who do *not* identify as “religious” still *do* identify as “spiritual.” Nature has, in one sense, supplemented religion for these individuals. Rather than feeling connected to the greater power of God or to others who are part of your religion, environmentalists feel deeply tied to the natural world. Many religious environmentalists share this sense of spirituality. Biological “creation,” evolution, and



natural beauty have given so many individuals a sense of awe and connection to the natural world.

Although I have mentioned a strong divergence in the attitudes and behaviors of the two comparison groups, this discussion should not exclude mention of notable similarities as well. One of the hypotheses that turned out to be unsupported was the positive correlation between environmentalism and perceived control. What this study suggested, on the contrary, is that environmentalists are no more likely than non-environmentalists to believe individuals have control over environmental problems. This finding leads us to wonder why environmentalists feel compelled to act, even if they are pessimistic about how much they are relieving a problem. One explanation may be environmentalists still believe humanity can gain control (through changed systems of government perhaps). If these individuals are aiming to make change on a larger scale, and have faith in a more complex or powerful system, they are still likely to carry out the perceived “right” action on a personal level. In addition, even if environmentalists do not believe their actions in particular will change the world, they may see themselves as setting an example for others and thus should still do what is “right” simply because it is “right.”

Many of the interview and survey results support theories introduced in the beginning of this paper, about how individuals construct ideas for themselves about what is “important” in this world based on their own experience. The interviews have demonstrated that both positive and negative experiences serve as significant influences leading individuals to develop attitudes that esteem environmental protection. Abby, for

example, had a very negative experience involving the destruction of natural beauty in her hometown. She remembers:

My whole life, you go down to the beach, and you see steel mills on your sides. And the air has always been dirty. My dad has always joked that you're not home until you can "taste the air" [...]. You see pollution of water, pollution of land, pollution of air. On the other side, I grew up between two parcels that are considered Indiana Dunes National Lakeshore and Indiana State Park—an area unique to the world [...]. Living in those two environments that have just contrasted so much against each other, that has made me more concerned about the environment. It's just destruction and domination of an area that's so beautiful.

Abby has obviously internalized this clash of environments to such a point that she has constructed meaning from her experience, and has formed personal ideas for how this clash should be reconciled. Part of the reason this experience of environmental destruction is so strong for Abby is a result of the emotional connection she felt to her hometown and how familiar she was with the tragically differing environments.

Andrew had a similar experience of environmental destruction that affected him personally. When Andrew was a child, his father was in the coast guard and called one Christmas to help clean up an oil spill that had damaged a beach about ten miles from Andrew's house. He remembers: "It just kind of struck close to home, just seeing the oil on the beach and then like, we'd be swimming and come out smelling like oil." Both Andrew and Abby's experiences can give insight into why they each sought environmental consciousness later in their life. Almost none of the non-environmentalists mentioned negative experiences or environmental problems that affected them personally (which the exception of Bria, who mentioned disliking the pollution in the city).

Positive childhood experiences with nature that help people form emotional connections to the environment are equally as prevalent in gaining pro-environmental attitudes as are the negative experiences previously mentioned. These positive experiences seem particularly relevant for participants who diverge from their parents' values. Likewise, these experiences may strengthen the attitudes of participants with environmentally concerned parents, making this concern more of their "own" interest.

Amber gives a detailed explanation of a positive childhood memories involving nature:

When I was little, we had this sort of woods by our house. It still exists, but back then it was a lot bigger. Me and my friend used to go and run out there and get lost and hide. We would make forts, and we would pretend we were living alone in nature. In winter, we would go sledding and then go find our forts made of sticks and pretend to build little fires. We enjoyed getting out there—getting away—just being totally disconnected from our other world, away from my parents and responsibilities, and the world of cars and sounds and noise. It was really refreshing to be alone and away all by myself with nature. I always thought of it as...a sanctuary...my special place I could go.

This experience with nature is obviously very powerful for Amber. The way she describes her play area as a "sanctuary" gives the reader a clear idea of how important this place was for Amber. In fact, it was not "just" a play area. The work of David Sobel (1993) offers insight, as he conducted research on the personal meanings that children give to play areas, forts, and dens—similar to the place Amber describes above. Sobel explains, "These new homes in the wild and the journeys of discovering are the basis for bonding with the natural world" (Sobel, 1993, p. 160). Amber has obviously kept this image in her mind—a constant reminder of her connection to nature, and perhaps the devotion she holds to protect it from harm. Amber's experience also exemplifies theories of emotional connections and environmental sensitivity that Milton (2002) explored. Through enjoyment and value of this experience, care is fostered for the environment.

Although one of my original hypotheses emphasized the importance of parental concerns with environmental problems on the development of personal “pro-environmental” attitudes and behaviors, this study has proven family values to be much more inter-connected and complicated than initially proposed. Parental attitudes are in some ways connected to almost every other variable this study compared. Parents will influence how much television a child is exposed to, what sorts of activities she engages in, where the family lives, and what the family eats. An individual’s town or city of origin will influence the frequency and quality of interactions she has with the natural world. In addition, the political views of her parents as well as the political and dominant views of her surrounding community will all play a role in shaping the individual’s developmental experience.

Environmental values are by no means separated from other aspects of an individual’s personality or other aspects of their social world. The aim of asking questions related to political activism, charitable behaviors, religious or spiritual involvement was to obtain a more “complete” view of each individual and draw connections between all aspects of their lives. By asking about other charitable behaviors, for example, the interview and survey questions aimed to understand whether participants who felt responsible for environmental protection felt responsible for other social problems. The slight correlation that was found in **Table 7** calls for further exploration of other “non-environmental” behaviors environmentalists exhibit.

## Limitations of the Study

Although fifteen interviews were sufficient to explore several themes regarding childhood experiences with nature, exposure to environmental problems, and family values, this study was somewhat limited in the number and diversity of participants. While the method of including participants from the University of Illinois, Chicago was intended to reduce this drawback, comparing and analyzing two different sample populations produced problems of its own. As exemplified in the comparison of Environmentalism and Television-Watching, the interview and survey produced two very different results. It was remarkable how only one of the environmentalists interviewed watched “a lot” of television growing up. However, the chi-square test from the *survey* results showed almost no connection between these two variables (see **Table 11** in Appendix C).

One positive aspect of semi-structured interviewing is that extra information may surface during interviews. However, there was also a limitation in the number of avenues I had time to explore and analyze. Therefore, the extra information (perhaps something that one or two participants touched on) was often left uninvestigated and un-probed.

Additionally, the most common problem with any type of interview is the possibility of asking leading questions or the failure to probe when necessary. Some of my questions may have been leading, which is something that could have been avoided if there was more time to devote to interviews. For example, I asked participants if nature or environmental concerns play a role in their spiritual or religious practice. This is leading because I am introducing the idea of *nature* in spirituality. A non-leading question would be to ask, “What is your spiritual or religious practice or interest

composed of?” However, the sample size was small and there was limited time to conduct interviews, therefore my questions were not as ideally neutral as I would recommend for future research. In addition, since the nature of this study was short-term, I was unable to go back and ask follow-up questions to participants after I made comparative observations.

Finally, the “self-reporting” of participants’ environmentalism is not the clearest way to make comparisons. This method may be criticized as somewhat of a biased way to categorize participants and their interviews because it is based entirely on what the participant feels is legitimately “pro-environmental.” In defense of this method, it may be the best way to minimize researcher bias and to reach an understanding of what the participants really care about. After all, it would be counterproductive to make a checklist of behaviors that *I* considered “pro-environmental” and categorize accordingly. However, this does not ignore the fact that individuals may have very different ideas about what constitutes an “environmentalist.” One person may recycle regularly and think of himself as an “environmentalist,” while another may work on environmental policy campaigns, but in light of a stronger interest, does not see herself as meriting the label. Since the aim of this study was to qualitatively analyze how people come to develop their ideas, this method served useful in some ways, but may be improved on in further research.

## **Conclusion**

This study has produced a fairly comprehensive understanding of the attitudes and influences guiding “pro-environmental” and “non-environmental” values and behaviors.

Clearly, there are several common themes of childhood experiences for participants who currently hold “pro-environmental” attitudes. Positive childhood experiences of natural areas proved to be salient in the interviews of self-described environmentalists, supporting the work of Tanner (1980) and Peterson (1982). Negative childhood experiences of environmental destruction (particularly in areas that were “personally valuable” as in the cases of Andrew and Abby) proved to be similarly significant. Additional influences included family members who valued the environment, as well as facilitated opportunities to be involved in environmental issues. The spirituality of environmentalists may be thought of as arising from a general understanding (or awe) of the inter-connectedness of the natural world.

Each of these experiences formed a base for individual construction of ideas regarding personal attitudes and actions. This study did not aim to construct the prevalence of *one* over-arching sphere of influence, but rather produced a conclusion that *several* spheres of influence support the ways individuals form attitudes and values regarding the environment. Milton’s ideas of emotional connections to nature, Tanner or Peterson’s findings of experiences in outdoor areas, or McDonald’s notions of spirituality are each by themselves insufficient ways to capture the experience of value development. However, if they are considered together, along with this study’s crucial addition of individual development that does *not* produce pro-environmental attitudes, we are able to better conceptualize ways that human beings develop ideas in such dynamic processes.

The findings in this paper lay a foundation for future research to take several directions relating to individual value development. One of the strongest correlations found in this study was that of environmentalists and spirituality. Therefore, it would be

interesting to analyze various spiritual practices or interests of both environmentalists and non-environmentalists by asking more neutral questions (proposed on p. 44-45). A longitudinal exploration of spirituality development may also prove insightful among environmentalists, as their conceptions of spirituality evolve with time among other aspects of their life. Finally, a more in-depth analysis of environmental education has proven to be a study worthy of investigation. Since there was an even number of environmentalists and non-environmentalists in this study who recalled learning about environmental problems in school, it seems as though more needs to be done to invoke concern and care among students than simply “mentioning” environmental problems in classrooms.

Further research must strive to evaluate individuals of much more diverse backgrounds and experiences. Similarly, while this study has explored several routes to the development of differing attitudes or values on the environment, and speculated on the origins of individual thinking, this study has not made *judgments* on whether individuals or communities with these differing outlooks view themselves as more or less morally progressive. Further research may produce measures for categorizing what are “moral” actions in the opinion of environmentalists and non-environmentalists and what actions do not hold ties to morality for these groups. This will extend an understanding of developmental factors leading to opposing outlooks regarding attitudes towards the environment.

The interviews and surveys in this study raised a wide variety of perspectives on the human relationship with nature. This research proves useful as both a methodological



framework and a set of significant preliminary data, which will advance further study of the diverse ways individuals develop environmental values.

## References

- Bernard, H. Russell (2002). *Research Methods in Anthropology: Qualitative and Quantitative Methods*. 3<sup>rd</sup> ed. Walnut Creek, CA: AltaMira Press.
- Bixler, R., Carlisle, C., Hammitt, W.E., and Floyd, M.F. (1994). "Observed Fears and Discomforts Among Urban Students on Field Trips to Wildland Areas." *Journal of Environmental Education*. 26, 1, pp. 24-33.
- Bronfenbrenner, Urie (1979). *The Ecology of Human Development: Experiments by Nature and Design*. Harvard University Press.
- Freund, John E. (2001). *Modern Elementary Statistics*. 10<sup>th</sup> ed. Upper Saddle River, New Jersey: Prentice Hall.
- Kahn, Peter H. (2003). "The Development of Environmental Moral Identity." In Clayton, S. and Opatow, S. (Eds.), *Identity and The Natural Environment*. Cambridge, MA: MIT Press.
- Kahn, Peter H. and Kellert, Stephen R. (2002). *Children and Nature: Psychological, Sociocultural, and Evolutionary Investigations*. Cambridge, MA: The MIT Press.
- Kaplan, R. and Kaplan, S. (1989). *The Experience of Nature: A Psychological Perspective*. Cambridge, MA: Cambridge University Press.
- Kohlberg, L. (1969). "Stage and Sequence: The Cognitive Development Approach to Socialization." In D. A. Goslin (Ed.), *Handbook of Socialization Theory and Research*. Chicago, IL: Rand McNally.
- Kohlberg, L. (1970). "From Is to Ought: How to Commit the Naturalistic Fallacy and Get Away With it in the Study of Moral Development" In T. Mischel (Ed.), *Cognitive Development and Epistemology*. New York: Academic Press.
- Kovel, Joel (1991). *History and Spirit*. Boston, MA: Beacon Press. Cited in McDonald, 2001.

- Krupat, Edward (1985). *People in Cities: The Urban Environment and Its Effects*. Cambridge, MA: Cambridge University Press.
- Lewin, K. (1951). *Field theory in social science; selected theoretical papers*. D. Cartwright (Ed.), New York: Harper & Row.
- McDonald, Barbara (2001). "Spirituality and Social Action: An Exploration of Committed Environmental Activists." Michigan.
- Milton, Kay (2002). *Loving Nature: Towards an Ecology of Emotion*. New York, NY: Routledge.
- Myers, Gene (1998). *Children and Animals: Social Development and Our Connections to Other Species*. Boulder, CO: Westview Press.
- Nash, Roderick Frazier (1989). *The Rights of Nature*. Madison, WI: University of Wisconsin Press.
- Nickerson, Raymond S. (2003). *Psychology and Environmental Change*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Peterson, N. (1982). "Developmental Variables Affecting Environmental Sensitivity in Professional Environmental Educators." Unpublished master's thesis, Department of Psychology, Southern Illinois University, Carbondale.
- Piaget, Jean (1970). *Structuralism*. New York, NY: Basic Books, Inc.
- Shweder, Richard (1982). "Beyond Self Constructed Knowledge: The Study of Culture and Morality." *Merrill-Palmer Quarterly*, 28, 1, pp. 41-69.
- Sobel, David (1993). *Children's Special Places: Exploring the Role of Forts, Dens, and Bush Houses in Middle Childhood*. Tucson, AZ: Zephyr Press.
- Staats, Henk (2003). "Understanding Pro-Environmental Attitudes and Behavior: An Analysis and Review of Research Based on the Theory of Planned Behavior." In Bonnes, Lee, and Bonaiuto (Eds.), *Psychological Theories for Environmental Issues*. Burlington, VT: Ashgate Publishing Company.
- Stern, P. C. (2000). "Toward a Coherent Theory of Environmentally Significant Behavior." *Journal of Social Issues*, 56, 3, pp. 407-424.
- Tanner, T. (1980). "Significant Life Experiences." *The Journal of Environmental Education*, 11, 4, pp. 20-24.

Turiel, E. (1978). "Social Regulations and Domains of Social Concepts," In, W. Damon, ed., *New Directions for Child Development: Social Cognition*. San Francisco, CA: Jossey-Bass.

Weisner, T. S. (1984). "Ecocultural Niches of Middle Childhood: A Cross-Cultural Perspective." In W. Andrew Collins (Ed.), *Development During Middle Childhood: The Years from Six to Twelve*. Washington, D.C.: National Academy Press.

Wikipedia (2001). "Environmentalism." *Wikipedia: The Free Encyclopedia*. 19 April 2005 <<http://en.wikipedia.org/wiki/Environmentalism>>.

Wilson, E. O. (1984). *Biophilia*. Cambridge, MA: Harvard University Press.

## APPENDIX A: Semi-Structured Interview Questions

The information you provide in this interview will be recorded for transcription purposes, but remain entirely confidential. Your responses will be analyzed in my senior thesis paper to better understand how childhood experiences may be connected to current attitudes, however, **these questions are not intended to pass any judgment on what your current attitudes or behaviors are.** Your name will not be printed or connected to your responses. If you have any questions, be sure to ask me and feel free to skip any questions you do not feel comfortable answering.

Please fill in the demographic information below by providing written responses and circling your answers where appropriate.

### Basic Information:

Age: \_\_\_\_\_

Gender:    M        F

Ethnicity: \_\_\_\_\_

College Major: \_\_\_\_\_

Are you registered to vote?    Y        N        Republican    Democrat    Other

Are you religious?    Y        N

Are you spiritual?    Y        N

What was the highest level of education that your parents completed?

What were the occupations of your parents while you were growing up?

### **To your best approximation:**

If you were asked to use one of these four names to describe the social class of your family of origin, which would you say you belong to?

- \_\_\_ Low-middle class
- \_\_\_ Middle class
- \_\_\_ Upper-middle class
- \_\_\_ Upper class

How many hours per week do you currently spend:

- |                       |                                      |
|-----------------------|--------------------------------------|
| Studying _____        | Domestic chores _____                |
| Working for pay _____ | Sports/exercise _____                |
| Volunteering _____    | Other activity of significance _____ |
|                       | (Please specify) _____               |

Interview Questions:

**Family Background and Childhood Experiences**

- Where did you grow-up? (Was your city of origin urban or rural? Did you live in an apartment or house?)
- In what nation(s) have you lived? Have you lived in any other city for a significant amount of time?
- Did you have any pets as a child? Which ones and for how long? Were they particularly “your” responsibility or simply “family pets”?
- What types of vacations did you go on as a child?
- What types of activities did you participate in during childhood (hobbies, field trips, camps, visits to the zoo, sports, art, music, scouting, clubs, religious groups, family groups, unstructured play, work, etc.)
- Which activities did you enjoy most and why?
- How often did you watch TV as a child? Which programs?
- How often did you read? What sort of books?
- What sorts of work and group involvements did your parents have? (i.e. hobbies, activities, or special interests).
- Are your parents concerned with environmental issues?
- Do they exhibit any “conservation behaviors” such as recycling, composting, or limiting consumption/waste?
- What type of school did you attend? (public/private/approximate size)
- Were you ever exposed to any “unusual” teaching styles? Did you have a favorite teacher?
- Were you ever taught about environmental problems in school? To what extent?

**Present Behavior**

- What types of activities are you currently interested in?
- What types of literature or TV programs are you interested in? What types of books do you read or hobbies do you have?
- Describe your diet. Do you take ecological considerations into your dietary choices? Why or why not?
- Do you currently recycle? Is your choice based on convenience, ideology, or some other factor?
- Do you volunteer, donate money or actively support any charitable organizations?
- What proportion of your charity-giving goes to environmental causes or organizations?
- Do nature or environmental concerns play a significant role in your spiritual or religious practice or interest?
- Does an address of environmental issues influence your decisions in political campaigns?
- Would you describe yourself as an “environmentalist”?

**Supplementary questions for those describe themselves as “environmentalists”**

- Are you part of any of the environmental organizations on campus? How much are you involved?
- Were there any significant persons or events which you believe contributed to your interest in the natural environment?
- Tell a story about an experience or person that has been most important in leading you to value environmental protection.
- Why do you believe you hold the extent of concern that you do for the environment?

**Questions for those who do not identify as “environmentalists”**

- Do you believe there are environmental problems that are threatening future generations? What types of problems?
- What is one issue you believe environmentalists are mistakenly concerned about?

**Present Attitudes (explored through “ideological questions”)**

- Do you believe nature (including animals, forests, open spaces, etc) has “rights”? Why or why not? What sort of rights?
- To what extent do you feel individuals have control over environmental problems (such as pollution, diminishing resources, consumption, etc.)?
- To what extent do you feel it is *your* responsibility (or our responsibility) to ensure protection of the environment for future generations?

## APPENDIX B: Supplementary Survey and Hypothetical Questions

Please fill in the information below by providing written responses and circling your answers where appropriate.

Age: \_\_\_\_\_

Gender:    M        F

Ethnicity: \_\_\_\_\_

Highest level of Education attained: \_\_\_\_\_

College Major (if applicable): \_\_\_\_\_

Are you registered to vote?    Y        N        Republican    Democrat    Other \_\_\_\_\_

Are you religious?    Y        N  
 To what degree?    Not at all    Slightly    Moderately    Strongly    Very Strongly

Are you spiritual?    Y        N  
 To what degree?    Not at all    Slightly    Moderately    Strongly    Very Strongly

What was the highest level of education that your parent's completed?

Mother: \_\_\_\_\_

Father: \_\_\_\_\_

What were the occupations of your parents while you were growing up?

Mother: \_\_\_\_\_

Father: \_\_\_\_\_

Where did you grow up? (city of origin) \_\_\_\_\_

Would you describe your city as:    Rural        Suburban        Urban

### To your best approximation:

If you were asked to use one of these four names to describe the social class of your family of origin, which would you say you belong to:

\_\_\_ Low middle class

\_\_\_ Middle class

\_\_\_ Upper-Middle class

\_\_\_ Upper Class

How many hours per week do you currently spend:

Studying \_\_\_\_\_

Domestic chore \_\_\_\_\_

Working for pay \_\_\_\_\_

Sports/exercise \_\_\_\_\_

Volunteering \_\_\_\_\_

Other activity of significance \_\_\_\_\_





Hypothetical Scenario 1: (Circle your answer at the end of reading the story)

The Environmental Protection Agency has just announced that the Spotted Owls of Oregon are becoming endangered as a result of the logging industry's affect on their habitat. The owls are at risk of extinction if logging practices are not changed. Loggers are worried because they have been earning a living through the timber industry and cannot support their families without a job. If they are forced to stop logging, they may have to move away from their homes to find alternative work.

**Group A** says that we need to protect the Spotted Owl species at all costs and stop the logging in Oregon. They believe that all of Earth's species deserve protection and the right to live. They say that if we continue to take timber from these forests, Spotted Owls will no longer survive on our planet.

**Group B** says that the loggers will lose their jobs and have no source of income if they are forced to stop logging in Oregon's forests. They say that the logger's families count on that income and will suffer from the loss financially. In addition, uprooting their homes and finding alternative work would be a great hardship for Oregon's loggers and we must protect human interest.

If you were forced to join a group, which group would you say you agree with more?

Definitely Group A	Somewhat Group A	Slightly Group A	Slightly Group B	Somewhat Group B	Definitely Group B
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Hypothetical Scenario 2: (Circle your answer at the end of reading the two descriptions)

**Nicole** says that in the summer she loves to go to "Blue Lake," a vacation spot that her family has been visiting for years. She likes to go jet skiing and take her dad's motorboat out to explore. Nicole enjoys the adventurous times she has had at Blue Lake and has met a lot of fun people there. She hopes to take her family there when she gets older. It is important to Nicole that Blue Lake continues to have recreational activities available (like water skiing and boating) which she feels make her vacation more enjoyable.

**Eric** says in the summer he loves to go to "Green Lake," a vacation spot that his family has been visiting for years. Green Lake is calm and not heavily inhabited. Eric likes to watch the pristine clear water and the spectacular views. He enjoys the cleanliness of a motorboat-free lake and wants to take his kids there when he starts a family. It is important to Eric that Green Lake stays mostly untouched by modern life, he feels this makes his vacation more enjoyable.

Does Nicole's vacation or Eric's vacation sound more like your own preference?

Definitely Nicole's	Somewhat Nicole's	Slightly Nicole's	Slightly Eric's	Somewhat Eric's	Definitely Eric's
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## Appendix C: Additional Chi-Square Tables Not Included in Results

### *Comparisons Regarding Background and Childhood Experiences*

**Table 11:** *Environmentalism and Amount of Television Watched during Childhood*

	Environmentalists	Non-Environmentalists	Totals
Watched T.V. “never” or “sometimes”	3 (21%)	3 (15%)	6
Watched T.V. “moderately” Or “often”	11 (79%)	17 (85%)	28
Totals	14	20	34

**Chi-Square = 0.235**

**Table 12:** *Environmentalism and Environmental Education*

	Environmentalists	Non-Environmentalists	Totals
Remember being taught about environmental issues in school	16 (76%)	20 (71%)	36
Does not remember being taught about environmental issues	5 (24%)	8 (29%)	13
Totals	21	28	49

**Chi-Square = 0.139**

**Table 13:** *Social Class and Amount of Television Watched during Childhood*

	Low/Middle Class	Upper-Middle/Upper	Totals
Watched T.V. “never” or “sometimes”	17 (77%)	11 (92%)	28
Watched T.V. “moderately” or “often”	5 (23%)	1 (8%)	6
Totals	22	12	34

**Chi-Square = 1.107**

**Table 14:** *Social Class and Parents' Concern for Environmental Issues*

	Low/Middle Class	Upper-Middle/Upper	Totals
Parents had concern	9 (41%)	5 (42%)	12
Parents did not have concern	13 (59%)	7 (58%)	20
Totals	22	12	34

**Chi-Square = 0.0019**

*Comparisons Regarding Present Behaviors*

**Table 15: Environmentalism and Political Activism**

	Environmentalists	Non-Environmentalists	Totals
Participates in political or environmental activism	7 (50%)	7 (35%)	14
Does not participate in political activism	7 (50%)	13 (65%)	20
Totals	14	20	34

**Chi-Square = 0.771**

*Comparisons Regarding Current Attitudes*

**Table 16: Environmentalism and Perceived Amount of Control over Environmental Problems**

	Environmentalists	Non-Environmentalists	Totals
Believes individuals have “no” or “slight” control over environmental problems	5 (36%)	7 (35%)	12
Believes individuals have “moderate” or “a lot” of control over env. problems	9 (64%)	13 (65%)	22
Totals	14	20	34

**Chi-Square = 0.0023**

**Table 17: Environmentalism and Preferred Group to Side With in Hypothetical Scenario #1**

	Environmentalists	Non-Environmentalists	Totals
Would side with Group A	6 (43%)	9 (45%)	15
Would side with Group B	8 (57%)	11 (55%)	19
Totals	14	20	34

**Chi-Square = 0.015**

**Table 18: Social Class and Perceived Individual Responsibility to Protect the Environment**

	Low/Middle Class	Upper-Middle/Upper	Totals
Believes individuals have “no” or “slight” responsibility	7 (32%)	3 (25%)	10
Believes individuals have “moderate” or “entire” responsibility	15 (68%)	9 (75%)	24
Totals	22	12	34

**Chi-Square = 0.17**

**Table 19: Social Class and Preferred Vacation Type (Hypothetical Scenario #2)**

	<b>Low/Middle Class</b>	<b>Upper-Middle/Upper</b>	Totals
<b>Prefers “Nicole's” vacation</b>	<b>11 (50%)</b>	<b>4 (33%)</b>	15
<b>Prefers “Eric's” vacation</b>	<b>11 (50%)</b>	<b>8 (66%)</b>	19
Totals	22	12	34

**Chi-Square = 0.86**