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# Cultivating Human-Nature Relationships: The Role of Parents and Primary Caregivers in Development of Environmental Identity

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**Cultivating Human-Nature Relationships: The Role  
of Parents and Primary Caregivers in Development  
of Environmental Identity**

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Submitted to Pitzer College in partial fulfillment of the degree of  
Bachelor of Arts in Environmental Analysis

**Readers:  
Professor Paul Faulstich  
Professor Timothy Justus**

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## I. Introduction

My journey toward an interest in environmental identity has been both academic and deeply personal. In response to an education that has taught me about the numerous ecological and societal crises of our planet today, my reaction, like that of many others, has been to wonder what can be done to fix those problems. Toward that end, it is imperative that the connection between humans and our natural environment be restored. Our current environmental crisis originates at least in part from industrialized societies that have become detached from the natural world, creating a relationship between human beings and our ecosystems that is damaging and unsustainable. Consequently, I began to ask how we could restore that connection, beginning at the individual level. What, I pondered, differentiates people who feel connected to the natural environment from those who do not, and what factors go into making each type of person? Furthermore, do these connections necessarily foster environmentally positive behaviors?

Reflecting on the origins of my own interest in environmental protection, it was something that fits with who I have been since childhood. Growing up, I was fortunate enough to live in a suburban neighborhood with lots of natural areas right in my backyard, and my neighbor friends and I loved to play and explore outside. I always loved animals, and built relationships with them by caring for pets, “rescuing” baby birds that fell from nests into the street, or quietly watching the deer, wild turkeys, quail, and many other forms of wildlife that wandered through the yard. It soon became apparent in my research that there is academic evidence to the fact that these types of experiences with nature tend to lead to the formation of

an “environmental identity” (a term describing one’s connection with nature, which will be defined more thoroughly in Chapter II). Consequently, there is a push in the literature for both educational and informal opportunities for children to interact with nature. However, my thought was that those types of experiences may not be as effective without support from the parents, given the critical role the parents and primary caregivers play in a child’s development.

Again, this thought stemmed from my own personal experience. I have a very good relationship with both my parents, and acknowledge that they shaped the person I am today, while empowering me to make my own decisions rather than forcing any particular path on me. Although I do not remember my parents overtly encouraging me to become close with nature, I do remember them sharing experiences with me, from gardening and harvesting summer blackberries, to teaching me the names of the birds that landed on the trees outside our windows. These are very fond memories, and I think they influenced the decisions I have made later in life, such as choosing to attend Pitzer College and becoming an Environmental Analysis major. Additionally, although I still feel there is more separation than I would like between my “day-to-day” life and my experiences in nature, I do make conscious decisions related to caring for the natural environment in my daily life, which is one of the most valuable things my education has taught me how to do.

In this thesis, I illustrate the importance of such human-nature relationships in terms of both environmental and psychological health, and discuss the concept of environmental identity to describe this relationship. I review the research that

shows that childhood experiences in nature, such as mine, are essential to the development of an environmental identity, and that there is evidence to suggest that social others also play a significant role in the development and maintenance of environmental identity. Finally, drawing on research concerning parent-child relationships and identity development, as well as my own qualitative analysis of participant interviews and surveys, I argue that parents and other primary caregivers are highly influential in the formation of environmental identities in their children. This conclusion has significant implications both for parents and for the role of environmental education.

## **II. Environmental Identity and its Importance**

Cultivating relationships between humans and the natural environment is critical, from both environmental and psychological perspectives. People concerned with the ecological crises facing our planet know that it is important for each person to be aware of their personal stake in the health of the planet in order to be motivated to protect it. Furthermore, the trend in industrialized societies of becoming more disconnected from the natural world has negative impacts on the mental health of people and on society. Fish (2005) argues that due to a number of transitions in Western cultures, such as the Protestant Reformation, Industrial Revolution, and the spread of capitalism, our way of life has become tied to a non-sustainable economic system. Additionally, these transitions have led to the insecurity and isolation of the urban nuclear family prevailing over the support of the extended family. These changes have altered the human relationship with nature in ways that have damaged both ecosystems and our ability to care about that damage. Addiction (to substances, material goods, electronic media, or any other number of things) developed as a way of coping with the lifestyle changes that occurred with industrialization. Widespread addiction, Fish argues, is the way our society copes with psychologically abnormal conditions in which people are isolated from each other and from the natural environment. She writes,

I propose...that the phenomenon of addiction is not simply an isolated individual problem. Rather, the overwhelming prevalence of an abnormal appetite for excess among those in the West, be it for substances, experiences, or 'things,' is a socio-cultural condition. That is to say, the



fundamental values of Western society are out of balance with the needs of the individual, the collective, and the natural world. Why people engage in harmful repetitive behavior is not so much the fault of biology, or even family, as it is about a culture that creates an environment for addiction to both flourish, and in many circumstances, be considered 'normal' (Fish, 2005, p. 229).

In this concept, addiction, ecological damage, social isolation, and societal structure are tied in a continuous downward spiral.

Additionally, it has been hypothesized that this isolation from the natural environment is harmful in terms of psychological health. Wilson (1984) introduced the "biophilia hypothesis" to describe humans' "innate tendency to focus on life and lifelike processes" (as cited in Gullone, 2000, p. 294). He argues that since humans spent most of their evolutionary history in natural landscapes, our cognition and emotions are tied to the natural environment, and consequently, isolation from it causes psychological damage (as cited in Gullone, 2000). Although a variety of studies (concerning phobias or aesthetic preferences for certain types of landscapes, for example) have supported this hypothesis (Bernaldez et al., 1989; Kaplan et al, 1972; Lane & Gullone, 1999; Ohman, 1986; Seligman, 1970; Ulrich, 1993; all as cited in Gullone, 2000), it is not without complications. For example, it is not always clear how human fear or disgust of natural objects, or love of human-created artifacts, can be incorporated into the hypothesis. Kahn (1997) argues that the biophilia hypothesis can include both positive and negative affiliations with the natural environment, and both should be integrated into a larger framework. He contends

that both types of interaction with nature are part of normal development, and important for psychological and ecological health.

The essential ideas encompassed by the biophilia hypothesis intuitively make sense, and the evidence indicates that exposure to nature is psychologically and physically beneficial at the individual level, and may also help counteract societal degradation. A number of studies (summarized in Kahn, 1997) demonstrate the benefits of even just a view of nature in experimental settings. A study in which participants were tested on a cognitive task, and then walked for forty-five minutes either in an urban setting (first group) or a park (second group), or in the third (control) condition, read or listened to music for forty-five minutes, found that upon retesting, the participants who had walked in the park improved most on the task. Another study of patients recovering from gall bladder surgery revealed that those whose room had a view of a natural setting recovered faster, needed fewer pain medications, and had fewer complications than those whose room had a view of a brick wall. Similarly, inmates whose prison cells looked onto surrounding farms or forests needed fewer health care services than those whose cells looked onto the prison yard.

It is important to note that these benefits are not exclusive to wilderness areas—interaction with and exposure to nearby nature is as important as marital and career satisfaction in contributing to life satisfaction (Frey 1981; Fried 1982; Fried 1984, all as summarized in Kaplan & Kaplan, 1989). Kaplan and Kaplan (1989) write, “Nearby nature...need not be a big area. In fact, even the sight of a few trees, the view from a window at home or at work, can provide satisfaction” (p. 163). This

effect applies even to virtual nature—subjects that had been shown a stressful movie followed by a tape of a natural setting recovered from the stress faster than those whose second tape was of an urban setting. Attachments to nearby nature may be environmentally problematic in some ways—for example, gardening or landscaping may involve the use of pesticides, or displace native species with nonnative ones, causing ecosystem disruption. However, I would argue that such attachments represent a baseline attachment to nature in line with the biophilia hypothesis, and the evidence indicates that people can derive many of the same psychological benefits from nearby nature as from wilderness areas. Kaplan and Kaplan (1989) summarize that,

immediate outcomes of contacts with nearby nature include enjoyment, relaxation, and lowered stress levels. In addition, the research results indicate that physical well-being is affected by such contacts. People with access to nearby-natural settings have been found to be healthier than other individuals. The longer-term, indirect impacts also include increased levels of satisfaction with one's home, one's job, and with life in general (p. 173).

The literature indicates that childhood experience in nature is also beneficial for healthy cognitive and physical development. Chawla (2006) wrote that when free play is allowed and encouraged in children, those experiences create the right combination of sensory input, and consequently the ideal conditions for development. Louv (2008) asserts that nature is also a teacher of morals, and that activities such as fishing and hunting lead to a knowledge and valuation of the outdoors, even if they may be “morally messy” (p. 195). Although parents may be

reluctant to let their children play outside for fear of it being too dangerous, Louv argues that playing in nature actually prepares children to better fend for themselves by heightening their senses and awareness. Clearly, exposure to and connection with nature hold benefits at the individual level. But can the formation of these relationships help with problems at the societal level?

Research tends to contend that they can. Paul Shepard's *Nature and Madness* (1982), which helped to lay the foundation for the field of ecopsychology as a whole, emphasizes the idea that normal development includes forming relationships with nature. He explains that the formation of a self-identity comes with maturation, and that this self-identity encompasses relationships with oneself and others, including nature. In Shepard's words,

The adult in full realization of his potential both uses and experiences the non-human world in characteristic ways, particularly in approaching it as both instrument and counter-player, gift and home, and particularly not as an escape from or alternative to interpersonal and social relationships...acceptance...between a growing sense of the separateness of the self and kinship to the Other, achieved through an ever-deepening fullness of personal identity, defined by a web of relationship and metaphorical common ground (p. 13-14).

This relationship with nature is lacking in most Western people today, Shepard argues, due to a number of societal transitions that have removed children from the kinds of natural stimuli that have historically been present during maturation. This, in turn, leads to stunted development in adults and further societal separation from

nature. Therefore, the solution Shepard proposes relies heavily on intervention during childhood development:

Perhaps we do not need new religious, economic, technological, ideological, esthetic, or philosophical revolutions. We may not need to start at the top and uproot political systems, turn life-ways on their heads, emulate hunters and gatherers or naturalists, or try to live lives of austere privation or tribal organization. The civilized ways inconsistent with human maturity will themselves wither in a world where children move normally through their ontogeny (p. 128-129).

Although *Nature and Madness* was really more of a thought experiment than any sort of empirical research, Shepard was one of the first to link society's disconnection from nature to psychology, and to identify the root cause as a loss of identification with nature.

This concept has since been written about under a variety of terms, most commonly "ecological identity" or "environmental identity." Nisbet, Zelenski, and Murphy (2008) define ecological identity as being

...the understanding of our interconnectedness with the earth and sense of inclusion in nature...An ecological identity includes the self, the human and nonhuman community, and the planet's ecosystems (Conn, 1998), so that damage to the planet is seen as damage to the self (p. 717).

Mayer et al. (2008) write of environmental identities as being similar to social identities, in which the sense of belonging extends to a basic psychological need to belong to nature, and when people meet this need, they experience psychological

benefits. They write that, “people need to feel a sense of belonging to something larger than themselves and that this need may be fulfilled through a sense of belonging or connectedness to the natural world” (p. 635). They found that feeling connected to nature increased positive emotions and helped people reflect on life problems.

One of the women I interviewed found that this was true in her personal experience. She told me,

I just made a huge decision, within the last two weeks, to make a career change, and I involved every member of my family and friends, because it was a really big decision to make this career change, and I spent a lot of time in the environment. You know, it was really important to me to spend quiet time on a hill, in a cemetery, overlooking the Bay Area, thinking about [it] and just being in the space. Breathing in the air, sitting in the grass, looking at the sky. You know, it almost sounds a little corny, but I really wanted to be alone, and just breathing the air and appreciating my space that I’m in at the moment, away from people and away from the box of my home (personal communication, March 16, 2014).

This woman’s description exemplifies the restorative effects that nature, even nearby or heavily landscaped “nature,” as described above, has on decision-making and other cognitive functioning.

When referring to “environmental identity” in this thesis, I most closely refer to Clayton’s (2003) definition of environmental identity, “which encompasses values, attitudes and behaviours, with the environment being an important source

of self-relevant beliefs that allow individuals to define themselves” (Olivos & Aragonés, 2011, p. 66). Clayton asserts that people have many different types of relationships with nature, including spending time in nature, environmental behaviors (recycling, buying environmentally friendly products, voting for environmental legislation, etc.), identifying as part of a larger ecosystem, aesthetic or spiritual enjoyment of nature, and/or a social, political, or moral identification with environmentalists. She encompasses all of these in her definition of “environmental identity” (Clayton, 2003). Although environmental identity may be conceptualized as a distinct construct from environmental values or attitudes and environmental behavior, it acts as a mediator between them, and therefore is closely tied to these concepts (Dono et al., 2010; van der Werff et al., 2013). An environmental identity emerges from environmental values, and leads to environmental behavior.

Therefore, in order to increase environmentally beneficial behaviors, it is worth investigating the forces that lead to the formation of environmental identities. As the literature on the subject increases, it is becoming increasingly evident that childhood development does play a vital role in the formation of an environmental identity, but a number of social factors also heavily influence whether environmental identities form and how they are maintained.

### **III. Childhood Experience and Environmental Identity**

#### **Development**

Paul Shepard's *Nature and Madness* emphasized childhood as the key stage in developing an environmental identity, and more recent literature has substantiated the idea that experiences of nature, particularly during childhood, have major influence on the formation of environmental identities. Kals and Ittner (2003) write, "In our own research on adult populations we find that emotional affinity toward nature can be traced back to present and past experiences with the natural environment" (p. 138), and in interviewing participants at a deep ecology conference, Zavestoski (2003) found that "most of the participants had either special places in nature, a place that had been special to them but was developed or destroyed, or a particular experience in nature that was significant in developing their concern for nature" (p. 304). Hinds and Sparks (2008) administered a questionnaire to a sample of college students that included questions about participants' childhood environments, their intentions to engage with the environment, their perceived social acceptability of engaging with the environment, their emotional connection to nature, the extent to which they feel in control of their behaviors, and environmental identity. They found that participants who grew up in rural settings identified more strongly with the environment and had more positive feelings toward the environment, supporting the "argument that past experience of the natural environment has an important role to play in the formation of positive affective relationships with it" (p. 115). Further, they found that not only does past and present contact with nature promote positive emotions towards it, but "the



more one has an affective connection with nature, the greater one's intentions to engage with it" (p. 115). This supports the claim that environmental identity is tied to pro-environmental behavior.

In "Children's Affiliations with Nature," Kahn (2002) argues that experiencing nature firsthand during childhood is becoming harder to do, because children are growing up in increasingly more degraded environments. "The crux here," he writes,

is that...I think we all take the natural environment we encounter during childhood as the norm against which we measure environmental degradation later in our lives. With each ensuing generation, the amount of environmental degradation increases, but each generation in its youth takes that degraded condition as the nondegraded condition—as the normal experience. I have called this psychological phenomenon *environmental generational amnesia* (p. 106)

Although environmental generational amnesia may cause people not to realize the extent of environmental degradation that has occurred over the past few generations, research on the benefits of nature indicates that adapting to increasingly unhealthy ecosystems as "normal" is likely to be harmful from a physiological and psychological standpoint. In order to combat the effects of environmental generational amnesia and provide children with meaningful environmental experiences, Kahn argues that we must not only give children hands-on experiences in nature, but engage them in dialogue about what has been lost

from previous generations, and create and preserve healthy natural landscapes to the greatest extent possible:

[F]or such experiences to occur we need a more pristine nature for children to experience. Seen in this way, it becomes crucial to preserve pristine areas in settings both urban (parks and open areas) and rural (such as the Amazon rain forests). Such areas help provide the baseline of ecological health from which children (and societies at large) can construct notions of ecological disease (p. 112).

However, I argue that this emphasis on “pristine nature” runs of the risk of emphasizing the separation of humans and nature. The dialogue and experience Kahn recommends may leave children with an emotional connection to nature and sadness or even guilt over its destruction, without any way to engage with the environment in healthy ways during their day-to-day lives. Describing “pristine nature” as healthy and the goal to be achieved, and human landscapes as “polluted,” leaves the option only of seeing humans as harmful agents towards nature, rather than as a part of nature, or stewards of its well-being. In order to prevent this from happening, children should have opportunities to interact with the environment in hands-on ways as participants in the ecosystem, rather than only as witnesses or destroyers of it.

Kellert’s “Experiencing Nature” (2002) indicates that these types of experiences are particularly important in middle childhood, or between the approximate ages of 6 and 12. He writes that, “Middle childhood is a critical period in the development of the self and in the individual’s relationship to the natural

world” (p. 133). This developmental stage coincides with children’s desire to create and build things and to start becoming more independent of their parents; building forts or having their own spaces in backyards or nearby nature can accomplish these goals. By experiencing nearby and familiar nature during middle childhood, children also begin to develop a sense of place and put down roots in a location. The emotional attachment that occurs during this time can “become a legacy carried into adulthood,” (p. 126) with lifelong consequences. The types of experiences that make this possible, Kellert writes, include playing, watching, and touching, which usually differ from the types of experiences that are possible in nature preserves.

Although he argues that experience during adolescence plays a more minor role than experience in middle childhood, Kellert acknowledges that, “challenge and immersion in relatively undisturbed and unfamiliar natural settings can exert major positive character and personality development impacts during adolescence” (p. 138). Kaplan & Kaplan (2002) and Thomashow (2002) also found that environmental identity development can occur during adolescence, although the types of experiences in nature that exert the greatest influence may differ from those that are effective during middle childhood. Teens tend to display a lower preference for natural settings than either younger children or adults do (Kaplan & Kaplan, 2002), because they have different priorities, such as social relationships, particularly with peers, and strengthening their autonomy, independence, and competence. Natural settings that meet these needs are more likely to be seen as meaningful, and teens must to be engaged in making decisions regarding nature—activities cannot be seen as being initiated or enforced by authority figures.

Although middle childhood may be the more critical age to form relationships with familiar nature, the potential exists for direct experiences in nature to influence environmental identity formation in adolescents as well.

It is important to emphasize hands-on, personal experience in nature during childhood, given the fact that societal pressures begin to impact children at a young age. King (1994) writes that even television programs that are intended to be pro-environment end up perpetuating consumer culture and therefore convey confusing and conflicting messages to children. Her analysis of “Captain Planet and the Planeteers,” a television show aimed at encouraging environmental protection, argues that it is an example of what she calls the “liberal environmental paradox,” in which, “at the same time that they are admonished to conserve, recycle, reuse and respect the limits of the earth, children are aggressively canvassed and cajoled to buy products and consume goods” (p. 108). By airing the show along with commercial breaks advertising goods aimed at children, and condensing solutions to the environmental problems presented into thirty-second factoids at the end of the episode, the show embodies,

a simultaneous call for children (and others) to both conserve and consume; a diffusion of responsibility that supports the notion of environmental crisis as everybody's fault; and simplistic, individualistic solutions to the complex, systemic problems that demand serious social, political and economic consideration and concern (p. 116).

Although the show may raise awareness of environmental crises in children, it also presents them with conflicting messages and the inability to enact meaningful

solutions. As a result, such programs are not likely to be effective in instilling environmental identities in children, and in fact may work against that goal. Instead, firsthand experience in their local natural environment, as the research above suggests, is critical. In fact, it is well established in the literature that childhood experience in nature is essential to the development of an environmental identity. However, the process of identity development is complex and shaped by multiple factors, and as the following sections illustrate, the formation of environmental identity is not so simply characterized as a direct cause-effect relationship between childhood experience and identity formation.

#### **IV. The Role of Social Others in Shaping Environmental Identity**

Although there is no doubt that experiences in nature, particularly in childhood, play a major role in the development of environmental identities, evidence indicates that a number of social factors also influence how these identities develop and are maintained. As noted by Schachter and Ventura (2008), identity research has tended to focus on identity development as a process of differentiation, by which an individual discovers their uniqueness. According to this line of thinking, a person emerges as someone with a solid sense of their own identity by exploring what makes them different from others. However, Schachter and Ventura argue that processes of integration, or ways in which the individual is similar to others, should also be studied. The processes of separation and integration complement each other during identity formation, and both are influenced by social others. Adams and Marshall (1996) elaborate that identity is a process by which an individual seeks significance, both to oneself as a unique being, and to others in the form of a social identity. They propose that the family, school, and others are systems that both shape the person's identity and are shaped by the identities of the people within them. Bosma and Kunnen (2001) describe these social influences as occurring in addition to an emotional, experience-based foundation, arguing that identity should be conceptualized as "rooted in emotion, emerging in relationships, developing as a dynamic, self-organizing system" (as cited in Koepke & Denissen, 2012, p. 5). Consequently, the formation of self-identity can be viewed as being affected in complex ways by a variety of systems.

There is evidence to indicate that these social aspects of identity formation also apply to environmental identities. Zavestoski (2003) interviewed a number of participants in a Deep Ecology conference in order to see how people with relatively strong environmental identities develop and maintain those identities despite social forces that oftentimes run counter to environmental values. He found that most participants didn't "occupy" their environmental identities as often as they did other identities, such as those related to kinship, occupation, morals, or interests. The complexity of self-identity is tied to the many roles each individual plays in society:

An exploration of the constellation of identities that make up the self, especially when ecological identities are distributed throughout the self, reveals both the barriers to the development of ecological identities and the forces undermining existing ecological identities. Given these barriers, one might argue that ecological identities are not "ecological" at all, but rather manifestations of social movement, political, or moral identities (p. 310).

The "barriers" to which Zavestoski refers include the fact that having a salient ecological identity is not the norm in our society, so actions related to a person's environmental identity are often dismissed in everyday life. In order to maintain their environmental identities despite these social forces, he found that most participants sought careers related to the environment (or another "help-related" profession such as therapist or nurse), practiced earth-based spirituality of some kind, and sought out social networks with people who share their ecological concerns. "In short," Zavestoski concludes,

rather than concerning ourselves with the precise origin of ecological identities, we might do better to focus on the ways that current social structures and social meanings prevent ecological identities from becoming more important and more salient identities in a wider range of individuals (p. 311).

Although I disagree with the idea that the origins of environmental identities are not important, Zavestoski's emphasis on the social forces that shape such identities is definitely worth consideration.

Blatt (2012) investigated social factors with regard to environmental identities through a study involving students in a high school environmental science class. She found that the effectiveness of the class and the presence of environmental identities in the students were influenced by a number of factors, including the student's experiences with nature, the salience of other identities over their environmental identity, their relationship with the teacher, and their family's environmental commitment. Importantly, the bias of the teacher turned out to be an important factor for many students:

Interestingly, these students often express negative emotions when they feel the teacher is failing to present multiple sides of the issues, which negatively affects their willingness to consider the teacher's arguments. While more research is required, the findings suggest that utilizing a more balanced presentation of the issues may be an effective teaching strategy when an issue-based approach is used (p. 486).



The number of factors that played into each student's environmental identity further emphasizes the complexity of environmental identities—Blatt argues that the formation of such an identity “does not indicate a linear process, but rather a complex and reflective one, in which emotion, identity, and behavior are continually interacting to affect each of the others” (p. 472). This underscores the importance of investigating the multiple factors that play into identity formation, during childhood and beyond.

The effect of social forces on the formation of environmental identity has also been supported through cross-cultural studies. In order to examine cross-cultural differences in development as it relates to the environment, Coley, Solomon and Shafto (2002) conducted a study of how children organize their knowledge of folkbiology, or commonsense, informal explanations about plants and animals. They found that children in urban and suburban environments tend to draw conclusions about other animals based on the biological properties of humans, suggesting an anthropocentric worldview. However, this is not the case with children of the Menominee tribe of Wisconsin, whose childhood experiences contrast with those of urban and suburban environments. They are immersed in a culture in which humans are seen as an integral part of the natural world, and experience the natural world through fishing, hunting, and forest management. Their reasoning about other animals was found to be based upon similarities among living things, and to some extent, ecological relationships. Based on differences in culture and childhood experience between the two groups, Coley et al. conclude that both interaction with

living things and cultural support are required to see humans as one living thing among many.

The inclusion of social others into the process of environmental identity formation begs the question of whether there are some social others that are more influential than others. Given their particular influence during early and middle childhood, a key time period for environmental identity development, parents are likely candidates.

## **V. The Role of Parents in Environmental Identity Formation**

Parents, or other primary caregivers, quickly emerge as significant influences in identity formation. Since children have little autonomy over their lives and tend to imitate adult role models, it is intuitive that the adults whose presence is most significant in a child's life would influence the child's identity, whether consciously or not. However, until recently, identity research has tended to de-emphasize such influences in childhood, due to developmental models that view adolescence and young adulthood as the critical periods in identity development (Berzonsky, 1992; Marcia et. al., 1993; Waterman, 2004, all as cited in Schachter and Ventura, 2008). More recent research has begun to acknowledge the impact that childhood influences have on identity formation. As Schachter and Ventura (2008) assert,

Despite Erikson's psychodynamic assertion that the critical adolescent phase of identity development is based on prior childhood identifications with parental figures, developmental identity research has tended to focus on the period of adolescence and beyond while ignoring the precursors of identity development...However, these foundational identity processes in childhood, that have a more evident co-constructed nature, are the building blocks of later identity formation and therefore cannot be disregarded (p. 453).

To emphasize the co-construction of identity in childhood, they introduce the concept of identity agents, or adults who interact with youth as active and influential participants in the formation of their identity. They describe how identity agents act as buffers between the individual and society are large, and consequently tend to have disproportionately more influence than other social actors:

They are in close proximity of youth, they interact with youth on a daily basis, and cultural institutions often vest them with responsibilities and authorities regarding the activities of caretaking, education, and guidance. They are also strategically situated in an in-between point between youth and other levels of social influence, and therefore their mediative capacities are required: as thinking individuals, these agents possess the abilities to choose, filter out, channel, buffer, and interpret larger social influences (p. 472).

While parents cannot control everything their children are exposed to, they do hold sway over what they demonstrate as having importance. Joint attention, or the process by which a child pays attention to the same thing to which an adult is paying attention, begins as early as six months of age, and shapes the way the child perceives the world around them (Chawla, 2006, p. 66). As the child matures, his or her identity is shaped both by processes of differentiation, or discovering ways in which they are unique and autonomous, and integration, or discovering ways in which they are similar to those around them. Parents, as identity agents, often support these processes by encouraging personal choice and expression, while encouraging identification with morals and values that are important to the parents at the same time. Koepke and Denissen (2012) describe how parenting styles also contribute to the parent-child relationship, and consequently identity development, particularly in adolescence. Parents who respect the opinions of their teenagers and give reasons for having the rules they do, combining freedom to discover and learn for themselves with clear expectations, are more likely to have the respect and

attention of their children. On the other hand, strict imposition of rules leads to a disregard of parents and their opinions, and detachment from their relationship, particularly in the teenage years (Koepke & Denissen, 2012). Whether identities are encouraged or discouraged in children through differing parenting styles, researchers agree that parents play an important role in identity development. Schachter and Ventura (2008) write that, "Childhood identifications become the working material for the identity work of adolescence, and the ways these identifications are cultivated, constructed, and maintained in relationships with significant others can be crucial for later processes of exploration and commitment" (p. 473), and Koepke and Desissen (2012) add that, "Parent-child relationships represent the earliest micro-social contexts for identity development and cast a special role throughout life" (p. 85). Although many social others affect the development of an individual's identity, parents or other primary caregivers play an especially important role in this process.

Research suggests that this parental influence also applies to environmental identities. A study by Chawla (2006) found that environmental activists from Kentucky and Norway most frequently cited positive childhood experiences in natural areas and adult family member (usually parent) role models as the motivations for their environmental activism. It was common for interviewees to cite both reasons together, "as 77% of those who talked about a childhood place also talked about a special relative in childhood who confirmed nature's value" (p. 59). This result was supported in a number of other studies with even more widespread geographic findings. Chawla reports,

In countries as far flung as England, Germany, Greece, Slovenia, Australia, Canada, El Salvador and South Africa, from half to more than 80% of the respondents mention childhood experiences of nature as a significant influence. Typically, they mention family members or other role models equally or second in importance (p. 61).

Although the former, as has been previously evidenced, has received far more research than the latter, a number of correlative studies (Meeusen, 2014; Grønhøj & Thøgersen, 2009; Guastello & Peissig, 1998; Leppänen et al., 2012) offer support for the hypothesis that parents transmit environmental values to their children. Furthermore, Meeusen (2014) found that transmission of environmental concern from parents to children was influenced both by the level of environmental concern in the parents and the frequency of communicating about the environment with their children. However, these studies merely demonstrate the existence of a relationship between parental and children's environmental attitudes, without providing much context. When so many participants cite role models as significant influences in their environmental attitudes, it is worth considering how adults instill a love of nature in children. Chawla offers that,

People around a child foster a bond with nature not only by giving the child freedom to move about and engage autonomously with natural areas, but also by their own example. What they need to do, it appears, is to set an example of noticing nature in a respectful way. By the direction and quality of their attention, they communicate nature's value and promote the child's interest in this world too (p. 70).

They do not model fear or heedless destruction of the environment. Instead, they demonstrate,

care for the land as a limited resource essential for family identity and well-being; a disapproval of destructive practices; simple pleasure at being out in nature; and a fascination with the details of other living things and elements of the earth and sky (p. 72).

Louv (2008) adds that it is also important for adults to be aware of the ways in which they use their time, because children tend to model their usage of time after their adult family members. Many parents work long hours, and spend large amounts of time commuting, using computers (both at home and at the office), and watching TV. They often do not get enough sleep. With such hectic, routine-based schedules, it is difficult for them to be flexible enough to allow for spontaneous opportunities to get outside with their children. While snow days are freeing and allow more playtime for children, they tend to be a stressful hassle for parents, with roads closed and inhibited opportunity to accomplish work or errands (Louv, 2008, p. 118). Although children expect and are expected to fill their time with somewhat different sorts of activities than adults do, they do model their use of free time after that of the adults in their lives, making it all the more important that parents make a conscious effort to engage in creative play and time outside with their kids, and cut back on the screen time.

Additionally, as would be expected based on the research of parent-child relationships described previously, Chawla (2006) suggests that the quality of the relationship between the child and adult must be at least as great as the relationship

between both people and the land in order for identity formation to take place.

Adults will be much more significant as identity agents if they are important to the child and build the values they are trying to instill into their relationship with the child. In the case of the formation of an environmental identity, this means taking time to experience nature in a hands-on way with the child, as well as engaging in dialogue to make the experience more meaningful. This will provide the child with emotional, sensory, moral, and intellectual information, all of which contribute to the development of a positive environmental identity.



## VI. Case Studies

### *Methodology*

A number of retrospective interviews concerning environmental identity formation have been conducted with environmental activists (Zavestoski, 2003; Chawla, 2006), and parent-child interviews have been conducted with regard to formation of religious identity (Schachter & Ventura, 2008). However, existing research has not examined the formation of environmental identities from both the perspective of the individual and his or her parent(s) or primary caregiver(s). Hence, in order to examine the relationship between parent-child relationships and development of environmental identity, I conducted interviews with six Pitzer College students and one or more parent of each student. It was my hope that this tactic would provide a more complete picture of the ways in which parent-child interactions contribute to the development of an environmental identity.

Student participants were recruited through an email solicitation, sent to the entire student body, and through a Facebook message. If a student expressed interest in participating, I asked them to contact their parents about parental participation and to provide a way for me to communicate with the parents directly. Interviewees are referred to in this paper by pseudonyms. All interviews were conducted in person, by phone, or on Skype, and were audio recorded and later analyzed for common themes.

After the interview, each participant was asked to complete Susan Clayton's Environmental Identity Scale (Clayton, 2003) as a quantitative measure of how strongly they identify with the natural environment. It involves ranking a series of

24 statements on a scale of 1 (*not at all true of me*) to 7 (*completely true of me*), with 4 being neither true nor untrue (Appendix B). The responses are then summed, with a higher composite score indicating a stronger presence of an Environmental Identity. Concern over the language of some of the items on the scale is justified—for example, item 2 (“Engaging in environmental behaviors is important to me.”) is vague and dependent upon how the respondent defines “environmental behaviors.” Item 8 (“I believe that some of today’s social problems could be cured by returning to a more rural lifestyle in which people live in harmony with the land.”) may have more to do with economic or political opinion than a connection with nature, and item 10 (“I like to garden.”) becomes problematic when considering the use of pesticides and nonnative species. Conversely, some people may be very connected to the natural environment, but consider a hunting and gathering lifestyle preferable to agriculture, and would consequently strongly dislike gardening.

Despite these concerns, the evidence indicates that the multidimensionality of the Environmental Identity Scale is its strength, and allows it to encompass all facets of an environmental identity as defined by Clayton (2003). Tam (2013) investigated a number of scales that measure concepts of connection to nature (commitment to nature, connectedness to nature, connectivity with nature, emotional affinity toward nature, inclusion of nature in self, and nature relatedness, as well as the Environmental Identity Scale) by studying correlations between them, as well as comparing them to several criterion variables. The criterion variables represented concepts that were both environment-specific and not environment-specific, and covered both antecedents and outcomes of connection to nature. The

Environmental Identity Scale (along with the Nature Relatedness Scale) consistently outperformed the other measures. Tam (2013) concludes that the fact,

that the multidimensional concepts consistently had better performance implies that it may be useful to consider connection to nature to be multidimensional...There are multiple aspects or dimensions of connection to nature, each of which has its own unique conceptual meanings but at the same time shares a substantial overlap with other aspects that warrants an identification of a common core (p. 74).

This concept of a single environmental identity that encompasses multiple types of connection to nature is supported by Olivos and Aragonés (2011), who performed factor analysis on the Environmental Identity Scale and found it to be made up of five factors. The first, which explains most of the variance, is environmental identity itself—“a sense of belonging to the natural world” (p. 70)—and encompasses items 3, 9, 11, and 15 on the scale. The second, which encompasses items 1, 5, 6, 17, 19, and 20, is “enjoying nature,” which involves, “contact with nature, mainly outdoor activities, and the pleasure or benefit derived individually” (p. 70). The third is “appreciation of nature,” which is made up of items 12, 16, 18, 21, and 23. These items “express appreciation of the natural environment owing to the attribution of complex unique qualities such as beauty, spirituality, or personality” (p. 70). The fourth, which was made up of only item 8 (“I believe that some of today’s social problems could be cured by returning to a more rural lifestyle in which people live in harmony with the land.”), was removed from the analyses conducted by the authors because it only contained one item. However, they argue that it should not

yet be removed from the scale, since this factor accounted for 5.4% of the total variance. The final factor was “environmentalism,” which encompassed items 2, 4, 7, 13, 14, and 22, and “appeals to a moral code, an ideological commitment, or an identification with ecologists” (p. 70). This factor correlated with self-reporting of pro-environmental behavior, which is in line with research indicating the connection between environmental identity and environmental behavior, as described in Chapter II.

The inclusion of all these factors in the Environmental Identity Scale means that the scale,

reflects a complex concept, as defined by the author, in which an important role is played by feelings of belonging to the natural world, the pleasure or benefit gained by individuals through contact with nature, mainly during outdoor activities, appreciation of the unique and complex qualities of the natural environment, and commitment to the environment, expressed through engagement in pro-environmental behaviours, the recognition of a moral code, an ideological commitment or an identification with ecologists (p. 71).

Taken together, the items on the scale balance each other out to reflect a general measure of environmental identity. The authors conclude that their study “indicates that the EID scale is reliable and has consistent construct validity, and therefore can be used in studies in which a general measure of environmental identity is of interest” (p. 72). In studying the development of environmental identity from a broad perspective, the use of such a general measure was a good fit for my study.

The scale was originally developed and implemented with populations of North American college students, which aligns with my participants, except mine included the additional actor of students' parents. Although some studies (Meeusen, 2014; Grønhøj & Thøgersen, 2009; Leppänen et al., 2012) have found a "generation gap" in the importance of environmental attitudes, those studies involved populations of adolescents and their parents. As was mentioned earlier, adolescents tend to have lower environmental preferences than adults (Kaplan & Kaplan, 2002), so this phenomenon may be exclusive to this age group. Similar research with college populations and their parents (Guastello & Peissig, 1998) reported no such generation gap. Furthermore, there is no indication that difference in age had significant effects on my results, since the mean of the parents' scores (117.6) differed only slightly from that of the students' scores (121). Additionally, the scale has since been used in France, Spain, Finland and Turkey, and continues to have good reliability and validity (S. Clayton, personal communication, March 8, 2014). Importantly, although it might be expected that participants would overestimate their scores in order to appear more environmentally friendly, the scale appears to be relatively resistant to inflation: "Although social desirability pressures might be expected to lead to high scores, the scale is relatively free from floor or ceiling effects" (Clayton, 2003, p. 53). Out of a possible range of 24 to 168, the scale had an actual range of 56 to 157, with a mean of 119.9 and standard deviation of 23.46 (S. Clayton, personal communication, March 8, 2014). Due to its reliability, validity, and multidimensionality, the Environmental Identity Scale was a useful way of gathering quantitative data with which to supplement the interviews.

During the interviews, I made an effort to remove any bias that I, as the researcher, might demonstrate that would influence the interviewees. One way in which I attempted to do this was by keeping my questions open-ended and general. Rather than asking about environmental values and experiences, for example, I asked questions related to the relationship between parent and child, values in general, hobbies, career, and major, as a way of gleaning what was most important to the interviewee, whether it related to the environment or not. Sample interview questions can be found in Appendix A. Only at the very end of the oral interview did I ask about the participant's relationship with the environment, and I provided them with the questionnaire afterward. I was deliberately vague about exactly what I was researching, and told participants that I was doing a psychology-related thesis if they inquired. Following completion of the interview and questionnaire process, I debriefed interviewees, and explained that I am an Environmental Analysis major and researching environmental identity.

It should be noted that the sampling method utilized was far from random, and consequently the participants in my study do not represent the general population. Pitzer College emphasizes progressive concepts in its core values, including social responsibility and environmental sustainability, and therefore its students are more likely to have stronger environmental identities, or at least present the image of being more environmentally friendly. There is an additional response bias due to the fact that participants voluntarily responded to my email, and were not only willing to participate themselves, but also to ask their parents about participating. Three of the students (Jennifer, Nancy and Kathleen) know me

personally, and were consequently aware of my interest in environmental issues going into the interview. As a result, they may have presented an image (consciously or unconsciously) of being more environmentally friendly, or there may be an inherent bias in that people who care about my personal or academic endeavors tend to care more about the environment. This is supported by the mean of those students' Environmental Identity scores (126.3), which is higher than that of the students who did not know me (115.7). However, it should be noted that this trend does not apply to every case—the student who scored the highest in my sample was one who did not know me ahead of time. It is likely that even the students who did not know me personally share certain characteristics that differentiate them from the general population, such as a willingness to help others, a good relationship with their parents, a willingness to meet new people and talk about themselves, and possibly others. It turned out that all students who participated were women. Prior research (Meeusen, 2014) has found that the mother and father have the same influence on children of either gender in passing on environmental values. However, gender biases may lead these participants to have a closer relationship with their mother, which is important in environmental identity development, as will be described in more detail later.

Despite the fact that participants in this study do not represent the general population of young adults, their responses did provide diversity of experience and opinion. The scores from all my participants on the Environmental Identity scale ranged from 66 to 154, with a mean of 119, which differs only slightly from the study reported by Clayton (personal communication, March 8, 2014). A table of

participants and their Environmental Identity scores can be found in Appendix C. The open-ended nature of the interviews allowed them to emphasize or de-emphasize the environment to the extent that was natural for them, and I found that a participant's Environmental Identity score usually lined up roughly with how often they talked about the environment or the outdoors in their interview. Their narratives provide anecdotal support for the patterns one would expect to find, based on the research on environmental identity and parent-child relationships previously described.

### ***Parents as Environmental Identity Agents***

Firstly, the parents I interviewed exemplified the existence of parents as environmental identity agents, with some parents overtly mentioning conscious attempts to convey their love of nature to their children. Henry, a father, said,

Helen and I love the outdoors, and we always wanted to, I think, convey that to Elizabeth, but I don't know that she's picked up on that. (laughs)...Maybe she's just too busy, or, I don't know...We'll see what happens later in life, maybe some of that'll kick back in (personal communication, March 2, 2014).

Despite his skepticism as to whether his daughter's love of the outdoors carried into adulthood, it is clear that Elizabeth's environmental identity is fairly salient. Although her Environmental Identity score of 115 is closer to her mother's (105) than Henry's, whose score of 140 is higher than that of both women, those differences may be accounted for mostly by differences in preference for actually spending time outside, or the "enjoying nature" factor of the scale (Olivos &



Aragonés, 2011). Henry loves spending time outside, even just in the backyard, and he particularly enjoyed the earlier part of his career in the solar power industry, which involved spending a lot of time outdoors. He also mentioned that he used to spend a lot of time backpacking. Helen, on the other hand, says that although she enjoys day hikes, she is not much of a backpacker and prefers to come home to a nice shower and soft mattress at the end of the day. Elizabeth, similarly, describes herself as, “not super outdoorsy” (personal communication, February 27, 2014). These differences are highlighted in the family’s divergent answers to items 6 (“Living near wildlife is important to me; I would not want to live in a city all the time.”), 10 (“I like to garden.”), 17 (“I really enjoy camping and hiking outdoors.”), and 20 (“I take pride in the fact that I could survive outdoors on my own for a few days.”) on the Environmental Identity Scale, since Henry ranked each of these items higher than his wife and daughter did. However, it was clear in the interviews that both parents feel an ethical obligation to engage in environmental behaviors, and that Elizabeth has incorporated that morality into her own identity. Both parents were environmental studies majors in college, and both have devoted their careers to environmental causes, Henry in the solar industry and Helen in environmental law. Henry told me that they have “great respect for nature and the natural environment,” and that although their jobs have taken up more of their time recently, inhibiting them from enjoying the outdoors more often, “we still feel really strongly about our responsibility to protect the earth” (personal communication, March 2, 2014). Elizabeth, similarly, told me that she thinks she has “a healthy respect for nature” and is “absolutely” passionate about protecting the environment.

She reports that her family engages in environmental behaviors such as turning off lights, having solar panels on their house, and driving electric or hybrid cars, and that she cares about the use of reusable bags in stores. Although she does not plan to become involved in activism, or have a career devoted to environmental causes, she says, “I support environmental things with my vote. And with my dollars, if I had dollars...” (personal communication, March 2, 2014). These similarities in thinking are reflected in the fact that all three family members ranked the following items, most of which load onto the “environmentalism” factor on the Environmental Identity Scale (Olivos & Aragonés, 2011), as a 6 or 7: 2 (“Engaging in environmental behaviors is important to me.”), 4 (“If I had enough time or money, I would certainly devote some of it to working for environmental causes.”), 11 (“Being a part of the ecosystem is an important part of who I am.”), 13 (“Behaving responsibly toward the earth—living a sustainable lifestyle—is part of my moral code.”), and 14 (“Learning about the natural world should be an important part of every child’s upbringing.”). Clearly, Henry and Helen passed on their passion for protecting the environment to Elizabeth, both in conscious and unconscious ways.

Similarly, Irene, a mother, mentioned deliberately exposing her children to nature from a young age—her children were five and seven years old when she first took them camping. Although she was careful to avoid forcing her own values and beliefs on her children, she also acknowledged that was “nearly impossible to do,” since she was leading them simply through exposure. She said,

I wanted them just kind of to be in it, and play in it, and have fun in it, so that if they decided to be interested in it later, they’d have really good memories

to pull from, and good experiences to pull from... I just wanted to bring the kids around the stuff that was important to me and let them see things about that that they loved, so that later they would feel like it's theirs, too, to take care of, and theirs, too, to make sure there's some of that around (personal communication, March 2, 2014).

In line with this objective, the family often engaged in outdoor activities together, including frequent camping trips. Irene's daughter Kathleen told me that, "Even though I lived in [a] suburban area, I practically grew up on [a nearby mountain]. It was like, practically every other weekend we'd go there. It was pretty cool" (personal communication, March 1, 2014). The last sentence of her comment specifies that the trips were positive experiences, and contributed to her love of the outdoors. Irene is also very mindful of waste—she told me with pride that she has recycled since 1974, and that since she used cloth diapers, "I can actually look back and, just my own personal self, feel really good about the pile of plastic diapers that I did not ever create or have a part of" (personal communication, March 2, 2014). She describes those practices as "little personal victories, that no one ever needs to know about," but it was clear that she did enforce certain practices concerning waste in her household, such as composting and recycling, and she "made it pretty clear" that the fewer packaged items came into the house, the fewer packages there would later be in a landfill somewhere.

Although Irene made a conscious effort not to overtly force her own values on her children, she did consciously encourage some environmentally-related experiences and practices. However, far more was passed on in an unconscious way,

something that Kathleen has come to realize retrospectively. She told me that her parents displayed educational posters, or used laminated fact sheets as placemats in an effort to passively expose them to educational materials, a process she called “learning by osmosis.” She said the method was effective and “made learning really fun,” and that she also gained environmental knowledge in the same manner. She said,

It’s always been kind of subconscious, because I’ve done so much camping and gardening and things like that...Sometimes I’ll go out, like on the hike that [I went on this morning], I’ll just like point out plants, and people are like, ‘How do you know that?’ and I’m like, ‘Well I guess, you know, I guess I gardened a little bit with my parents when I was little, and they just kind of told me the names and it sunk in’ (personal communication, March 1, 2014).

This is a great example of the processes of joint attention and modeling that were described in the previous chapter. Both Kathleen and Irene had Environmental Identity scores that were above average (far above average, in Irene’s case), reinforcing the conclusion that Irene influenced the development of an environmental identity in her daughter, in both conscious and unconscious ways. Similarly, Jennifer, a student, offered an example of modeling environmental behavior after a parent:

When I was younger--I was always very sensitive to littering, because my mom...when we were out, she would always pick up trash, if she saw trash around, she would, like, pick up trash and bring it to the trash can, so I would

do that too. I guess I just copied her (personal communication, March, 19, 2014).

She went on to describe how this awareness of litter grew as she matured, combined with developing values of self-responsibility and respect (for the earth and other people), and the sight of litter still makes her angry. In Jennifer's case, modeling a parent's behaviors influenced her perception of her environment.

This unconscious modeling of parents can be either a positive or negative phenomenon—Carol (a mother), Don (her husband), and Mary (a student, unrelated to Carol and Don) all told me that there are traits that they have attempted not to adopt from their own parents, but to a certain extent they are unable to keep from doing so. Don told me,

I've always thought that my father was not the best example for me to follow, and here I am following him, so it's always been very difficult...to not pattern myself after my father, but I still tend to end up, not always, but too often, being like my father. And some of it--maybe just because I lived in his house and we, I learned from him and all that, but--maybe I just learned it too well, I don't know what it is...My father made some mistakes--and I swore that I wouldn't make those same mistakes, and it's difficult to try not to make those mistakes or be like that, but--here I am sometimes, being just like my father (personal communication, March 5, 2014).

Carol described a similar process, though perhaps less dramatic, happening with herself. Although she made mental notes of some of her mother's behaviors that she did not want to replicate with her own children, she told me, "certain things would

come out of my mouth that...my mom had said to me that I swore that I would never say to my own kids" (personal communication, March 5, 2014). Mary told me that she has avoided adopting her mother's habitual tardiness, "but I already see myself doing it" (personal communication, March 18, 2014). Despite their recognition of the traits they do not wish to inherit from their parents, these three interviewees seem unwillingly drawn toward those traits or behaviors, showing that parental influence can lead to either positive or negative outcomes in the children. Carol elaborates,

Our parents are who we grew up with, and they are our models. And--more than maybe we want to admit, you know, it has a huge effect on the people that we are, I think, anyway...So, to a certain extent, I think that, hopefully in more positive ways than negative, history--it kind of repeats...from one generation to the next. Because it's the model that we have. One of the most important things that I've learned, I think, in working with kids and with my own, is modeling, and knowing that when I'm not a good model, the kids see it--And when you're young and malleable, that's what you're going to do-- And it takes effort and thought to be the person and parent that you think is the best, and that it's important to do, and hopefully our kids will see that and work to be better than we are (personal communication, March 5, 2014).

Like other parents I interviewed, Carol was keenly aware of her influence as a parent, and aimed not only to be a good role model, but also to teach her children that she has her own weaknesses that they should work to avoid. Her experiences and observations as a parent align with Schachter and Ventura's (2008) processes of

integration and separation—children model social others, particularly parents and other older family members, but they also have the ability to separate from them and form their own unique aspects of their identities.

In the case of one mother, Karen, raising her children as part of the Unitarian Universalist Church was a way of conveying values that she thought were important, such as intercultural understanding and environmental connection. She told me that there are no church services in the summertime because people are encouraged to spend time outside, and she and her daughter, Nancy, both mentioned how learning about a wide variety of religions, not just theirs, was part of Sunday school. Those religions included Buddhism, Wicca, Paganism, and others heavily involved with earth-based spirituality. Karen was very involved with the church while her children were growing up, and Nancy told me the church was something she has always associated with her mother. Since the church embodied many values that were important to Karen, raising her kids as part of it was one way for her to convey a spiritual identity that was closely tied to her environmental identity.

The responses from those interviewed indicate that the parents consciously and unconsciously contributed to environmental identities in their children, by sharing or providing them with experiences in nature, explicitly teaching them about the importance of environmental protection, modeling environmental behaviors, and providing a spiritual connection with the environment through religion. The effectiveness of these methods was influenced in part by the quality of the parent-child relationship.

### ***Parent-Child Relationship***

The interviews that I conducted revealed that the relationships between the parents and their children are complex, change over time, and are influential in the development of environmental identities. All the students I interviewed, as might be expected from the willingness to participate in my research, have very positive, close relationships with their parents. For instance, one student mentioned that she talks with her parents every day, and another told me that she hopes her parents will be around when she has children, so that she will be able to learn from them. A third characterized them as her best friends. All except one (who is an only child) have an older brother, and stated that they feel at least slightly closer to their mother, and that their brother is closer to their father. Most interviewees mentioned other significant role models growing up—often it was their older brother, but peers from sports teams, camp counselors, religious leaders, teachers, and family friends were also listed. However, all participants said their parents were important role models, and it seemed like the values they learned from the others in their life were closely in agreement with those that their parents considered important.

In line with prior research concerning parent-child relationships, parenting styles contributed to the quality of the relationship the adults have with their children. Most practiced an authoritative style of parenting, in which they did not impose harsh restrictions on their children, but were clear in both their expectations and their reasoning behind them, and encouraged autonomy and dialogue. This parenting style was especially apparent when students Kathleen and Elizabeth talked about school—although both describe themselves as being perfectionists and always aiming for high grades, they were careful to specify that



their parents, though studious themselves, never placed that pressure upon them. “They never really forced any academics on me, ever,” Kathleen told me. “Like they never said...they never did the whole, ‘I’ll give you 5 dollars for an A,’ or anything like that” (personal communication, March 1, 2014). Elizabeth, similarly, said

I’m definitely a front-row kid myself, taking school really seriously...stressing and worrying about, like, academic stuff and school stuff. And it’s definitely a pressure that I put on myself, because my parents were never like, ‘You better get good grades,’ or anything, they never said anything to me like that...[they’re] totally fine with B’s, even, C’s, I’m the one who’s like A’s, A’s, A’s, A’s...They’re like, you do whatever you want; it’s fine as long as you’re trying hard and having fun (personal communication, February 27, 2014).

It is evident that this attitude carried over into other arenas of parenting, such as activities. When describing her hobbies, Elizabeth said,

I wish I could say that I crafted, or played an instrument, or had a sport, or could sing or could dance, but I never wanted to do any of those things and my parents were like, ‘That’s cool.’ They weren’t, like, going to force me into doing stuff, so I didn’t (personal communication, February 27, 2014).

That freedom of choice, some of the parents made clear, was intentional on their part. Karen told me, “I pretty much let the kids have a lot of freedom as long as they were responsible in their actions...Respect is earned, and it goes both ways, between the parent and the child” (personal communication, March 15, 2014). Nancy didn’t take to competitive sports the way her mother was hoping she would, but Karen said,

[W]hen it was clear that she didn't want to do it, I just let it go and didn't make her do it. I let her lead, so...I always made it clear to the kids that I think this is what's best for you, but, you know, I can't--I didn't have the energy or the desire to nag them into being a person that I wanted them to be. I kind of had to share it with, you know, who are they, what do they bring, what do they want to do (personal communication, March 15, 2014).

Similarly, Irene told me,

The things that each of our two kids think are important--they have come by themselves, you know? They've been around us, but it's their--the things that are important to them are theirs. They are sometimes things that really surprise me, and I can absolutely get behind...Parents need to see how lucky they are to have kids that think on their own. That's a hard one, and it's also a wonderful one (personal communication, March 2, 2014).

That level of autonomy in the parent-child relationship, in line with the ideas presented by Koepke and Denissen (2012), led to high levels of trust and respect between these students and their parents. This, it appears, allows the students to be more receptive to the teachings of their parents and more likely to model their own values and behavior after those of their parents.

The autonomy and openness demonstrated in that parenting style is important, particularly in adolescence (Koepke & Denissen, 2012), since the imposition of values has been shown to be damaging both in parenting (Koepke & Denissen, 2012) and in the classroom. In a study by Blatt (2012), some students in

an environmental science course were less receptive to the teacher's lessons because they perceived her as a biased source of information. Blatt (2012) writes,

Interestingly, these students often express negative emotions when they feel the teacher is failing to present multiple sides of the issues, which negatively affects their willingness to consider the teacher's arguments. While more research is required, the findings suggest that utilizing a more balanced presentation of the issues may be an effective teaching strategy when an issue-based approach is used (p. 486).

Similarly, Kaplan and Kaplan (2002) found that adolescents are much more likely to engage in activities in nature if they are not perceived as being initiated by authority figures and have "respect for the teens' own insights and inclinations" (p. 252). The examples from my interviews illustrate the effectiveness, as perceived by the participants in this study, of authoritative parenting in developing positive parent-child relationships and autonomy in identity development.

It is important to note that parenting styles and parent-child relationships are complex and often change over time. Effective parenting styles change with age, culture, and individual and familial differences. For example, Laura's parents describe their parenting style as being stricter, but like the other interviewees, Laura herself has a very positive relationship with her parents. She is particularly close with her mother. "We tell each other everything," she told me (personal communication, March 11, 2014). She said that she went through "phases" when she was younger, where she would act out in rebellion because she did not understand why her parents made some of the rules that they did. However, once she was older,

she began to understand them better as parents and her respect for them grew, making her relationship with them stronger. Her mother, Carol, told me that from her perspective,

Most of what we asked wasn't unreasonable. I will say that I was--for me, I was probably more strict than the parents of her friends, but I always told Laura that--her friends, I think too, when she was growing up, were used to being rewarded for high grades and good behavior, and what Laura learned was that she wasn't getting good grades or being good--to make me happy, or her dad happy, it was for herself. Because we never paid her for getting A's (personal communication, March 5, 2014).

In that description, Carol reveals that although she views herself as a strict parent, she also encouraged Laura to think for herself about the ethics of behavior. Rather than aiming for good grades in school because of external rewards, such as money, or simply because her parents said she should, they encouraged her to think about the reasons she, herself, would want to do well academically. Although they were "both very adamant about what is right," as Laura's father, Don, told me (personal communication, March 5, 2014), and made those values clear to Laura and her brother, they also explained the reasoning behind those values. Consequently, with time, Laura adopted many of those same values (such as strong cultural and family values), as part of her own self-identity, and her respect for her parents grew. Interestingly, Carol told me that she had a very similar experience with her own parents. She said,

I didn't realize until I was probably mid-20's, late 20's, when I realized, you know, that my parents weren't so very wrong in what they did and how they tried to raise me. I think that they were more strict than was necessary and I, even though I know that I was a strict parent with both my kids, I wasn't nearly as strict with them as my parents were with me (personal communication, March 5, 2014).

It took time for Carol, too, to see the value in her parents' parenting style, and even then, she chose to be less strict than they were. These examples affirm that the parent-child relationship can and does change over time. It has been shown that identity formation takes place over several stages of development (Kellert, 2002; Kaplan & Kaplan, 2002; Thomashow, 2002), and consequently fluctuations in the parent-child relationship may have different effects at different times. For example, although Laura told me she feels emotionally closer to her mother than her father, her EID score fell squarely in the middle of the scores of her parents (her father's was average, her mother's below average). This could be due to a number of factors, but partially may stem from the fact that her relationship with her father was closer when she was younger and involved in outdoor sports. At that time in her life, she was outside more often, and had positive emotional experiences both with the outdoors and with her father, who also enjoys spending time outside. Those experiences may have contributed to the differences between her score and that of her mother.

The case of Nancy (a student) and her family also illustrates both the fluidity in parent-child relationships over time and the effect that relationships with each

parent has on identity development. Nancy has always closely identified with her mother—whenever her parents argued, she told me, she would usually take her mother’s side (and her brother would side with her father). Nancy’s main role model growing up, she told me, was always her mother. She said,

My mom was not only clearly in charge and pretty much just the best at everything, she was strong—stronger than my dad in most cases—she was really smart, she was really practical, she was really good at cooking, and everything. Like, my mom is really--she was just the best. At everything (personal communication, March 15, 2014).

Everyone in her life, including herself and her mother, expected Nancy to grow up to be just like her mom. Interestingly, one of the major differences between Nancy’s mother, Karen, and her husband, is in the area of an environmental ethic. Of my participants, Karen scored the highest on the Environmental Identity Scale, and behaviors such as conserving water, recycling, composting, and working on her organic farm are an important part of her lifestyle, but do not hold the same value for her husband. She told me,

It’s just little things like that, all the time, that used to be a source of conflict for us, and now...we’ve compromised on some places, and on some we just say, ‘I’m going to recycle, and I’m not going to make you recycle.’ We don’t try to convince each other of the rightness of our arguments. We just sort of do it the way we do it (personal communication, March 15, 2014).

Although I did not speak with Nancy’s brother or father, it was clear from the interviews that here too, Nancy became more like her mother, and her brother more

like her father. Nancy described the importance of many of the same environmental behaviors as her mother, and scored above average, though not as high as her mother, on the Environmental Identity Scale. When describing Nancy's brother, on the other hand, Karen told me,

Our son doesn't [recycle or conserve resources]. It's inconvenient to him, and I don't think he cares about the moral rectitude part of recycling and conserving resources. He just sees it mostly as an inconvenience, so if it's really easy to recycle or conserve, he will, and if it's not, he doesn't really think about it much (personal communication, March 15, 2014).

This shows the influence that relationship and identification with a parent can shape identity and behavior. However, Nancy did mention that her dad was influential as well, and that she went through a process at times of attempting to reconcile the conflict between the messages and examples she was given from each parent. It's easy to imagine this process of reconciliation applying to her parents' differing views of environmental behavior as well. Additionally, her relationship with her mother has recently taken on a slightly different dynamic. Although the two are still close, it has been a revelation since being in college for Nancy to realize that there are ways in which she is unlike her mother, and does not wish to be like her. This ties back to Schachter and Ventura's (2008) processes of separation and integration—her close identification with her mother shaped her self-image when she was younger, and she now finds that her identity is changing based on her differentiation from her mother. This differentiation, along with the influence of her

father, may be one of the factors that led Nancy's Environmental Identity score to be lower than her mother's.

The narratives above illustrate the complexity in parent-child relationships, and how the nature of the relationship often changes over time. The descriptions of those relationships, taken together with their Environmental Identity scores and relationships with the environment, align with Chawla's (2006) argument that the relationship between parent and child is as important as the relationship that each person has with the earth in the formation of an environmental identity.

### ***Emotional Childhood Experiences in Nature***

Furthermore, the interviews reaffirmed the importance of childhood experience in nature as a foundation for the development of an environmental identity. Elizabeth and Kathleen each, without prompting, added an exclamation point next to one item that they ranked a 7 (or "7!") on their Environmental Identity forms. For Elizabeth, it was item 12 ("I feel that I have roots to a particular geographical location that had a significant impact on my development."), and for Kathleen, it was item 14 ("Learning about the natural world should be an important part of every child's upbringing."). Although they did not explicitly elaborate on these points during the interview, since they were not prompted to do so, the things they said were in line with the importance of those items. Elizabeth mentioned that she has fond memories of playing outside in her backyard or her neighbor's backyard as a child—her favorite games included pretending to be fairies, or animals, or "something that involved a lot of running around outside...trying to



build...houses out of leaves and...little, like nest-things” (personal communication, February 27, 2014). Her father also mentioned that they would go to the park together, sometimes multiple times a day, and go to beaches or on hikes. Her love of nature was also evident in an early and lasting emotional connection to animals—she preferred playing with stuffed animals to playing with dolls, and her favorite Disney movies were those that featured animals, not princesses. As an adult, she spends some of her time when she is home from college volunteering for Tony La Russa’s Animal Rescue Foundation. It is clear that Elizabeth had formative memories playing outside as a child, which strengthened her emotional connection to home and laid the foundation for her environmental identity as an adult.

Similarly, Kathleen had a lot of really positive experiences in nature throughout her childhood. In addition to her family’s hiking and camping trips, she attended a camp in northern California annually in her youth, and continues to spend most of her summers there as a counselor. She describes it as a “hippie circus camp” and “the most humanitarian camp out there” (personal communication, March 1, 2014). She described it as an extremely welcoming and inclusive environment, in which campers and counselors alike share in activities that are fun and strengthen the social bonds between them. Kathleen gained some of her closest friends through camp and told me that, “it’s kind of like a camp of random acts of kindness” (personal communication, March 1, 2014). The warmth that she felt at camp, she told me, facilitated her love of the natural environment in which camp is located. She said,

Camp is such a happy place for me, that anytime I'm in that similar kind of environment that's like, dry grass and bay leaves, kind of smells like hot dirt and--oak trees everywhere, that just will put me in a good mood. And it's so funny that when people find out I'm from California, they're like, 'Oh well, you must surf, and blah blah blah,' and that's not what California is to me. California is the backcountry to me, it is, like, way northern California and...rolling hills, it's not like the surf culture that most people think of (personal communication, March 1, 2014).

Kathleen associates the California oak woodland environment with the comfort and happiness she encountered at camp, and has consequently developed a strong emotional attachment to that ecosystem, describing it as the part of California with which she most deeply identifies. From Kathleen's case study, we can discern that her environmental identity was strengthened by the positive emotions that come from social support.

For Nancy, there was also an element of magic and spirituality associated with nature from an early age. She told me that as a child, maybe from frequently reading fantasy books, she gained a belief in "nature spirits," or the idea that there is more to nature than meets the eye. In fact, she told me with a laugh, "I don't even know that I don't believe in it any more" (personal communication, March 15, 2014). Perhaps the influence of her being a part of the Unitarian Universalist Church bolstered her spiritual connection to the environment. In any case, it strengthened her emotional connection with nature and allowed it to become part of her identity.

Mary, a student, cited one experience in nature as being particularly influential in developing a relationship with the environment. Although she had some experiences in the outdoors as a child through visits to the park, summer camp, and a few backpacking excursions during middle school, she told me it was a month-long backpacking trip in Peru at age sixteen that most affected her development. She said, "I felt...really, really close to nature, and felt like it had a lot to do with how I was forming, and how I would be formed...I feel like it's really been a shaping thing in my life" (personal communication, March 18, 2014). After that experience, she took an AP Environmental Science class, which fascinated her and nearly spurred her to major in environmental science in college. Although she did not end up pursuing that field of study, experiences in the outdoors continue to be important to her. This summer (2014) she will work as a coordinator for Pitzer's Outdoor Adventure program, a position that involves scouting a number of camping sites and backpacking routes.

It is worth noting that the parents I interviewed commonly cited similar experiences as being influential in the development of their own interest in the environment. Helen in particular recalled with fondness her experience growing up in rural Colorado, where she and her family lived on ten acres. Although they were close enough to the city that they could go for errands or entertainment, she said her home was quiet for the most part and she spent summer days reading in the backyard. Her love of quiet activities, such as reading and completing puzzles, has stayed with her to this day. Henry also mentioned having plenty of fields and other places to play in his suburban neighborhood growing up, but he and Irene both

mentioned more discrete pivotal experiences that contributed to their current environmental behaviors. In Henry's case, it was a moment in his young adulthood, the summer before he left for college, which took place against a backdrop of presidential speeches concerning the future of energy production. He told me,

There was a gas shortage in Southern California. I grew up in Southern California, and we used to have to wait in line for gas for a few years, because there was a big energy crisis. And there were very long lines of cars, and sometimes you'd have to wait two hours in those lines just to get gasoline. And I was in one of those lines before I started college, and that's when it hit me, the light bulb went off, that I knew what I wanted to do with my studies and my career was to pursue alternative energy (personal communication, March 2, 2014).

In his case, the aversive experience of coping with the energy shortage of the 1970's and concern for the future led to his passion for solar power. Similarly, Irene told me that her awareness of waste and pollution stemmed from her first camping trips as a college student. She said,

1973 was the first time I went hiking in the Sierras. And just seeing how gorgeous it is, and how wonderful the streams tasted, and just how clear the air was--and it just made me feel wonderful. It just fed my soul, in the place that doesn't make words. It just, it was wonderful. And then coming back down to civilization, down route 5--I went to UC San Diego so all the way down to the beach areas, through the LA smog—back then it was *really* bad—and I just thought, well we are really spread out here in San Diego. And

we're lucky that it's not all crowded and city and, you know, dirty, like inner cities tend to be, but it could be cleaner. And we could throw away less stuff. And it's just something that I just, it's just the way I thought. It was one of those things that I actually could get a handle on and do for myself...It was just something that made sense to me and that I felt good about (personal communication, March 2, 2014).

For Irene, the beauty and positive emotions associated with the Sierra Nevada Mountains, especially when contrasted with the pollution of the city, was enough to spur a change in her behavior that has carried forward to this day.

Whether it was a pivotal experience in nature as described by Mary and Irene, witnessing environmental degradation as Henry and Irene did, or positive childhood experiences in nature like those of Kathleen, Elizabeth, and Nancy, firsthand experience was a major factor in shaping interviewees' relationships with the environment. This affirms research by Kellert (2002), Kals and Ittner (2003), and Zavestoski (2003), which asserts that environmental identity is rooted in hands-on, emotional contact with nature.

### ***Differences in Those with Low Environmental Identity***

In order to examine the factors that lead to the development of an environmental identity, it is necessary to compare the experiences of those with stronger environmental identities to those with weaker ones. As I have argued, environmental identities are shaped by a blend of emotionally positive childhood experience, social factors, and parental guidance. It would be expected, therefore,

that different patterns would be found in these factors for those with weaker environmental identities than those with stronger ones. This holds true for Laura, who feels pressured by society to care about environmental issues, although nature is not something that is personally salient to her. She told me, "I'm not a huge nature person. I appreciate it, I think humans disrespect it a lot. I do what I can to, like, minimize my impact, I suppose." She said she cares about the environment, "but there are so many things I can say I care about" (personal communication, March 11, 2014). Her mother prefers not to spend time outdoors and has a low Environmental Identity score, and although her father likes to garden, none of the family members mentioned spending time outside (other than in the context of sports) as being something that was emphasized in their household or as particularly important in Laura's childhood. As a result, her environmental knowledge and opinions have been shaped primarily in her adolescence and adulthood through school, peers, and the media. This has led to her participation in environmentalism through green consumerism and voting, rather than personal engagement with or enjoyment of nature. Since she views being pro-environment through that lens, she does not feel that her behaviors demonstrate a deep concern about the environment. She does not take personal enjoyment in participating in environmental activism or nature-related activities, and limited finances inhibit her ability to practice green consumerism. She said,

To me, caring about the environment, you have to have some sort of privilege in order to have that mindset, I think, for it to even be on your radar. And I do come from privilege, obviously, I'm sitting here with you at Pitzer College,

but I don't know that, you know, I have the choice between getting an eco-friendly car and a not eco-friendly car. There--there are certain choices that you have to make based on your circumstance. I can buy the efficient lightbulbs, that's easy enough to do, but I don't go out and, you know, volunteer...to help with stuff like that (personal communication, March 11, 2014).

For a number of reasons, mainly due to the severe financial hardship that was a defining factor of her childhood, spending time in nature or being concerned with environmental issues was never a priority as Laura was growing up. Although she has now learned more about the environment and its crises through various sources, she never developed a personal connection with it like those with stronger environmental identities report.

In contrast, that same sort of environmental education in college had more of an impact on Nancy, who has made quite a few conscious changes in her behavior since taking a class that made her more aware of the scale of modern environmental destruction. The importance of environmental protection and intercultural understanding that she held prior to taking the class allowed her to internalize the information once it was presented. She told me,

Now that I've seen the problems, and seen the magnitude of the problems, to not address it, to not change anything about how I've been living up until now, would be really stupid and kind of just a huge middle finger to the rest of the world...part of that idea of social justice and compassion is trying to make the difference that I can, in the ways that I can. Even if I don't, you

know, suddenly become a hermit and live off the grid, I would still like to find ways that I can do better (personal communication, March 15, 2014).

In contrast to Laura, who felt pressure from society to be environmentally friendly, but did not feel empowered as an individual to make much of a difference, Nancy used the information she learned in her course as a way to become more empowered. Since she already had a stronger environmental identity, she felt more personally connected to the natural world in terms of her impact, and her changes in behavior reflect those connections.

This comparison shows that in the absence of many of the factors that encourage the development of an environmental identity, a person can still see the objective benefit of being environmentally conscious, and may make decisions in line with that reasoning. However, without the personal connection to nature (environmental identity) there is less incentive for an individual to be involved in environmental causes, and that person is less likely to spend time in natural settings, depriving themselves of the psychological benefits they provide.



## VII. Conclusion

The case studies I present above, as well as the existing literature on parent-child relationships relating to identity development and environmental identity development, illustrate that factors leading to the formation of an environmental identity include emotionally salient childhood (or sometimes adult) experiences in nature and support or guidance from social others, particularly parents or other primary caregivers. The effect parents have on the development of environmental identities in their children is mitigated by other key influences in the child's life (such as other adult or peer role models), the amount of exposure they have to nature, and the quality of the relationship between the parent and child. A parent has the greatest influence when they are deeply involved in their child's life, engage in a positive relationship with the child, and guide their child's attention toward the environment while also allowing their child to make discoveries and develop independent moral reasoning.

The relationship between parents and children as it relates to the development of environmental identity has, thus far, been neglected in the literature. There is a need for further research on the subject, particularly research gathering narratives like the ones in this thesis. While large-scale studies involving administration of questionnaires or surveys, like those of Meeusen (2014), Grønhøj and Thøgersen (2009), Guastello and Peissig (1998), and Leppänen et al. (2012), are useful for measuring relationships between variables of interest, narrative descriptions gathered in semi-structured interviews contextualize these quantitative measures. This methodology allows the participant to elaborate on the

topic to the extent that is natural for him or her and provide details that might be overlooked in a survey. It also allows the researcher to embrace complexities, which is important in studying a concept as complex as identity, and to discover patterns beyond the hypotheses at hand. Future research should be based upon larger sample sizes, including those with a lower environmental identity—it was clear that Laura differed from the other students in my study in the way she talked about her engagement with the natural environment, but it would be useful to examine such patterns in a larger sample. It would also be helpful to engage further with the factor analysis by Olivos and Aragonés (2011), and uncover the types of experiences and interactions that cause someone to develop each type of relationship with nature.

Finally, further study is needed to specify the type of “nature” which is most conducive to the development of an environmental identity. Despite Kellert’s (2002) assertion that hands-on experience in familiar nature during middle childhood is the most influential, my participants mentioned everything from backyards, sports fields, and cemeteries to wilderness areas in the Sierra Nevada Mountains and Peru as being highly influential. Although Kaplan and Kaplan (1989) found that nearby nature holds many of the same psychological benefits as wilderness, Kahn’s (2002) concept of environmental generational amnesia means that our society should use caution in deciding what we introduce as “nature” to our children. On the other hand, true “nature” as defined by Kahn only includes areas, such as national parks, that are often accessible only to certain populations (those with proximity, transportation, and financial means) and are not conducive to the creative, hands-on activities that allow children to form positive emotional bonds with nature.

Therefore, it would be useful to investigate what kinds of experiences allow people to develop environmental identities, while also developing a realistic sense of what a healthy ecosystem looks like.

This research has important implications for parents, educators, environmentalists, and psychologists alike. One response to the environmental crises facing present and future generations has been a push for environmental education, the premise being that our youth will be the next developers of technology and policy, and will hopefully care more about environmental protection at the individual and societal level. I agree that it is important to instill a connection with the environment in children from an early age, and that this will eventually translate into a society that will have a more respectful relationship with the natural world. However, I contend that placing the emphasis entirely on future generations neglects the responsibility of current adults to change their behaviors, and ignores the critical role those adults play in shaping the people their children will eventually become. Without the influence of adults who are connected to the natural world, or the influence of emotionally positive experiences in nature, particularly during childhood, other methods of conveying environmental values, such as formal environmental education programs, are less likely to be effective.

Therefore, it is important for such programs to include the parents to the greatest extent possible, and educate parents in addition to the children in the importance of exposing them to nature at home and through their communities. Parents may also learn how giving their children experience in nature benefits their psychological and physical development in parenting classes or similar venues.

Sharing experiences in nature together not only benefits the child, parent, and the relationship between them, but assists in the important task of shaping a member of the next generation to be a positive citizen of the world. Acknowledging and acting on the importance of encouraging the development of environmental identity is a step in the direction of a healthier world in terms of both the natural environment and human psychology and physiology.

## Appendices

### *Appendix A: Sample Interview Questions*

For Students:

- Where did you grow up? What was it like there?
- What was your relationship with your parents (caregivers) like when you were younger? What is it like now?
- Are there ways in which you try to be like your parents? Are there ways in which you try to be unlike your parents?
- Who were your most important role models growing up?
- What factors do you think were most influential in making you the person you are today?
- What are some principles that you try to live by? What are your most important values?
- What are your career goals, and do they reflect your values?
- What kinds of activities do you enjoy doing for fun?
- How would you describe your relationship with the environment?

For Parents:

- What was your relationship with your children like when they were growing up? What is it like now?
- What are some principles that you try to live by? What are your most important values?
- Has your career reflected your values?
- What kinds of activities do you enjoy doing for fun?
- What were the most important values that you tried to teach your children?
- What experiences did you give or try to give your children while they were growing up?
- Where did you grow up? What was it like there?
- Was there anything that your parents did while you were growing up that you tried to replicate? Anything you tried to avoid?
- How would you describe your relationship with the environment?

***Appendix B: Items on the Environmental Identity Scale***

1. I spend a lot of time in natural settings (woods, mountains, desert, lakes, ocean).
2. Engaging in environmental behaviors is important to me.
3. I think of myself as a part of nature, not separate from it.
4. If I had enough time or money, I would certainly devote some of it to working for environmental causes.
5. When I am upset or stressed, I can feel better by spending some time outdoors “communing with nature.”
6. Living near wildlife is important to me; I would not want to live in a city all the time.
7. I have a lot in common with environmentalists as a group.
8. I believe that some of today’s social problems could be cured by returning to a more rural lifestyle in which people live in harmony with the land.
9. I feel that I have a lot in common with other species.
10. I like to garden.
11. Being a part of the ecosystem is an important part of who I am.
12. I feel that I have roots to a particular geographical location that had a significant impact on my development.
13. Behaving responsibly toward the earth—living a sustainable lifestyle—is part of my moral code.
14. Learning about the natural world should be an important part of every child’s upbringing.
15. In general, being part of the natural world is an important part of my self-image.
16. I would rather live in a small room or house with a nice view than a bigger room or house with a view of other buildings.
17. I really enjoy camping and hiking outdoors.
18. Sometimes I feel like parts of nature—certain trees, or storms, or mountains—have a personality of their own.
19. I would feel that an important part of my life was missing if I was not able to get out and enjoy nature from time to time.
20. I take pride in the fact that I could survive outdoors on my own for a few days.
21. I have never seen a work of art that is as beautiful as a work of nature, like a sunset or a mountain range.
22. My own interests usually seem to coincide with the position advocated by environmentalists.
23. I feel that I receive spiritual sustenance from experiences with nature.
24. I keep mementos from the outdoors in my room, like shells or rocks or feathers.

**Appendix C: Table of Participants and Environmental Identity Scores**

EID Scale Item	Laura (student) Carol (mother) Don (father)			Kathleen (student) Irene (mother)		Elizabeth (student) Helen (mother) Henry (father)			Nancy (student) Karen (mother)		Mary (student) Patricia (mother)		Jennifer (student) Susan (mother)	
1	5	1	5	6	7	5	3	2	2	6	5	2	5	2
2	5	3	5	7	7	7	6	7	6	5	7	4	6	6
3	6	3	6	6	7	5	6	7	6	7	7	5	5	7
4	4	4	5	5	7	7	6	7	6	6	6	4	5	4
5	1	1	5	7	7	4	5	7	7	7	6	6	4	5
6	3	1	5	6	7	2	2	4	7	7	4	4	4	2
7	5	2	5	4	6	4	6	6	5	7	5	2	6	5
8	4	4	4	4	5	4	3	2	2	7	5	4	7	2
9	2	2	4	4	6	6	4	5	6	7	6	4	5	6
10	1	1	6	5	7	3	2	5	4	7	6	3	2	1
11	4	1	6	4	7	6	6	7	6	7	5	4	5	5
12	6	4	4	7	6	7	6	5	6	7	7	5	6	6
13	4	5	5	6	7	6	6	7	7	7	6	5	6	5
14	6	6	6	7	7	6	6	7	7	7	7	4	6	6
15	3	4	5	3	7	4	4	6	6	7	5	4	5	5
16	5	7	6	6	7	4	5	6	6	6	5	5	6	6
17	3	1	6	7	7	1	4	6	5	5	7	2	5	1
18	2	1	5	5	4	5	2	7	6	7	6	5	5	6
19	6	1	4	7	7	5	6	6	6	7	6	7	5	5
20	1	1	4	4	4	3	1	5	6	5	7	4	2	1
21	7	6	5	5	4	4	4	7	4	5	4	6	6	3
22	6	4	5	6	6	6	6	6	5	6	4	4	6	6
23	1	2	4	2	7	5	4	7	6	7	7	6	4	5
24	2	1	4	7	7	6	2	6	4	5	7	4	2	1
Total	92	66	119	130	153	115	105	140	131	154	140	103	118	101

Note: Families are separated by bold lines.

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