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THE ENVIRONMENTAL CONCERN OF YOUTH AT A YMCA YOUTH ADVENTURE CAMP

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THE ENVIRONMENTAL CONCERN OF YOUTH AT A YMCA YOUTH
ADVENTURE CAMP

By

Sarah A. Schneider

B.S., Southern Illinois University Carbondale, 1999

A Thesis

Submitted in Partial Fulfillment of the Requirements for the
Master in Science in Education degree in Recreation.

Department of Health Education and Recreation
In the Graduate School
Southern Illinois University, Carbondale
May 2010

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THESIS APPROVAL

THE ENVIRONMENTAL ETHICS OF YOUTH AT A YMCA YOUTH ADVENTURE
CAMP

By

Sarah Schneider

A Thesis Submitted in Partial
Fulfillment of the Requirements
for the Degree of
Master of Science in Education
in the field of Recreation Resource Management

Approved by:

Dr. Whitney Ward, Chair

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Date of Approval November 17, 2009

ABSTRACT OF THE THESIS OF

Sarah Schneider, for the Master of Science degree in Recreation, presented in November of 2009 at Southern Illinois University, Carbondale.

TITLE: THE ENVIRONMENTAL ETHICS OF YOUTH AT A YMCA YOUTH ADVENTURE CAMP

MAJOR PROFESSOR: Dr. Whitney Ward

This study was conducted to examine and report on the environmental concern of the youth participants of the Teen Adventure program at YMCA Camp Jones Gulch to determine if those ideas altered over the course of the campers' chosen summer camp experience. Campers and their guardians were asked to provide consent and assent to participate. Forty-three participants completed both a pre and posttest survey which included 15 items on a Likert-type scale asking participants to rate their agreement with statements about the environment. Results indicated that neither activity nor age was significant in explaining differences. However, further examination showed a significant change pre to post in males' responses, as well as significant changes from pre to post responses in both base camp/rock climbing and surfing sessions. Discussion and recommendations follow.

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CHAPTER ONE

INTRODUCTION

Background

Recently, an idea caught the attention of the American camping industry: Nature Deficit Disorder. This phrase was coined in Louv's (2005) *The Last Child in the Woods*, which posited that children today have limited exposure to the outdoors and that limited exposure causes many of the maladies from which children suffer today. There is a large body of evidence that "green spaces" improve the performance of children with ADD and other diagnoses (see Faber Taylor, Kuo, Sullivan, 2001; Huby & Bradshaw, 2006; Johnson, 2007; Kuo & Faber Taylor, 2004). In 2007, Johnson discussed the work of other researchers who found benefits for adults who engage with nature. Johnson even presented an epigenetic argument that the environment influences the expression of our genetic information.

Also, a growing body of evidence shows that early exposure to "green spaces" contributes to an individual's pro-environment attitude in adulthood (Chawla, 1988, 1999; Evans et al., 2007; Ewert, Place, & Sibthorp, 2005; Wells & Lekies, 2006). Specifically, 77% of respondents in one study (Chawla, 1999) described the role of mentors who taught them about the natural areas: "For those people who had opportunities to feel happy, free, and encouraged in natural areas, family role models drew their attention to what they were experiencing and affirmed its value" (p. 21).

The ethics of those mentors surely then influence ethics of their students, but the development of values occurs in part as a function of their context. Corbett (2006) discussed the historical and cultural context in which Europeans, particularly those who

became American settlers, developed an anthropocentric attitude of domination and exploitation in the “New World.” Maybe a fundamental cause was Europe’s own environmental history: “The record of medieval Europe was one of massive deforestation, erosion, siltation, exhaustion, pollution, and extermination,” where “animals were subject to severe exploitation and cruel treatment” (Corbett, p. 21). Upon arrival in the new continent, the settlers looked at the utility of the numerous resources around them and set themselves to tame the wilds. Young (as cited in Corbett, 2006) stated simply the Manifest Destiny idea “placed men at the center of the universe” (p 23). “Many settlers believed it was their Christian duty to impose control, civilize, tame, subdue, and in essence, denature nature” (Corbett, p. 23). Though few today would cite Manifest Destiny as justification for their actions, the effects of the ideology of America’s European settlers were subtle and pervasive. They weave through very basic beliefs and norms that Americans accept unquestioningly.

Statement of Problem

“People’s ecological behavior and the human impact on the natural environment are matters of public concern and have been the subject of a considerable amount of psychological research” (Kaiser, 1998, p. 395). Among that research, many researchers have identified the impact of childhood experiences in nature settings on adult attitudes and behaviors regarding nature (Bixler, Floyd, & Hammitt, 2002; Chawla, 1988, 1999; Corbett, 2006; Milligan & Bingley, 2004; Teisl & O’Brien, 2003). It is reasonable, then, that those wishing to affect policy regarding the environment need to study effective

methods of influencing the development of environmental ideology especially in children and young adults (Tarrant & Green, 1999; Teisl & O'Brien).

Exposure to nature is important to human well-being.

Louv (2005) drew international attention to the idea that children's absence from the outdoors has left them more susceptible to diagnoses like ADD, depression, and obesity. Many studies exist that show a positive value of nature on people's wellbeing. Kuo and Faber Taylor (2004) showed ADHD symptoms reduced when students participated in activities in "green settings." Exposure to nature not only reduced symptoms: a 2001 study suggested a child could actively improve his attention capacity by spending more time in "green settings" (Faber Taylor, Kuo and Sullivan). Cognitive and relational development was nurtured by the important relationship between children and nature (Lester and Maudsley, 2006). Use of "woodland areas" improved mental health and cultivated increased resilience to problems in children who were exposed to nature (Milligan & Bingley, 2004; Wells & Evans, 2003). Johnson (2007) suggested an alternative explanation for why nature is important to humans. He proposed an epigenetic relationship where humans require exposure to nature in order to achieve what the "species has been biologically prepared" to be (Johnson, p. 296). These studies and more demonstrate how experiences in nature are important to human wellbeing.

Build an appreciation for nature through direct exposure.

With nature's importance, it is crucial to garner support and appreciation for "green spaces." Conveniently, exposure to nature has the additional result of helping to

build an appreciation and value for nature. Starting in the 1980's, Chawla (1988) pointed to the importance of children's experiences in nature. Guided learning impacted greatly the development of young people's environmental ethic. Adult environmentalists identified early, guided experiences with mentors in natural settings as significant in the development of their pro-environment ethic: regular and direct contact with nature greatly encouraged pro-environmental ethic (Chawla, 1999). Corbet (2006) explained that the events and experiences of childhood are crucial to the development of each person's ideology because a person develops his/her value system in his/her early life. Chawla (1988) showed that the ethic learned in youth informed the behaviors of adult environmental activists. In support, Milligan and Bingley (2004) found childhood use of woodland areas predicted higher use in adulthood. But, is there negative impact on appreciation of nature when a person has few to no experiences in "green spaces?"

Less time is spent in nature than in decades past.

Louv's *Last Child in the Woods* (2005) suggested that people, especially children, are spending less time in nature. And, though exposure to the natural environment provides positive physical and mental health benefits, is the longer lasting impact expressed in the development of an environmental ethic? Since experiences in childhood establish worldview and ideology, if a child has little opportunity to directly, regularly, and freely experience nature, will he develop anthropocentric ethics? Will a generation of anthropocentric children grow into adults who support policies that fail to protect green spaces? Will the failure to protect the green spaces and natural environment turn back on itself and cause a further lack of concern while compounding the negative effects

discussed by Louv and others? Will our environmental health flag in the absence of children's personal connections to the natural world?

The first step toward understanding starts with examination.

Since children seem to be both greatly affected immediately and predictors of eventual attitudes, the examination of these questions must begin with the examination of children's attitudes toward developing an ethic. Though many researchers have developed methods to examine the attitudes of adults, specifically relative to their view of the environment (Dunlap, Van Liere, Mertig & Jones, 2000), few attempts have been made to establish a standard tool for the measurement of the attitudes of children.

Purpose

The purpose of this study was to examine and report on the environmental ideology of the youth participants of the Teen Adventure program at YMCA Camp Jones Gulch, California. A secondary purpose is to determine if those ideas altered over the course of the campers' chosen summer camp experience.

Research Questions

The study aimed to answer the following research questions:

- 1) Does participation in a summer adventure program at camp affect the environmental concern of 11 – 17 year old participants?
- 2) Does the environmental concern of participants differ according to the activity completed?

- 3) Does the environmental concern of participants differ according to the age of participants?
- 4) Does the environmental concern of participants differ according to the gender of participants?

Significance of Study

This study aimed to accomplish two tasks. To further inform the discussion regarding the importance of nature and environmental ethics, the researcher offered a new instrument to measure the environmental concern of children. Also, using the new instrument, this study examined a small population of children participating in a summer camp program that provided extended exposure to natural environments. The sample provided initial data to establish the concern youth are holding as they develop their more persistent ideologies and ethics.

Hypotheses

- 1) The camp experience will increase the environmental concern of participants.
- 2) Different activities correlate with different levels of environmental concern.
- 3) Older campers will have higher environmental concern scores.
- 4) Females will have higher environmental concern than males.

Delimitations

- 1) This study examined the environmental concern of 43 teenagers who attended one of five adventure camp activities in California in the summer 2009.

- 2) The participants completed a six to ten-day specialty camp experience.
- 3) Each camp had an activity theme: backpacking, rock climbing, surfing, kayaking, or horse skills.
- 4) Before the camp session began, each student completed a 15-item survey to determine whether his/her philosophy was more anthropocentric or ecocentric.
- 5) After completing the program, participants again completed the same instrument.

Assumptions

- 1) The researcher assumed that participants answered questions honestly.
- 2) Each camper attended only one session in the summer of 2009.
- 3) The modification of the readability of the instrument items did not greatly affect the validity of the instrument.
- 4) It is assumed that the distribution of each group was normal.
- 5) The researcher had no control over the activity themes. Activity themes were determined, scheduled, and sold before the researcher became involved with the camp.

Limitations

The study is bound by the following limitations:

- 1) Only one small program of one camp was surveyed. The participants are not representative of all youth. Consequently, the generalizability of the study is limited.

- 2) A new instrument was used. The new instrument was a modification of a well-tested survey originally designed for administration with adults.
- 3) As youth, participants' responses may have been motivated by social desirability more than serious consideration of their opinion about the statements.
- 4) Some campers were return campers from 2008. No effort was made to identify those campers or analyze any differences in the pattern of their responses.
- 5) The staffing of each session varied slightly. All sessions except horses were staffed by variations of the same six staff. The horse camp staff was five other staff.

Definition of Terms

The following definitions will be used in discussions in this study.

Anthropocentric: Sees wilderness primarily from a human-oriented perspective. The naturalness of the wilderness is less important than facilitating human use and convenience. Programs that would alter the physical and biological environment to produce desired settings for humans are encouraged (Hendee & Dawson, 2002).

Biocentric: A belief that assigns intrinsic value to all forms of life. Because value is assigned to "things relative to life; protection of a single organism (as distinct from a species) is therefore important," (Oelschlaeger, 1991, p. 293).

Ecocentric: Viewing all the elements of an environment as equally valuable. Because life falls in the greater scope of an evolutionary perspective, the greatest value is

assigned to supporting the preservation of an entire species and its supporting habitat, living and non-living (Oelschlaeger, 1991, p. 293).

Environment: Defined by each individual, the “environment” can range widely to include the built environment (constructed surroundings), natural environment (all living and non-living things that occur on earth), and social environment (the culture and social institutions in which a person interacts) (Corbett 2006). An individual’s definition of environment helps identify and define the individual’s environmental ideology.

Environmental concern: A generalized environmental belief system. In this study it is accepted that “beliefs and attitudes about the environment are predictors of environmental behavior” (Johnson, Bowker, & Cordell, 2004), and accepted that the environment is vulnerable to human interference (Poortinga, Steg & Vlek, 2004). Therefore, environmental concern is the worry a person feels about the outcomes of environmental actions (Tarrant & Green, 1998) with higher concern reflecting a more ecocentric view and less concern reflecting an anthropocentric view.

Environmental ethic: A set of moral principles regarding a person’s relationship with the environment.

Environmental ideology: A deep-seated way of thinking about the natural world. A person uses the ideology to justify actions toward the environment without being swayed by external events (like economic downturn, divorce or earthquake) (Corbett, 2006).

Nature: The environment that exists of living and non-living entities, excluding indoor

human-constructed or industrial settings.

Values: “Important life goals or standards that serve as guiding principles in life”

(Poortinga, Steg & Vlek, 2004, p.71). Values provide the basis for formation of attitudes and guide behavior. “Values contribute to the explanation of various environmental attitudes and behaviors,” (Poortinga, Steg & Vlek, 2004, p.71).

Wilderness: A specific category of nature where human impact is minimal. A legal definition of wilderness limits such designation to an area “where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain” (Sec. 2c) and is designated as a National Wilderness Area under the Wilderness Act of 1964 (Public Law 88-5777 (16 U.S. C. 1131-1136), September 3, 1964).

CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter reviews literature related to impacts of exposure to nature, sources of environmental ideology, and the development of environmental concern. First, the health and wellbeing benefits of nature will be presented. Then, the cultural history of America's view of nature is discussed, including a presentation of a continuum of environmental ideologies. The next section deals with the literature about the development of environmental concern. Finally, the role of camping will be examined in regards to youth development and its potential to develop environmental concern.

Nature's Benefits

Louv (2005) identified Attention Deficit Disorder as an increasing problem for America's youth and suggested it is one that can be remedied in part, at least, with experiences with nature. With over two million children in the United States affected, it is not surprising that a broad array of research has examined treatment options and symptom relief. Taylor, Kuo, and Sullivan (2001) found that "children function better than usual after activities in green settings and that the 'greener' a child's play area, the less severe his or her attention deficit symptoms" (p. 54). They suggested one implication: "Children with ADD can support their attentional functioning and minimize their symptoms simply by spending time in green settings" (p.73). Further, researchers suggested that families could minimize a child's symptoms and maximize his/her attentional capacity by daily spending time in green settings.

In 2004, Kuo and Faber Taylor published a study regarding the effect of “green settings” on Attention-Deficit/Hyperactivity Disorder. In this study, the researchers attempted to control for limitations of previous studies. They used 452 surveys to examine the aftereffects of common after-school and weekend activities on four specific symptoms listed in the Diagnostic and Statistical Manual of Mental Disorders as diagnostic of ADHD. They also gathered information about the aftereffects of the same activity in different settings: indoors, green outdoors, or built outdoors. “Analyses of the sample as a whole indicated that green outdoor activities resulted in reduced children’s symptoms and had more positive aftereffects on symptoms than did activities conducted in other settings” (p. 1584). These results were true for children across a “wide range of individual, residential, and case characteristics” (p.1584).

Huby and Bradshaw (2006) authored a report for the Sustainable Development Commission that examined ways the environment affected the development and well being of children and youth. The authors reviewed critical literature in areas like health and development; diet, exercise and mobility; the natural environment and emotional and social development; and environmental inequality in specific relation to children. For example, Huby and Bradshaw cite Mulvihill, Rivers, and Aggleton (2000), who showed that active play reduced depression symptoms and increased self-esteem. Huby and Bradshaw (2006) also reported research on play in natural environments: Lester and Maudsley (2006) discussed “the intimate interdependency between children, nature and the natural environment, and the importance of this relationship for development” (p. 32). Further, Kaplan (1995) described natural settings’ ability to provide restorative effects: instilling “a sense of connection with other places and times,” and creating “resonances

between these settings and human inclinations” (p.32). Huby and Bradshaw finally listed multiple studies to discuss mental well being. Pyle (2002) showed that exposure to natural environments “improved the cognitive development of children by enhancing their awareness, reasoning and observational skills” (p.33). Wells and Evans (2003) found that children developed a greater resilience dealing with problems by increased exposure to nature. Milligan and Bingley (2004) found that exposure to woodland areas improved mental health, and showed an association between the use of such areas in childhood and increased use in adulthood. The report continued to provide support for Huby and Bradshaw’s assertion:

The state of the natural environment is crucially important to children and young people” because “connections with nature ... benefit mental well-being and cognitive development of children as well as fostering creativity and imagination” which “together with the independence, self-esteem and respect for others associated with play in outdoor environments, nurture the capacity of young people to build positive social relationships and friendships.” (p. 35)

Johnson (2007) presented an epigenetic discussion of the interplay between ‘nurture’ and ‘nature,’ or genes and environment. He categorized eight different benefits for adults who engaged with nature (see Table 1). Despite what he described as a historically dichotomous explanation of the pattern of development of human characteristics, Johnson proposed that genes and the environment interacted to affect *Homo sapiens* evolution. He explained that an organism inherits its “species-typical genetic complement” (p. 296), therefore, suggested it must also inherit a specifically matched and supportive environment for that genetic complement: humans need to access nature “because it initiates and

Table 1

Benefits to Adults Who Engage with Nature

Benefits	Source
Supporting and sustaining self-identity, self-awareness and social interactions	Korpela, Kyttä, & Hartig, 2002; Manzo, 2005; Spencer & Woolley, 2000
Promoting language development, collaboration and social interaction	Faber Taylor, Wiley, Kuo & Sullivan, 1998; Herrington & Studtmann 1988; Korpela, Kyttä & Hartig 2002; Kylin M. 2003
Restoring attention	Korpela & Hartig 1996, Korpela, Kyttä & Hartig, 2002; Faber Taylor & 2001
Improved feelings of security, privacy, and control	Abbot-Chapman, 2000; Kuo, Bacaicoa & Sullivan, 1998; Kim-Cohen, Moffitt, Caspi & Taylor, 2004; Kylin, 2003; Korpela, Kyttä & Hartig, 2002; Wells & Evans, 2003
Facilitating emotional self-regulation and improved self-discipline	Abbot-Chapman, 2000; Faber Taylor, 2001a; Korpela & Hartig, 1996; Kuo, 2001; Sylvie, 2003
Improving cognitive functioning and academic success	Faber Taylor, et al, 2001; Lieberman & Hoody, 2000; McMichael, 2001; Wells, 2000
Advancing physical fitness, coordination, balance, and agility, and reducing incidences of sickness	Fjortoft, 2001 & 2004
Contributing to the development of values and ethical use of places	Titman, 1994; Vaske & Kobrin, 2001

Note. From “Growing physical, social, and cognitive capacity: Engaging with natural environments,” by P. Johnson, 2007, *International Education Journal*, 8(2) p. 297.

supports the growth, learning and behavior for which our species has been biologically prepared” (p. 296). He continued by listing 14 supporting studies of the idea that people

need nature. Johnson proposed that these benefits depicted a human genetic need to affiliate with nature, or biophilia. Further, Johnson described that need as “a survival-related adaptation for early humans” (p.294). Both nature and nurture support or require human interaction with nature.

Mayer, Frantz, Bruehlman-Senecal, and Dolliver (2008) reported on three studies that examined the effect of exposure to nature on ability to reflect on a life problem. In all three cases, the authors showed that participants who walked through natural settings received more positive effect than either urban walkers or participants who watched videos of either natural or urban settings. The authors suggested that practitioners consider fulfilling the human need to feel connected to something larger than themselves by developing “a sense of belonging or connectedness to the natural world” (p. 29).

Historical Philosophy of Nature

People develop a connection to their environment and, thereby, an environmental ethic inside the historical and cultural context in which they were raised and now live. Oelschlaeger (1991) wrote in *The Idea of Wilderness: From Prehistory to the Age of Ecology* that the idea of wilderness and the attitudes toward it have evolved over time. He asserted, “reason influences cultural outcomes” (p. ix) and described the philosophy of “wilderness” and “nature” in the contexts of passing time periods and cultural paradigms. As the prevailing sentiment changed, so changed the way humans interacted with and thought about their relationship to the environment. Oelschlaeger described one relationship, anthropocentrism, as seeing “the human species as the most significant fact of existence,” (p. 293). This tendency to “evaluate all else from a human standpoint” (p.

293) dawned with the rise of agriculture. Charles Darwin's writings in the early 19th century gave fuel to the rise of biocentrism, characterized by placing importance on preserving life and applying importance to the survival of a single distinct organism (p. 293). Ecocentrism, Oelschlaeger (1991) suggested, developed more recently at the end of World War II. Ecocentrism values the natural system as a whole, including living and inorganic members, and supports the protection of a species and its supporting environs as an integrated system.

In *Communicating Nature*, Corbett (2006) discussed the anthropocentric and ecocentric ideologies on a spectrum of environmental ideology (see Figure 1). She placed anthropocentrism at the far left, and symbolized it with a triangle to represent

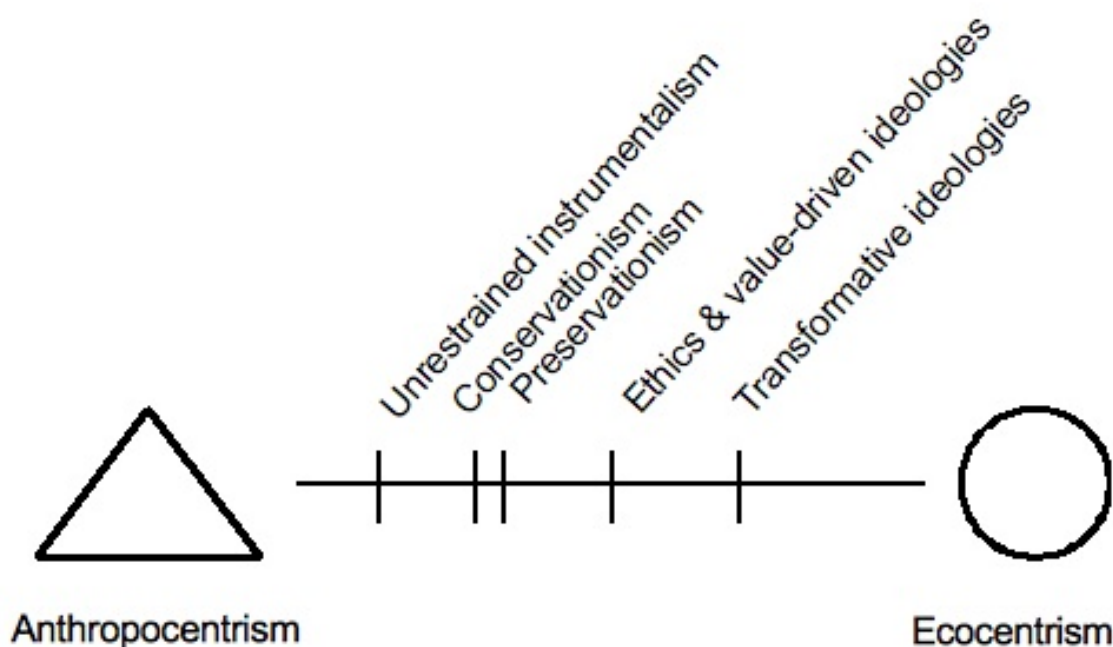


Figure 1. Spectrum of Environmental Ideology.

From *Communicating Nature: How We Create and Understand Environmental Messages* by J. B. Corbett, 2006, p. 29.

the idea that humans rein at the top of a hierarchy of life on earth. Ecocentrism on the far right is represented by a circle to symbolize the equal importance and perpetual interdependent relationships of all things on earth (Corbett). Other ideologies are placed on a continuum between these two ideas. According to Corbett, unrestrained instrumentalism is characterized in the quote from Ronald Reagan, “If you’ve seen one redwood tree, you’ve seen them all,” (as quoted in Corbett, p. 12) because the desires of humans trump the needs of undeveloped land or watershed. The perceived American “environmentalist” ideological extremes of conservationism and preservationism both discuss the environment in terms of its benefits to humans, so Corbett considered them anthropocentric. Slightly more ecocentric are the ideas of the ethics and value driven ideologies: humans have ethical duties to protect or respect the intrinsic rights of nonhuman entities, exemplified in land-based ethics and animal rights. More recent ideas like deep ecology and ecofeminism are grouped with Native American ideologies in the transformative group because they “seek to move beyond reformist ‘shallow ecology’ to a deeper questioning of the root causes of ant-environmental attitudes and behaviors” (p. 28).

Corbett also discussed the formation of these ideologies (2006). She described environmental ideology as “a fully formed environmental belief system” (p. 13) and asserted that the creation of an ideology is a product of both self and culture. She explored three areas of influence: childhood experiences, a sense of place, and historical and cultural contexts. Childhood experiences are crucial influences on “physical, cognitive and emotional development” (p. 15) and the experiences of childhood are carried into adulthood and throughout life. Cheng, Kruger, & Daniels (as cited in

Corbett, 2006) described sense of place as the “rich and often powerfully emotional sentiments that influence how people perceive, experience, and value the environment (p. 17).” It is the sense of place that draws adults back to the camps of their youth 20, 30 and 50 years after last attending. The sentiments about a single place can vary widely from person to person and reflect the person’s ideology, in turn, defined by his or her historical and cultural context. For example, both the dominant religion and the wilderness resources available had a certain effect on early European settlers of North America. Corbett (2006) proposed that the battle between European settlers and Native Americans actually demonstrated the clash in their opposing ideologies: anthropocentrism and ecocentrism. She explained that the culture in which people live strongly affects the way they view, understand, and categorize their perceptions of the world around them, to the extent that they often are blind to the subtle subtexts implied by their presuppositions. “Our dominant social paradigm – and the laws and regulations that emanate from it – is designed to accommodate viewpoints on the anthropocentric end [of the spectrum] and is poorly equipped to understand other ideologies and ways of relating to the natural world” (Corbett, p. 55). Corbett suggested that the assumptions of the dominant paradigm fill our constructs and, therefore, how Americans think and communicate about nature.

Developing an Environmental Ethic

Chawla (1988) elucidated two themes: “concern for the natural world is shaped through social learning, and [concern] is shaped by opportunities for direct contact with nature” (p. 18). To put the issue in perspective, Chawla suggested that psychologists learn pro-environmental behavior as zealously as they learned pro-social behavior. She

also pointed out the typical human-focused sentiment and sources of concern and proposed that children can learn concern for something nonhuman following the same course of development as learning concern for other people. After a child recognizes his independence – can separate self and other – a mentor teaches him to give attention and assistance to the other, when needed. In this way, Chawla introduced an intervention to create the philosophical awareness Corbett (2006) and Oelschlaeger (1991) support.

Chawla continued to study environmental concern. In 1999, she interviewed environmentalists to determine the origin of their environmental commitment. She identified that, while life paths reflect both intention and chance, some trends emerge when examining the sources of adults' commitment. Two distinct paths into environmentalism emerged: concern for the environment and concern for social justice. Participants identified an average of four significant sources. Most described childhood experiences as foundational. People and places, especially experience of natural areas with family mentors in childhood, were most mentioned. The places where people became comfortable being in the natural world “were always part of the regular rhythm of daily life” (p. 4). This finding suggested that novel trips, like exotic vacations, made less impact on children's ethic. Membership or participation in organizations, negative experiences (loss or destruction of a valued place or fear of toxic threat), and education were major responses discussed. Chawla pointed out that the study underlined the primary importance of the “informal outdoor experiences of natural areas” (p. 8) in creating environmental commitment. Therefore, educators need to foster out-of-school experiences in addition to more traditional academic methods in order to best effect commitment and concern from students.

Tarrant and Green (1999) challenged the assumption that “outdoor recreation promotes environmental awareness simply by exposing people to environmental issues and concerns,” (p. 17). They wanted to understand how outdoor education affected environmental attitudes and behavior. After questioning over 1200 respondents, the researchers discovered a significant mediating effect where participation in appreciative activities accounted for the relationship between attitude and behavior. People who participated in outdoor recreation activities held stronger beliefs about environmental issues than non-participants. Teisl and O’Brien (2003) found supporting evidence that environmental concern is positively impacted by participation in outdoor recreation.

A study by Wells and Lekies (2006) also set out to study the pathways to adult environmentalism, specifically of a representative sample of “urban-dwelling adults” (p.5) rather than a select group of environmentalists sampled in previous studies. They developed a methodology similar to Ewert, Place and Sibthorp (2005), but expanded the participant ages (18-90) to examine longer-term influences of childhood participation on adult attitudes. Wells and Lekies (2006) considered three areas in their discussion: the influence of early natural experiences, the effects of outdoor play, and the efficacy of environmental education programs. Consistent with earlier studies, participation in ‘wild nature’ activities like hiking, walking, or playing in the woods or natural areas; camping; and hunting or fishing, and participation in ‘domesticated nature’ activities such as picking flowers, fruits or vegetables from a garden; planting trees, seeds, or plants; and taking care of outdoor plants, both had significant direct effects on adult attitudes, though participation with ‘wild’ nature had a stronger effect. Unexpectedly, environmental education had no significant impact on adult environmental attitudes. Also surprisingly,

when childhood experiences in nature were shared with other people a marginally negative influence on adult attitudes was discovered. The researchers speculated the wording of this item tapped experience of a mandatory and/or unpleasant quality “rather than providing insight regarding positive nature experiences with other significant individuals” (Wells & Lekies). Regardless, early childhood time spent in the natural environment again was found to be influential in creating more ecocentric behaviors in adulthood.

Ewert, Place, and Sibthorp (2004) published a study that has become classic in this area. They surveyed 533 university students about their environmental beliefs and the sources of those beliefs. “This study suggested that participation in early-life appreciative outdoor activities, participation in early-life consumptive outdoor activities, exposure to media events focusing on environmental issues and witnessing negative environmental events are related to adults’ current beliefs concerning the environment” (p. 234). The authors suggested three primary explanations: values, social influence, and place attachment. Early childhood activities in outdoor recreation may profoundly affect environmental attitudes because of the potential to inform the formation of more lasting values. The people with whom an individual is associated can affect not only the formation of attitudes and values, but also create a social context that influences “how they view the natural environment, envision their role in dealing with the environment, or alter their perceptions of how they formed these perceptions” (p. 235). Finally, the authors discussed place attachment: emotional or spiritual connections can be formed that represent more than simple physical locations. A loss related to a place to which a person is attached can “serve to sensitize an individual about natural resources, environmental

degradation, or loss of natural places” (p.235). Though causal relationships were not established, strong evidence of relationships does exist and warrants further examination.

Camping in the United States

The American Camp Association (ACA) declares itself a leader in child development and counts among its commitments to provide “healthy, developmentally appropriate experiences; service to the community and the natural world; and opportunities for leadership and personal growth” among others (ACA, n.d., para. 2). The first organized camp, the Gunnery Camp of Connecticut, opened in 1861, and was soon followed by other agency camps that addressed the issues of the time: lack of recreational opportunities, crowded living conditions, and educational reform (combining physical health with practical knowledge usually void in classroom settings) (ACA, n.d.). The YMCA joined the camp movement in 1885 and today provides day and residential opportunities for a variety of campers. “Many Y camps use a natural setting to teach youth about the wonders of the world around them and how they can take good care of it” (YMCA, n.d., para. 2). Though the very first camps were modeled after the military tradition, by the 1920s, the theme shifted toward nature inspired (Van Slyck, 2006). Camps, like many modern recreational service organizations, count among their goals an attempt to “strengthen and enhance a participant’s responsibility and attitude toward the natural environment” (Ewert, Place & Sibthorp, 2005, p. 225). When the baby boom swelled the number of campers in the 1940s and 1950s, day camps developed as affordable day care that still provided interaction with the outdoors (Ball & Ball, 2000; Van Slyck, 2006).

The advent of U.S. drive-through culture encouraged people to spend more time indoors or in a car rather than in direct contact with nature (West, 1996). By the 1970s, environmental education gained popularity. Organizations, like Project Learning Tree (PLT), aimed to factually present scientific environmental information to teach students “HOW to think, not WHAT to think” (Luke, 2000, p. v). Camps adopted these environmental education curricula as opportunities to serve youth. Still, the trend away from the outdoors continued for youth into the 1990s when teenagers took jobs in the flourishing fast food and part-time work opportunities (West). So, the camp industry again adjusted. In 1996, the ACA adopted a set of 40 youth development outcomes in response to United Way’s shifted focus from numbers served to benefits achieved (ACA, n.d.). This benefits-based programming model guided camps toward intentional programming to meet needs of their campers and spurred a flurry of research to further guide the decisions of camp professionals.

In 2005, the book *Last Child in the Woods: Saving our Children from Nature-Deficit Disorder* captured the attention of many professionals, parents, educators, and environmentalists, among others, who felt intrinsically that a relationship with the natural world was important and lacking. The author attempted to present a collection of scientific evidence supporting the importance of nature to the healthy development of children and the physical and emotional health of both children and adults. Louv (2005) cited numerous studies that showed correlation and cause between the loss of direct nature experiences and the numerous ailments, like Attention Deficit Disorder, depression, and obesity. The related research listed by the American Camp Association demonstrated Nature-Deficit Disorder’s appeal (ACA, n.d.).

In an ACA study, James, Henderson, and Garst (2008) examined camp director's ideas about Louv's assertions. The threefold purpose of their study was: 1) to determine if camp directors agreed that children today are less connected to nature, 2) to examine camp's role in nurturing nature-based experiences for campers, and 3) to identify what camp directors believed contributed to any disconnect between children and nature. The camp directors responded that disconnect between children and nature had four causes categorized into barriers, fear, personal interest, and technology (see Table 2).

Directors also responded that purposeful programming, and opportunities to connect to the natural environment were required to foster children's connection to nature. They stated that camp played a more important role than in the past in accomplishing this task. Researchers suggested practical application goals for camps:

Table 2

Causes of Campers' Disconnect with Nature

Barriers	Fear	Personal Interest	Technology
Decreased access	Parental fear of strangers	Discomfort related to being outdoors	Greater interest in electronics/media
Decreased time	Parental fear of wilderness	Lack of creativity/ imagination required for unstructured outdoor play	Decreased interaction with environment for survival (e.g., farm families)
Transportation	Of litigation by either parents or organizations	Lack of interest being outdoors	
Lack of environmental knowledge			
Lack of outdoor knowledge			

From: James, P. A., Henderson, K. A., & Garst, B. (2008). Camp directors' beliefs regarding Nature-Deficit Disorder and camp [Electronic version]. *Camping Magazine*, 81(4).

engage children in the natural world; create purposeful programming to provide campers opportunities to explore and learn about nature; and ensure that environmental education curriculum was age appropriate. James, Henderson, and Garst (2008) suggested that camps must balance the need for direct experience with nature against the teaching of responsible stewardship of resources and the natural environment.

Summary

Much evidence supports the importance of nature in the health and development of youth and adults. But historically, the predominant ideology in America has been anthropocentric, potentially limiting the concern people have for the protection of the natural environment. Researchers have shown the best way to influence a person's ethic toward environmental concern is through guided direct contact with nature. The camping industry in the United States is a "unique tradition" (ACA, n.d.) poised to provide such opportunities to youth. Camps can provide natural settings and adult mentors to facilitate youth experiences and consequent development of environmental ethics.

CHAPTER THREE

METHODS AND PROCEDURES

Introduction

This chapter introduces methods and procedures used to conduct the study. This study focused on the impact of a summer adventure program on the environmental ethics of youth in a California YMCA summer camp. Following is a description of the sample, instrument, data collection, and data analysis.

Purpose

The purpose of this study was to examine and discuss the environmental ethics of youth who participate in a YMCA Teen Adventure program. The intent was to determine if the experience in the adventure program altered the way the participants viewed nature or if it changed their environmental concern. The study answered four research questions:

- 1) Does participation in a summer adventure program at camp affect the environmental concern of 11 – 17 year old participants?
- 2) Does the environmental concern of participants differ according to the activity completed?
- 3) Does the environmental concern of participants differ according to their ages?
- 4) Does the environmental concern of participants differ according to the gender of participants?

Sample

This study investigated environmental concern of participants in Teen Adventure Camp (TAC) of YMCA of San Francisco's Camp Jones Gulch. The TAC program consisted of seven sessions. Each session was either six or ten days long and was led by two or three trained adult instructors or hired guides. The sessions were separated by age, either 11 to 13 or 14 to 17 year-old campers. The session themes included base camp rock climbing, base camp hiking, backpacking, kayaking and sailing, base camp surfing, travel surfing, and base camp horse camp. Campers came mostly from the San Francisco Bay area including San Francisco, Marin, San Mateo, North Bay, Alameda, Santa Clara, Berkeley and San Luis Obispo counties. Some registrants came from further distances including other states like Idaho and Wisconsin and other countries including France and Spain. Campers arrived at the camp property near La Honda, California then departed to their respective course areas, either base camp or travel, after completing a pack-out of required equipment and gear. Each participant was given the opportunity to participate, with permission from his/her guardian (J. Clink, personal communication, April 20, 2009). Fifty-seven of the sixty-three TAC campers in the summer of 2009 agreed to participate in this study. Fourteen participants' surveys were unusable because either a pretest or posttest was missing. The final number of participants was forty-three.

Instrument

This study used an instrument modified from the New Ecological Paradigm Scale (Dunlap, Van Liere, Mertig & Jones, 2000). In turn, the New Ecological Paradigm Scale is a revision of the 1978 New Environmental Paradigm Scale (Dunlap & Van Liere,

1978). The 1978 NEP was used extensively with general public, as well as members of interest groups, specific sectors, ethnic minorities in the United States, as well as residents of Canada, Sweden, Japan, Turkey and the Baltic states. The revisions made in 2000 corrected sexist language, changed wording of items to be less leading, and added an “unsure” category to reduce non-response rates. The 1978 NEP’s three theoretical facets were expanded to five facets in order to more accurately align with the “salience of broad ‘ecological’ (as opposed to narrower, more specific, and less systemic ‘environmental’) problems facing the modern world” (Dunlap, Van Liere, Mertig & James, 2000, p. 432). Each of the 15 items of the 2000 NEP was rated on Likert-type scale from ‘strongly agree’ to ‘strongly disagree’ with agreement with the odd-numbered and disagreement with the even-numbered items indicating pro-ecological view (Dunlap, Van Liere, Mertig & Jones, 2000).

The resulting 2000 NEP had a reported coefficient alpha of .83 as a relatively high internal measure of internal consistency. The deletion of any of the 15 items lowered the value of alpha. Also a principal-components analysis suggested the presence of one major factor in the 2000 NEP scale. The authors used a varimax rotation to determine that they would present the 2000 NEP as a single scale with no subsets.

Dunlap, Van Liere, Mertig and Jones (2000) presented evidence of the validity of the 2000 NEP scale. They suggested that the scale had predictive validity because it related to a “wide range of ecological attitudes and behaviors” (p. 436). Scores on the 2000 NEP correlated significantly with scores of numerous other scales: $r=.61$ on a measure of the perceived seriousness of world ecological problems; $r=.57$ on support for pro-environmental policies; $r=.45$ on perceived seriousness of state and community air

and water pollution; and $r=.31$ on self-reported pro-environmental behaviors. Finally, construct validity was established because the 2000 NEP provided similar results to those expected by consistent findings in other research (p. 436-37).

Because the NEP was designed for use with adults, and because the participants of this study were youth aged 12 to 17, the researcher modified the 15 items of the 2000 NEP as well as the directions to be more age appropriate. Each item was edited in wording and sentence structure until the Flesch-Kincaid Grade Level showed a reading level of sixth grade or less. The researcher worked under the assumption that the validity testing completed by Dunlap, Van Liere, Mertig and James would remain stable with the only the reading level changed. The resulting instrument was named the Youth New Ecological Paradigm (YNEP) Scale.

Data Collection

After receiving Southern Illinois University's Human Subjects Committee approval, each camper of the selected Teen Adventure Camp sessions and his/her guardian was mailed a description of this study and a letter of introduction to the researcher (see Appendix A). Each camper's guardians were asked to provide consent for their child to participate in the study (see Appendix B). In addition, each camper was asked for his or her assent to participate (see Appendix C). The consent and assent forms could be returned in self-addressed and stamped envelopes to the camp registrar or returned on the first day of each session. Consent and assent forms were collected in a manila envelope labeled for each activity, sealed, and then stored until the end of summer. At the beginning of each session, each camper with appropriate permission

received a survey, administered by the researcher or proxy. In addition to the 15 YNEP items, the survey collected birth-date and gender information used for pairing pre and posttests, as well as information used to identify activity type and age group of the respondent (see Appendix D). Completed surveys were collected in a manila envelope, labeled pre and activity type, sealed, and stored until the end of summer. At the end of each session, the researcher provided a survey to each camper with permission. Completed surveys were collected in a manila envelope, labeled post and activity type, sealed, and stored until the end of summer. At the end of the summer, the researcher entered the responses from each survey and paired pre and posttests.

Data Analysis

The original NEP scale was designed so that agreement with the odd numbered items showed pro-ecological concern while disagreement with the even numbered items showed pro-ecological concern. To create a cumulative score, YNEP responses were coded. Pro-ecological, or ecocentric, responses received positive scores while anthropocentric scores received negative scores. ‘Unsure’ responses received a score of 0. Therefore, ‘strongly agree’ responses on odd numbered items and ‘strongly disagree’ responses on even numbered items received a score of 2. ‘Agree’ responses on odd numbered items and ‘disagree’ responses on even numbered items received a score of 1. To reflect the pro-anthropocentrism of those statements, ‘strongly disagree’ responses on odd numbered items and ‘strongly agree’ responses on even numbered items were scored with -2. ‘Disagree’ on odd numbered and ‘agree’ responses on even numbered items received -1 scores to reflect the. Each participant’s pre and posttest score was calculated

by summing the item's coded scores. The resulting range spanned from -30, indicating low ecological concern, to +30, indicating high ecological concern, with 0 as a midpoint value.

Data collected were analyzed in the following manners:

- 1) The pretest scores were compared to the posttest scores using a paired t-test and the level of significance was set at $p < .05$.
- 2) One-way ANOVA was utilized to determine if the differences between pre and posttests were significant enough to suggest that the activity changed environmental concern. The level of significance was set at $p < .05$. Also the pre and posttests were analyzed using paired t test to determine if the change was significant.
- 3) A one-way ANOVA was used to determine the pre and post differences between the younger group and older group. The result was significant when $p < .05$
- 4) A paired t-test was used to compare pre to post changes in males and females regarding environmental concern.

CHAPTER FOUR

RESULTS

Introduction

In this chapter, data obtained from participants of a 2009 summer adventure camp environmental concern survey is presented. The data were collected in pre and posttests administered by the researcher or proxy with paper and pencil. Data were analyzed using t tests and ANOVA in Excel. Participation in this survey was voluntary and extended to all registrants in the six identified activity themes.

This chapter is divided into five sections. The first section describes the sample. Section two addresses the first research question: Does participation in a summer adventure program at camp affect the environmental concern of 11 – 17 year old participants? The third section addresses the second research question: Does the environmental concern of participants differ according to the activity completed? Sections four addresses research questions three Does the environmental concern of participants differ according to the age of participants? Lastly, section five tackles research question four: Does the environmental concern of participants differ according to the gender of participants? This chapter serves as an analysis of each of the research questions involved in this study.

Demographics of Sample

This sample consisted of 43 participants of Teen Adventure Camp sessions of the 2009 summer season at a YMCA camp (see Table 3). Each of the 64 total

Table 3

Demographics of the Sample by Age Group, Activity and Gender

Age Group	Base Camp/ Climb		Backpack		Kayak		Surf		Horse		TOTAL			
	M	F	M	F	M	F	M	F	M	F	M	F	all	%
11-13	1	2	0	0	0	1	9	3	0	3	10	9	19	44%
14-17	2	0	6	1	4	3	2	2	1	3	15	9	24	56%
Subtotal	3	2	6	1	4	4	11	5	1	6	25	18	43	
TOTAL	5		7		8		16		7		58%	42%		
%	12%		16%		19%		37%		16%					100%

M = male; F = female

Teen Adventure Camp campers was given an opportunity to participate. Fifty-seven campers completed surveys, but 14 of those were unusable because of a missing pair. Of the 43 campers who participated, 25 (58%) were male and 18 (42%) were female. The younger group consisted of 19 (44%) participants aged 11 to 13, and 24 (56%) participants in the older group were between 14 and 17 years of age. Five youth participated in either base camp or rock climbing (12%), seven participated in backpacking (16%), eight participated in a kayak trip (19%), 16 participated in surf camp (37%), and seven participated in horse camp (16%). The base camp and rock climbing sessions were joined as one sample because campers shared some activities as well as a campground in Yosemite Valley. Two surf camp sessions were combined because the activity was the same, and resulted in a larger group to analyze.

Of the 57 campers who completed the survey, 43 completed both the pretest and posttest and answered every question. Because the items were written to state alternating concern, ecocentric on odd items and anthropocentric on even items, coding was completed to allow cumulative scores that reflected whether responses were more anthropocentric or ecocentric. “Strongly Agree” responses on odd-numbered items were scored 2, as were “Strongly Disagree” on even-numbered items; these responses reflected pro-ecological concern. “Strongly Disagree” responses on odd-numbered items and “Strongly Agree” responses on even-numbered items scored -2; these reflected anthropocentric concern.

Table 4 shows a summary of the total responses. In addition to the percentages of responses given per category, the mean and standard Deviation is listed. Item seven on the pretest, “Plants and animals have as much right as humans to exist,” received over 79% “Strongly Agree” responses. In the posttest, the same item received over 86% “strongly agree” responses. The next most common response in the pretest was item 5: “Humans are treating the environment very badly.” In the pretest, over 58% of responses were “Agree” and over 23% of responses were “Strongly Agree.” On the posttest for item 5, almost 35% responses were “Agree” and over 44% of responses were “Strongly Agree.” This result shows an increase in ecocentric environmental concern. Alternately, item 4 had seven “Strongly Agree” responses and ten “Agree” responses in the pretest. But the posttest showed 13 responses for “Strongly Agree” and ten “Agree” responses. Since the even-numbered items were designed to be anthropocentric, the increase in agreement indicates an increase in anthropocentric environmental concern. Typically, however, the increases were toward ecocentric concern.

Table 4

Percentage of Responses Given and Mean and Standard Deviation

Item	Coded Scores				
	-2	-1	0	1	2
Pretest					
1	2.33	6.98	30.23	39.53	20.93
2	18.60	13.95	9.30	39.53	18.60
3	0.00	13.95	20.93	41.86	23.26
4	16.28	23.26	34.88	25.58	0.00
5	2.33	6.98	9.30	58.14	23.26
6	23.26	41.86	11.63	11.63	11.63
7	2.33	2.33	0.00	16.28	79.07
8	6.98	20.93	13.95	18.60	39.53
9	2.33	0.00	32.56	48.84	16.28
10	13.95	20.93	32.56	23.26	9.30
11	0.00	4.65	30.23	46.51	18.60
12	0.00	9.30	32.56	18.60	39.53
13	2.33	6.98	16.28	37.21	37.21
14	9.30	27.91	44.19	6.98	11.63
15	0.00	2.33	16.28	44.19	37.21
Mean	6.67	13.49	22.33	31.78	25.74
StD	7.76	11.57	12.46	15.42	18.98

Table 4 (continued)

Item	Coded Scores				
	-2	-1	0	1	2
	Posttest				
1	0.00	4.65	23.26	48.84	23.26
2	9.30	18.60	13.95	30.23	27.91
3	2.33	6.98	9.30	48.84	32.56
4	30.23	23.26	16.28	25.58	4.65
5	0.00	13.95	6.98	34.88	44.19
6	30.23	39.53	20.93	6.98	2.33
7	0.00	0.00	0.00	13.95	86.05
8	13.95	13.95	30.23	13.95	27.91
9	2.33	4.65	9.30	37.21	46.51
10	9.30	27.91	25.58	25.58	11.63
11	0.00	9.30	23.26	44.19	23.26
12	4.65	0.00	20.93	30.23	44.19
13	2.33	9.30	16.28	32.56	39.53
14	16.28	23.26	23.26	18.60	18.60
15	0.00	4.65	25.58	27.91	41.86
Mean	8.06	13.33	17.67	29.30	31.63
StD	10.43	11.27	8.38	12.55	20.69

Note. Values given in percentages except Mean and Standard Deviation. See Appendix

D for the statements associated with each item number.

Research Question 1

The first research question asked if participation in a summer adventure program at camp affected the environmental concern of 11 – 17 year old participants. Table 5 shows that participants' mean scores increased from pre to post, but the differences were not significant when a t test was applied. All scores rested on the pro-ecological, or ecocentric, end of the scale, but relatively near the middle since anthropocentric to ecocentric are measured -30 to 30 on the scale.

Table 5

Paired t-test analysis of Pre and Post

	pre	post
Mean	8.465	9.465
Variance	31.017	39.255
Observations	43	43
Pearson Correlation	0.532	
df	42	
t Stat	-1.139	
P(T<=t) one-tail	0.131	
t Critical one-tail	1.682	

Note: No values are significant, $p < .05$

Research Question 2

Research question two asked if the environmental concern of participants differed according to the activity theme of their session. Table 6 shows the mean scores for each activity and the number of participants contributing to that score. Looking at the differences pre and post, it appears that the base camp/ rock climbing group had the greatest change in environmental concern. Further, the kayak participant mean dropped the most, demonstrating a mean shift away from environmental concern, or a shift toward

Table 6

Mean Results for Activity Themes

	Base Camp/ Rock Climb	Kayak	Backpack	Surf	Horse
Count	5	8	7	16	7
Pre	7.600	7.875	9.857	8.000	9.429
Post	11.600	6.250	10.429	10.125	9.142
Change	4.000	-1.625	.572	2.125	-.287

anthropocentrism. It is worthwhile to note as well that the participants in the backpack program had the highest initial scores for environmental concern.

Table 7 shows the results of ANOVA comparing activity themes. Utilizing ANOVA, it was determined that activity in general was not significant in changing environmental attitudes ($F_{4,38} = 1.006$; $p = .417$). However, further analysis showed that base camp/rock climbing and surf were statistically significant in influencing ecological attitudes (see Table 8). Table 9 shows no significance in influence for kayak, backpack, or horse camps.

Table 7

Analysis of Variance Between Activity Themes

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	133.232	4	33.308	1.006	0.417	2.619
Within Groups	1258.768	38	33.125			
Total	1392	42				

Note: No values are significant, $p < .05$

Table 8

Paired t-test Analysis of Groups: Base Camp/Rock Climb and Surf

	Backpack		Surf	
	pre	post	pre	post
Mean	7.600	11.600	8.000	10.125
Variance	17.300	32.800	38.000	45.983
Observations	5	5	16	16
Pearson Correlation	0.747		0.821	
df	4		15	
t Stat	-2.349		-2.172	
P(T<=t) one-tail	0.039*		0.023*	
t Critical one-tail	2.132		1.753	

Note: Significant differences at $p < .05$ shown by *

Table 9

Paired t test Analysis of Groups: Kayak, Backpack and Horse

	Kayak		Backpack		Horse	
	pre	post	pre	post	pre	post
Mean	7.875	6.250	9.857	10.429	9.429	9.143
Variance	18.411	12.500	29.810	26.286	54.286	77.143
Observations	8	8	7	7	7	7
Pearson Correlation	0.662		0.949		-0.114	
df	7		6		6	
t Stat	1.396		-0.880		0.063	
P(T<=t) one-tail	0.103		0.206		0.476	
t Critical one-tail	1.895		1.943		1.943	

Note: No values are significant, $p < .05$

Research Question 3

The third research question asked if the age of participants affected their environmental concern scores. The scores were grouped into age 11 to 13 and age 14 to 17. Of the 43 participants, 19 (or 44%) were in the younger group while 24 were in the older group. Table 10 shows that the older group experienced a greater change in their mean scores than the younger group. However, results of ANOVA comparing the pre and posttests of younger to older age groups (see Table 11) show no statistical significance of age group affecting environmental concern.

Table 10

Mean Results for Age Groups

	11-13	14-17
Count	19	24
Pre	8.316	8.583
Post	8.947	10.292
Change	0.631	1.709

Table 11

Analysis of Variance Between Older and Younger Age

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	12.295	1	12.295	0.296	0.589	4.079
Within Groups	1703.379	41	41.546			
Total	1715.674	42				

Research Question 4

Question four asked: Does the gender of participants affect their environmental concern scores? Of the 43 participants, 18 were female and 25 were male. Table 12 shows the mean scores of males and females on both the pre and posttests. Both groups raised their scores, and female pretest scores were higher than males' posttest scores. Table 13 shows the results of a paired t test evaluation. It shows the difference between pre and post scores to be significant for males but not for females

Table 12

Mean Results of Males and Females

	Males	Females
Count	25	18
Pre	7.2	10.22
Post	8.44	10.889
Change	1.24	.667

Table 13

Paired t test Analysis of Males and Females Pre and Post

	Male		Female	
	pre	post	pre	post
Mean	7.200	8.440	10.222	10.889
Variance	29.667	28.507	29.124	53.046
Observations	25	25	18	18
Pearson Correlation	0.832		0.182	
df	24		17	
t Stat	-1.983		-0.343	
P(T<=t) one-tail	0.029*		0.368	
t Critical one-tail	1.711		1.740	

P<.05, *indicates significance

Summary

The first research question asked if participation in a summer adventure program altered the environmental concern of campers. Campers completed a 15-item survey indicating their agreement with statements about environmental concern using a Likert-type scale. While all participants' environmental concern scores increased, the difference was not statistically significant.

Research question two asked if the activity influenced environmental concern. An Analysis of Variance showed that activity in general was not significant in changing concern. However, paired t tests showed the change in pre to post scores was significant with $p=.039$ for backpackers. Surf campers also had significant difference pre to post when analyzed with paired t test ($p=.023$). The other groups had no significance, but other patterns developed. Kayak campers' scores dropped from a mean pre 7.875 to mean post 6.25, a 1.625 decline. Also worthy to note, the backpack campers had the highest initial scores of environmental concern, and raised theirs slightly. Backpackers started with a mean pretest higher than horse and kayak pre- or post tested.

Research question three asked if the age of participants affected their environmental concern. After grouping to a younger (11 to 13 year of age) and an older (14 to 17 years of age) group, mean scores showed the older group experienced a greater change in scores, but paired t test showed no statistical significance.

The fourth research question asked if gender affected the environmental concern of campers. While overall, both groups increased their pre to post scores, only the males improved statistically. However, examination of the scores shows that the females'

pretest mean was higher than the males', and the males' posttest mean was lower than the females' pretest mean.

CHAPTER FIVE

DISCUSSION AND IMPLICATIONS OF FINDINGS

Context of Study

Many people, specifically researchers, have recognized the impact nature has on human well-being. ADHD, depression and self-esteem can be improved by spending time in nature (Huby & Bradshaw, 2006; Taylor, Kuo & Sullivan, 2001; Kuo, & Faber Taylor 2004; Mulvihill, Rivers, & Aggleton, 2000). Exposure to nature can improve cognitive development in children and build greater resilience to problems (Pyle, 2002; Wells & Evans, 2003). Exposure to nature in childhood is linked to pro-environment attitudes and behaviors in adulthood (Chawla, 1988, 1999; Corbett, 2006; Milligan & Bingley, 2004; Wells & Lekies, 2006). Some researchers have looked at which experiences in nature have more profound effects (Wells & Lekies, 2006; Ewert, Place, Sibthorp, 2005; Tarrant & Green, 1999). The camping industry examined what role camping had on environmental concern (James, Henderson, & Garst, 2008) and suggested that camps develop programs that engage children in the natural world; provide campers opportunities to explore and learn about nature; and ensure that environmental education curriculum was age appropriate. In these ways, camps join the movement reaching out to children to affect stewardship of resources of the natural environment.

Summary of Purpose

This study was conducted to examine the effectiveness of an adventure program at a YMCA summer camp to change the environmental concern of campers. Specifically, the study asked if environmental concern of selected campers differs

according to age, gender or activity. The participants were registered in one of seven sessions of Teen Adventure Camp in the summer of 2009.

Summary of Procedures

The potential participants in this study were sent a letter of introduction and asked to secure parental consent. After receiving both parental and camper permission, each camper received a 15-item survey. Participants were also asked to identify their age, gender, and activity theme. Participants used a Likert-type scale for each of the 15 items to rate their agreement with “statements about the relationship between humans and the environment,” (Dunlap, Van Liere, Mertig, & Jones, 2000, p. 433). Once coded, a score of -30 demonstrated an anthropocentric view while a score of +30 demonstrated an anthropocentric or pro-environment concern.

Summary of Data Analysis

Of the 64 campers, 57 responded and 14 of those responses were discarded due to a missing pair. The 43 participants ranged in age from 11 to 17. Participant responses were grouped into age groups for examination: 19 were in the younger group, age 11 to 13, and 24 were in the older group, age 14 to 17. Eighteen were female and 25 male. Participants participated in seven sessions that were collapsed into 5 study activities: 5 completed the base camp/rock climb camp; 7 completed the backpack program; 8 kayaked; 16 surfed; and 7 completed horse camp. Responses were evaluated to compare pre to post overall, differences according to activity theme, differences according to age

group and according to gender using paired t-tests or ANOVA. Statistical significance was set at $p < .05$.

Findings and Conclusions

The first research question investigated if participation in the Teen Adventure Camp affected the environmental concern of campers. A paired t-test of pre and posttest scores showed no significant change in the overall scores. However, most of the scores, 30 of 43, were on the ecocentric end of the range, with the mean scores both pre and post above neutral 0. Still, the mean scores were relatively moderate at 8.465 pre and 9.465 post each on the range -30 to +30. This result is consistent with Corbett (2006); slightly more ecocentric attitudes, driven by ethics and value-based ideologies, are replacing the previously accepted American conservation and preservation attitudes, driven by anthropocentric ideologies.

Research question two asked if environmental concern of participants differed according to activity themes. An ANOVA analysis determined that activity in general was not significant in changing environmental attitudes ($F_{4, 38} = 1.006$; $p = .417$) when comparing pre and posttest scores.

However, when examining the activity groups, paired t-test analysis of the pre and post scores per activity showed that base camp/rock climb and surf had significant affect on environmental concern ($p = .039$ and $p = .023$, respectively). Base camp/ rock climb and surf seemed to encourage a greater change in environmental concern than the other activities. Base camp pre test scores were the lowest of all activities and their posttest the highest of all activities. Because this program is often used as an introduction to Teen

Adventure Camp, it is possible that these campers had their first experience in a profound natural setting and their first discussions about environmental issues. If they had just begun to question their ideas and the values of the environment, the new experience with Teen Adventure Camp could explain a drastic change in attitude.

Surf, however, scored in the middle of the groups in both pre and post. Still, the difference was greatest second only to base camp/rock climb. The surf program draws repeat campers as well as first timers. It is possible that this interaction between the informed return campers and the enthusiastic first-timers elicited a shared growth in concern. Further study would be helpful to determine the source of the impact.

The findings also suggest that, on average, campers with the highest initial environmental concern registered for the backpacking session and those with the lowest average concern registered for base camp/rock climbing. As discussed above, campers who returned from a previous year at Teen Adventure Camp may be more likely to register for the backpacking as opposed to the base camp/rock climbing program; the repeat participation may affect their concern. It is also possible that wilderness component of backpacking is more attractive to people with ecocentric attitudes. The remote wilderness utilized in backpacking removed campers from human-centered architecture to place them in open spaces mostly devoid of human interference, which could reflect a more holistic environmental attitude defined by both Oelschlaeger (1991) and Corbett (2006) as ecocentric.

Further examination of the mean scores showed that participants in Kayak and Horse camps experienced decreases in mean scores. The kayak campers' mean scores dropped from 7.875 to 6.25, a change of 1.625 toward anthropocentric. Horse campers'

mean scores dropped from 9.429 to 9.142, a change of .287. Though no significance was identified, it is interesting that environmental concern seemed to vary based on activity. Horse related activities can have more dramatic impact on the land than low-impact backpacking: horse trails are wider and deeper than foot trails. Maybe the drop in concern reflects the indoctrination of campers into a standard ethic in these activity areas. For example, horse professionals may measure the value of the environment by the benefit they can harvest from it. Teisl and O'Brien (2003) found that while participation in outdoor recreation positively associated with environmental concern, the level of concern depended upon the type of activity. What, then, are the values being taught by different activities? The kayak trip was based at Lake Tahoe where a broad-reaching "Keep Tahoe Blue" campaign encourages sustainable environmental practices. The campers' exposure to this campaign either was minimal or had a negative effect on their concern. The outfitters who worked with campers also might have impacted their concern scores. The kayak trip was a campsite-based program, and maybe the relative proximity of campers to development and car-camping impacted their interpretation of the experience. The decrease in mean scores is worthy of further exploration. It would be interesting to study what, if anything, in these programs could account for the change.

Research question three asked about age groups: Does the environmental concern of participants differ according to their ages? Participants' responses were grouped in age groups: 11 to 13 year old in the younger group and 14 to 17 year olds in the older group. The older age group experienced greater change than the younger group, but it was not statistically significant after ANOVA analysis. The campers from the older age

group scored similarly to the younger group initially, but the older groups scores increased more, a change of 1.709 compared to the younger group's change of only .631. It is possible that the larger affect on the older group is partially a result of the activities they participated in; for example, the backpack campers, which scored highest in both pre and post concern, were all older campers. It might be that the older campers asked different questions of staff than younger campers, or they interpreted their experiences with different frame of reference or cognitive development. There are many avenues for further research here.

The fourth research questions compared male to female environmental concern. When a t-test was used to compare means, males showed a significant increase in their scores pre to post ($p=.029$), but females did not ($p=.368$). Interestingly though, the female mean scores were much higher than the male scores, both pre and post. Looking at the values of the scores might provide some insight: the males' mean pre test score was 7.2 compared to the females 10.222, and the males' mean posttest score was 8.440 compared to females' 10.889. Possibly, the male campers' mean score rose because they had more room to grow and were more challenged by their female peers. The girl campers, conversely, had already developed a slightly higher level of environmental concern, and since their male counterpart was less pro-environment, their concern was not challenged to grow.

Other items of interest developed as well. Horse campers' scores varied dramatically, ranging from 1 to 18 on pretests and from -2 to 20 on posttest with a t-test variance of 77.143; this variety suggests multiple forces are driving the campers' initial

concerns and then interacting to influence changes. While most of these results did not show significance, they may warrant further investigation.

The surf group studied was collapsed from two separate groups divided by age. The differences of scores between those groups were not examined, and could reveal differences caused either by age or by staff since there were two travel groups. Those differences were not investigated because the groups were collapsed to increase population numbers.

Regarding the limitations, future studies should attempt to control for staffing differences. In this study, the same group of six staff members staffed every session except horses. However, not every staff member was on every session; the session was staffed with a varying combination of between three and six of the six-member group. These variations, in addition to the staff difference in horses, could greatly influence the results.

Discussion and Implications

This study surveyed the concern of 2009 Teen Adventure Camp campers. It excluded the traditional resident camp campers in order to focus the investigation and to test a new instrument. The instrument appeared to be relatively simple to administer and had an 89% response with 75% of those able to be analyzed. Every returned survey had every item answered. Researchers such as Chawla (1988, 1999); Wells and Lekies (2006); and Ewert, Place and Sibthorp (2004) have investigated the links between childhood experiences and adult attitudes and behaviors. The ACA responded to Louv (2005) initiating studies, like James, Henderson and Garst (2008). The YNEP instrument

created for this study may prove to be valuable in furthering this line of research because of its ease and age-appropriate language.

This study also demonstrated the ability of a summer camp program to affect the concern of participants. Further examination of what elements of the experience were the source or change could lead to more purposeful program design like recommended by James, Henderson and Garst (2008). Also, a long term follow up could show a different depth to the results. This study surveyed campers at the end of their sessions, but another study could survey campers at the beginning of the session, at the end of the session, and six weeks and three months from the end of the session. Different patterns in concern changes may develop when examined over time. The ACA is ideally positioned to serve as a platform for continued research efforts to strengthen the value of camps in public perception and support.

Recommendations

The following recommendations are offered for consideration in further study:

- 1) When repeated, one person should administer all the pretests and posttests of each group to increase the response rate and prevent missing pairs.
- 2) This study should be replicated with a larger sample population. The increased number of participants could lead to numbers large enough to establish significance.
- 3) This study could be duplicated with a less restrictive population. For example, the campers of the traditional camp could be included. Differences in regards to environmental concern could be examined between adventure camp and

traditional camp, as well as between first-time and return campers,. Also it would be interesting to see if the changes were greater after one program more than the other, and if campers who choose particular programs have consistent concern scores.

- 4) Further study could be designed to examine what elements of activities or courses create the impact or contribute to the change in concern. Determining the elements that are most productive in influencing concern could provide the information to program designers at camp to optimize their opportunities to affect camper concern.
- 5) This study established only the immediate concern levels of participating campers. Another study could follow the campers after six weeks and three months to see what longevity the environmental concern changes had.
- 6) Though this study measured environmental concern, it did not address behaviors. Further study could examine the correlation between environmental concern and behaviors, especially what affect changes in concern have on changing behavior.

Closing

The investigation of environmental attitudes and behaviors is not new. Since the 1980's researchers have examined the influences on adult attitudes even career choices. Much has been said about the impact of childhood experiences on adult behaviors, but less has been done to investigate the concern of youth in their youth and investigate what experiences actively change concern as the children develop their longer-lasting

ideologies. This study attempted to meet that goal with a small population of campers registered for adventure program. Further study is still needed.

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APPENDIXES

APPENDIX A



June 20, 2009

To the Parent/Guardian(s) of Teen Adventure Camp campers,

First let me thank you for your enrollment with YMCA Camp Jones Gulch's Teen Adventure Camp this summer! We are gearing up for a fantastic summer of fun, friendship, and exploration!

Now, let me introduce myself. My name is Sarah Schneider, and I am the Teen Adventure Camp Coordinator this summer. I hail originally from the Midwest, near St Louis, Missouri (Go Cardinals!). Over the last 15 years I have worked for the YMCA at day camps, residential camps, and in community branches as well as a four-year stretch with Outward Bound in the Southeast. Along the way I completed my Bachelor's Degree in Recreation at Southern Illinois University at Carbondale. Currently I am completing my thesis for my Master's Degree in Recreation with an emphasis in wilderness travel and experiential education. I am very excited to be here with Jones Gulch this summer.

With the permission and cooperation of Camp Jones Gulch, I hope to recruit volunteer participants from Teen Adventure Camp for my research study. The purpose of the study is to investigate the environmental ethics of the campers and compare any differences between the different travel groups, activities, ages, and genders. Participation is totally voluntary and may be rescinded at any time. However, those who agree to participate will be asked to complete a 15-question survey at check-in and again at check-out from camp (a pre-test and post-test). The survey will gather NO personally identifying characteristics. The results will be shared with Camp Jones Gulch for their use in pursuing more funding sources and in devising or modifying curriculum. Also the results may be published in scholarly or trade journals or magazines. At no point will any of the results be traceable or attached to any camper.

I am happy to discuss the study further and to answer any questions or concerns you or your camper may have. I can be reached at the Camp Jones Gulch office: 650-747-1200 or on email at sarahschneider@yahoo.com.

I am enclosing two forms. The parent/guardian consent form must be signed by you AND the camper must agree and sign the Child Assent form to participate. You may complete them and return them to camp in advance or complete and hand them in at check-in. Again, your participation is totally voluntary, but greatly appreciated!

Finally, if you or your child has any questions or concerns about his/her upcoming trip, please contact me or Marcus King, the Leadership Director. We will return messages when we return from each trip. Also the staff in the front office is very knowledgeable and may be able to answer your questions. Anything we can do to help, we are happy try!

Looking forward to meeting you at camp!

Sarah Schneider
Teen Adventure Camp Coordinator
YMCA Camp Jones Gulch
650-747-1200

APPENDIX B

SOUTHERN ILLINOIS UNIVERSITY – CARBONDALE
PARENT/GUARDIAN CONSENT FORM

Dear Research Participant Parent/Guardian:

I am a graduate student seeking my Master's degree in the Department of Health Education and Recreation at Southern Illinois University Carbondale.

I am asking you consent to your child's participation in my research study. The purpose of the study is to examine the environmental ideology of campers in the Teen Adventure Camp and to determine how participation in the program may change a camper's ethics. Your child was selected to participate because he/she is currently registered for one of the Teen Adventure Camp sessions this summer at YMCA Camp Jones Gulch.

There is currently a lack of research in this area. Although neither you nor your child will receive any personal benefits from your participation, your participation will greatly benefit the outdoor recreation field by adding to the research that does exist.

Your child's participation in this research is voluntary, and should you choose to permit him/her to participate you and he/she have the right to withdraw your participation at any time.

The purpose of the survey is to gather information about your child's ideals about the environment and his/her relationship to it. The purpose of the second survey is to compare his/her ideals about the environment and his/her relationship to it at the end of your camp session to his/her ideals at the beginning of the session.

The survey will take approximately 10 minutes to complete. All responses will be kept confidential within reasonable limits. Only people directly involved with this project will have access to the surveys. Any results will be presented in a way that cannot be traced directly back to you or your child. If you agree to participate, your child will be given a survey during check-in on the first day of your camp session at Camp Jones Gulch and again on the last day during checkout. The completed surveys will use a code of your birth date, session number, and sex for the purpose of pairing pre and posttests.

Questions about this study can be directed to me or to my supervising professor, Dr. Whitney Ward, Department of Health Education and Recreation, SIUC, Carbondale, IL 62901-4632. Phone: (618) 453-2777.

Thank you for taking the time to assist me in this research.

Sarah A Schneider
(386) 478-8942
sarahaschneider@yahoo.com

This project has been reviewed and approved by the SIUC Human Subjects Committee. Questions concerning your rights as a participant in this research may be addressed to the Committee Chairperson, Office of Research Development and Administration, SIUC, Carbondale, IL 62901-4709. Phone (618) 453-4533. E-mail: siuhsc@siu.edu

I have read the material above, and any questions I asked have been answered to my satisfaction. I understand a copy of this form will be made available to me for the relevant information and phone numbers. I realize that I may withdraw my consent without prejudice at any time.

Parent/Guardian Signature

Date

Printed Camper Name

APPENDIX C

SOUTHERN ILLINOIS UNIVERSITY – CARBONDALE
CHILD ASSENT FORM

Dear Camper:

I am a graduate student seeking my Master's degree in the Department of Health Education and Recreation at Southern Illinois University Carbondale.

I am asking you to participate in my research study. I am studying the ideas campers in the Teen Adventure Camp have about the environment and their relationship to it, and I am trying to determine if camp changes a camper's ideas. You were selected to participate because you are registered for one of the Teen Adventure Camp sessions this summer at YMCA Camp Jones Gulch.

There is currently a lack of research in this area. Although there is no personal benefit for you for your participation, your participation will help the outdoor recreation field by adding to the research that does exist.

Your participation in this research is voluntary, and if you agree to participate you have the right to quit or end your participation at any time.

The purpose of the survey is to gather information about your ideals about the environment and your relationship to it. The purpose of the second survey is to compare your ideals about the environment at the end of your camp session to your ideals at the beginning of the session.

The survey will take approximately 10-15 minutes to complete. All your answers will be kept confidential within reasonable limits. Only people directly involved with this project will have access to the surveys. Any results will be presented in a way that cannot be traced directly back to you. If you agree to participate, you will be given a survey during check-in on the first day of your camp session and again on the last day during checkout. The completed surveys will use a code of your birth date, session number, and sex for the purpose of pairing pre and posttests.

You can ask me questions about this study or you can ask my supervising professor, Dr. Whitney Ward, Department of Health Education and Recreation, SIUC, Carbondale, IL 62901-4632. Phone: (618) 453-2777.

Thank you for taking the time to help me in this research.

Sarah A Schneider
(386) 478-8942
sarahaschneider@yahoo.com

This project has been reviewed and approved by the SIUC Human Subjects Committee. Questions concerning your rights as a participant in this research may be addressed to the Committee Chairperson, Office of Research Development and Administration, SIUC, Carbondale, IL 62901-4709. Phone (618) 453-4533. E-mail: siuhsc@siu.edu

I read the information above, and my questions have been answered to my satisfaction. I received a copy of this form. I realize that I may end my participation at any time with no consequence to me.

Signature

Date

APPENDIX D

THE Youth NEW ECOLOGICAL PARADIGM SCALE

Birth date: m / d / y Sex: ☐ Female ☐ Male

Program: ☐ Backpacking ☐ Paddling ☐ Base Camp Age Group: ☐ 11-13
 ☐ Rock Climbing ☐ Surfing ☐ Horse Camp ☐ 14-17

Below are things people say sometimes. After each one, put a mark in the column that tells how much you agree with the statement. The columns are labeled like this:

SA Means you STRONGLY AGREE

MD Means you MILDLY DISAGREE

MA Means you MILDLY AGREE

SD Means you STRONGLY DISAGREE

U Means you are UNSURE or not sure
 how much you agree or disagree

Statement	SA	MA	U	MD	SD
The earth can only support so many people. There is almost that many people on earth now.					
Humans have the right to change the natural environment to fit their needs.					
When humans mess with nature, it often has really bad outcomes.					
Human will use their cleverness to make sure that we will always be able to live on earth.					
Humans are treating the environment very badly.					
The earth has more than enough natural resources if we can just learn how to use them.					
Plants and animals have as much right as humans to exist.					
The balance of nature is strong. Factories and business cannot mess up nature.					
Humans have special abilities. But nature still has power over us.					
People lay it on thick when talk about the environment being in big trouble.					
The earth is like a spaceship with very limited room and resources.					
Humans were meant to rule over the rest of nature.					
The balance of nature is very fragile and easy to mess up.					
Some day humans will learn enough about how nature works to be able to control it.					
We treat the environment a certain way now. A major disaster will happen soon if we keep going like we are now.					

Modified from: Dunlap, R. E., Van Liere, K. D., Mertig, A. G., & Jones, R. E. (2000). Measuring endorsement of the New Environmental Paradigm: A Revised NEP Scale. *Journal of Social Sciences* 56(3), 425-442.

APPENDIX E

STUDY INFORMATION SCRIPT

This summer at Camp Jones Gulch, we have a researcher examining the environmental concern of campers participating in the Teen Adventure Camp programs. We sent a letter of introduction about this project to each camper family before the session; here is another copy. (Provide a copy of the cover letter.) The research will be used by the researcher to complete the requirements for her Master's Degree and by the camp to seek grant and other funding or to provide insight to camper groups.

You may choose to participate or not; it is completely voluntary.

Participation includes completing a 15-item survey both now and again at the end of the session. The survey was designed by other researchers to measure environmental concern and responses are given on a scale of strongly agree to strongly disagree. It takes approximately 10-15 minutes to complete and your responses will not be matched to your name. We will take all reasonable steps to protect your identity.

There is no direct risk or benefit for you participating other than assisting in new research for the continued growth and education of professionals.

If you choose to participate, parent/guardian consent and camper assent must be given by signing these forms. (Provide forms for signing and copies to keep.)

If consent is NOT given:

Thank you for considering. You are not obligated, so we appreciate your time already given.

If consent is given:

(Collect the consent and assent forms and place in a manila envelope for consent forms.)

Please provide your birth date, session number, and sex to create an anonymous code. Do NOT include your name; this will protect your anonymity.

Place your completed survey into this manila envelope for surveys. I should not see your responses.

At checkout you will be asked to complete the same survey again. You will mark it with the same code – birth date, session number, and sex – on the top. That way the researcher can compare your responses before and after session without knowing WHO gave those responses.

The researcher will not have access to completed surveys until after you have left at the end of the session. Thank you for participating.

To all:

At the end of the study, the research results will be provided to Jen Clink, your Associate Executive director. You may contact her if you are curious about the results.

If you have any further questions about the research feel free to contact the researcher:

Sarah Schneider, 1451 Old State Route 13, New Athens, IL, 62264

sarahaschneider@yahoo.com, 386-478-8942

or her advisor:

Dr. Whitney Ward, Assistant Professor, Southern Illinois University, Health Education and Recreation,
Mailcode 4632, Carbondale, IL 62901

wward@siu.edu, 618-453-1868.

This project has been reviewed and approved by the SIUC Human Subjects Committee. Questions concerning your rights as a participant in this research may be addressed to the committee chairperson, Office of research development and Administration, Southern Illinois University, Carbondale, IL 62901-4709. Phone (618) 453-4533. Email siuhsc@siu.edu.

APPENDIX F



May 5, 2009

SIUC Human Subjects Committee
Office of Research and Development and Administration
Woody Hall C214
Southern Illinois University Carbondale
Carbondale, IL 62901-4709

To the SIUC Human Subjects Committee:

This letter is a confirmation of agreement for a study to be conducted by Sarah Schneider during the summer of 2009 at the YMCA Camp Jones Gulch site. It is my understanding that the study will examine the environmental ideology of campers in our Teen Adventure Camp program with the intent of determining how participation in the program may change a camper's ethics.

I have read and agree to the methodology as well as recruitment of our campers for participation in the study. I agree to allow Sarah Schneider access to our facility and access to our personnel. The staff at YMCA Camp Jones Gulch will give Ms. Schneider their full cooperation throughout the process.

Please feel free to contact me at anytime, (650) 747-1214 or jclink@ymcasf.org.

Sincerely,

Jennifer Clink
Associate Executive Director

YMCA Camp Jones Gulch | 11000 Pescadero Rd | La Honda, CA 94020
650-747-1200 | fax: 650-747-0986 | www.campjonesgulch.org

A branch of the YMCA of San Francisco

VITA

Graduate School
Southern Illinois University

Sarah Schneider

Date of Birth: August 27, 1978

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Bachelor of Science Recreation, December 1999

Thesis Title:

The Environmental Concern of Youth At A YMCA Youth Adventure Camp

Major Professor: Whitney Ward