

Captain Planet Vs. Nature
A Study of the Environmental Trigger of the Millennial
Generation

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Introduction

Over the past five years the force of the Environmental Movement has spread over the United States, with the main galvanizers being young adults. There are several reasons for the sudden boost in public environmental awareness including: frustration at Federal inaction, more hard scientific information on human environmental affects, real-life signs of climate change such as Hurricane Katrina and melting Polar icecaps, and higher oil prices. But this is not the first time that the general public has been aware of the human wrong doing to the environment. What is it about this current generation that has them taking environmental action in a way that no other previous generation has?

In the history of every social movement there is always a specific point in time in which some event or realization happens that causes people to decide that they must take responsibility to create change. Within the context of the Environmental movement this event or realization is called the Environmental Moment. Every generation and every individual activist will have a different Environmental Moment depending on different cultural, political, educational, and social levels. The key is to figure out what the primary environmental triggers were for different generations so that they can be used for the education and motivation of future generations. The present generation of young adults was raised with a sense of environmental responsibility and consciousness through various forms of formal and informal education that previous generations lacked. The hypothesis of this research is that their Environmental Moment may have come from a

media source, such as a television show, book, or movie, rather than inside of the classroom or an outdoor experience.

The Environmental movement started in the 1970s along side with the Civil Rights movement and the Women's Rights movement. As the Civil and Women's rights campaigns were won and the student activist in the 70s became professionals, they translated their activism into different forms of education mediums for the next generation. This next generation, born between 1980 and 1990, is considered the Millennial Generation. As the Millennial Generation grew up, they were exposed to the products of these activists in the form of Recycle programs, environmental superheroes such as Captain Planet and the Planeteers, and conservation media such as the children's movie *Fernguly: the Last Rainforest* and the Dr. Seuss book *The Lorax*. These programs in conjunction with the more traditional environmental education resources of classroom environmental education and various outdoor experiences bred a certain environmental consciousness that is currently being developed in light of the contemporary environmental issues that the Millennial Generation is facing.

The aim of this paper is to explore precisely what role the media had on creating this environmental consciousness. As the Millennial Generation was the first to really experience an equal amount of push outdoors, by a activist generation of parents, as well as a pull indoors, by new entertainment technologies. This makes them the perfect test group to see which type of environmental education has the most impact on creating environmentally conscious children. Once this can be determined, the lessons can be applied to the current generation to try to mold the next band of environmentalists that will be essential for the coming years.

Background

Environmental History:

The 1970s marked the beginning of the Environmental Movement. The international community first coined terms such as Sustainable Development and started creating global initiatives to protect the world for future generations. In 1975 the International Workshop of Environmental Education sponsored by the United Nations Environmental Program and the United Nations Educational, Scientific, and Cultural Organization came out with the Belgrade Charter. The Charter expressed that the “goal of environmental education is to develop a world population that is aware of and concerned about the environment and its contemporary issues in a way that would motivate and educate individuals to work together to come up with solutions for present and future problems”.ⁱ Another goal of environmental education is to change attitudes in order to shift people to more environmentally friendly behaviors and practices.ⁱⁱ This global initiative recognized that change needed to come through education and shifting the attitudes of future generations. With that, the world took action and started its first rounds of environmental reforms. The US Government sanctioned the Environmental Protection Agency, water pollution was greatly reduced through massive sewage plant expansion programs, and cars switched to unleaded gasoline.ⁱⁱⁱ

However the 1980s revealed the cracks in the Environmental Movement. The Reagan Administration showed itself to be environmental inactive, which was a drastic change from the energy conservation environmental politics of the Carter Administration. Along with Executive inaction, the Environmental Protection Agency was also losing

their credibility through a series of scandals, reports of internal mismanagement, budget cuts, and proposals to weaken regulations. In light of Federal inaction, Environmental organizations stepped up and took the lead in moving the Environmental Cause forward in its mission. As a result of these non-governmental organizations (NGO), public concern about the environmental quality of the US continued to increase throughout the 1980s.^{iv}

Public opinion surveys showed that the major environmental concerns of the time were 1) hazardous air pollutants 2) the beginning of concern about the dangers of the Greenhouse Effect on the Earth's atmosphere 3) Acid Rain 4) agricultural, industrial, and urban pollution run-off 5) as well as toxic and hazardous substances seeping into groundwater.^v As Environmental education programs developed in this time period, these issues were incorporated into the programs. The introduction of the educational television show *Captain Planet and the Planeteers* in 1990 centered most of their plots specifically on these issues to the extent that Captain Planet's superpower weaknesses are pollution, smog, toxic waste, and radiation. But despite the Public Service Announcements and educational themes, producers and Environmentalists alike did not believe that these shows would have a lasting impact on the children.^{vi}

However it was at this pivotal point in history that the current generation of young adults was being raised. The public opinion, politics, and media of the late 1980s and early 1990s had a very significant influence on the Millennial Generation being that these environmental issues were at the foreground of public debate when the children were most sensitive to forming opinions. Political inaction by the government led to stronger Environmental NGO action and individual activism. This activism translated into

increased public opinion and concern, which was reflected in the various forms of the Media, one of which was Children's television programming. The outcome was a generation in which the children were being educated about the pressing contemporary environmental issues that they would inevitably have to deal with when they grew up.

Early Childhood Education:

The Millennial Generation's Early Childhood Development:

Early Childhood education is considered the most essential period of a child's development because that is the point in which they initially form their identities in regards to the outside world, learn how to interact with things, and form their attitudes and behaviors. Children learn how to identify their role in relation to other things through their culture. A child will learn how to interact with their environment based on cultural norms.^{vii} The Millennial Generation had a very interesting and unique culture in which they grew up. In the US, the environment was a public concern during the Millennial's childhood so at the point in which they were forming their perceptions of the world, the natural environment was included in the terms that people are doing bad things to it, and we need to help stop it. As the mantra of *Captain Planet* proclaimed, "By YOUR powers combined, I am Captain Planet."^{viii} By placing the responsibility on the individual child to do something, as well as to work together, these programs presented a message of environmental stewardship.

However at the same time, the American culture was changing in another way, the beginning of the computer and Internet revolution. The Millennial Generation was the first generation to grow up with personal computers, access to cable television, and the

start of the Internet. This was a complete transformation in the way in which ideas and information were shared. Yet these two revolutions, environmental stewardship as a social issue and the computer/internet revolution seem contradictory. One preaches going out and being environmentally active, while the other allows for people to share their ideas from within the comfort of their homes and learn via electronic screens. However this incongruity was resolved by the Millennial child's understand of environmental consciousness as well as technological savvy. Therefore the Millennial generation developed their perceptions and attitudes in a new culture that taught environmental responsibility and encouraged technological progress through media.

Lack of outdoors:

With the computer and Internet revolution, children had more educational opportunities available to them within their own home. This combined with more indoor entertainment activities such as public television, access to cable television, the introduction of video game system such as Nintendo, and access to computer games on PCs, allowed children to spend more time entertained and playing indoors rather than outside in nature. Robin C. Moore, President of the International Association for the Child's Right to Play, also believes that there are outside factors that have lead to the decrease in time spent outdoors. She brings to attention less vacant space being allotted to playgrounds or open space, traffic dangers, parental fear of child abduction or harm, stricter child schedules that reduce recess time and compartmentalizes free time, single parent families, and commercialized indoor play areas.^{ix}

Moore believes that children are being deprived by their lack of outdoor time and maintains that natural settings help stimulate a child's development. It specifically develops emotional responses to the physical and social world which develop during early childhood. She argues that informal play allows for a first hand experience of nature that is vital for forming values.^x As Urbanization continues children will have diminishing opportunities to have direct contact with nature and as they lose their ability to connect with the living world, their conceptualization of nature will become more abstract.^{xi} The problem is that children are experiencing nature through a secondary source such as television, which only allows for visual and sound experience in which children only experience nature vicariously.^{xii}

Teaching Methods:

The main component of any civil movement is found in education. In the past few decades environmental studies have been finding their way into the formal education system through a variety of areas. Federal and State laws are now in place for schools so that every state has to include some environmental education into the curriculum. The topics that are usually covered are basic ecology and understanding of issues such as pollution, endangered species, conservation, and land use.^{xiii} Given these issues, environmental education has traditionally been focused in the Science classrooms. However since environmental issues are more broadly ranging than just their scientific aspects, environmental themes involving questions of ethics, environmental stewardship, and consumerism are being introduced into different disciplines such as social studies, literature, and outdoor activities.

Jim Parry, the outdoor education director at Collin County YMCA Adventure Camp in Anna, Texas believes that Environmental education should start with connecting the children to their environment. Once you have connected children to their environment, they are then able to broaden their understanding to more complex topics such as pollution. He suggests using different environmental methods such as role-play, discussion/problem-solving groups inside the formal classroom. But in order to really establish a connection, he advises bringing children outside through service learning projects such as litter clean up, outdoor education programs, and field trips to zoos, museums, and camping in order to develop better environmental attitudes and behaviors.^{xiv} By exposing children to the outdoors while still in a learning setting, it not only reinforces their educational experience, but also allows them to bring their new knowledge into practical everyday use. As we have previously stated, such exposure during childhood can help children to develop an understanding of the complexity and fragility of the natural environment around them.

However these experiences can have different affects depending on how the information is taught. Dr. Jason Meyer, an expert in Environmental education, outlines that there are three paradigms through which Environmental education can be taught: the Dominate Western Worldview, the Human Exemptionalism Paradigm, or the New Ecological Paradigm. The Dominate Western Worldview basically holds that humans are different from the creatures they dominate and should hence exercise lordship over them. The Human Exemptionalism Paradigm explains that humans are different because they have culture and since the scope of human activity is within social and cultural spheres, it is only logical to disregard the biophysical environment. Finally the New Ecological

Paradigm is where humans are presented as part of the web of life and involved in the ecological worlds.^{xv} Each paradigm represents the human-nature relationship in a different way and hence depending on which manner of education the children are introduced to nature, would likely reveal their future attitudes and behaviors.

Most children's environmental literature is presented from the New Ecological paradigm. This allows children to cultivate their curiosity about their surroundings in a manner that connects the environment with joy and wonder rather than gloom and doom. To create an interesting setting that will engage children while still being true to the innate complexity of the natural system being described, authors must be responsible to do in depth research, be as accurate as possible, and illustratively interesting.^{xvi} This type of literature that is visually, intellectually, and creatively stimulating is a key tool for the early environmental education of children. As new environmental issues arise, such as climate change, many new environmental books that deal with that topic are produced through major environmental NGOs. These NGOs have the information and resources to quickly produce these materials and have therefore been able to take the lead in this field. Some of the critics of children's environmental literature say that many of these books are therefore biased because they come from interest groups,^{xvii} however other independent authors are quickly coming up to fill in the niche.

Along with an influx of environmental literature, school systems across the country have been enacting specific environmental education programs into their curriculum. One such program is Project Excite, which is a seven-year program that trains 4th-9th grade students about environmental health stewardship. The program teaches the children independent critical thinking skills to evaluate environmental problems,

create solutions, and advocate for the implementation of these solutions.^{xviii} Other programs work directly with major governmental and non-governmental organizations such as the GLOBE Program that works directly with the National Aeronautics and Space Administration to bring together students, teachers, and scientists to study Earth systems through hands-on projects.^{xix} Earth Force work with teachers to engage children in environmental programs through their Community Action and Problem Solving (CAPS) program; teaches children about water systems in their Global Rivers Environmental Education Network (GREEN) program; or engages them in community projects in their Earth Force After-School program.^{xx} There is also a wide variety of state run educational programs as well as grassroots projects to educate children about the environment.

One of the most traditional forms of educating youth about the environment is through direct exposure to nature in the form of camping. There are three forms of camping: the individual or family camping trips, organized outdoor groups such as Boy or Girl Scouts, or through residential camp programs where children stay in a camp environment for a number of weeks. Family camping experiences are a very good way to expose children to the environment because it connects the outdoor experience with one of the security of family and quality time. This creates a positive association with nature; however it limits the experience to the environmental knowledge of the parents. Organized camping groups have a slightly different goal where it uses the environment to foster personal development. The main goal is to creating a good citizen through having children earn merit badges for learning and enacting socially responsible behaviors both in their community and in the natural environment around them. The best way to do this

is through exposing them to nature in order to develop maturity through adventure, comradeship, and knowledge.^{xxi} This creates the cognitive link between nature and personal development. Residential Camping is considered a very good way of teaching environmental education because it involves longer-term nature exposure with the tutorage of environmental specialists. Residential Camp experiences involve hands-on learning and breed a connection with the natural world. Researchers have found that this type of learning promotes a positive attitude and positive behavioral changes in children. It also increases their concepts of interdependence, stewardship, and adaptation to new environments. They found that these experiences also promote future environmental education and repeated out-door experiences.^{xxii}

As we have seen, environmental education is very multifaceted and should be approached from many different perspectives. It has been shown that early education is the key period of time in which children form their initial attitudes and behaviors towards the outside world. These perceptions can be shaped by what is taught and how it is taught. If the environment is presented in a way that is intriguing and fun, such as through environmental literature or through camping, then children will most likely respond positively towards nature. Environmental programs in schools teach children about the issues as well as how to come up with solutions so that environmental stewardship is ingrained right from the outset of the child's active life. Then through hands-on outdoor experiences children can create a more personal connection between themselves and nature. Each aspect of the educational process is vital to forming an environmentally conscious generation.

In terms of the Millennial Generation, all of these categories of education were met, however they were taught in more of a gloom and doom manner. The educational programs in school were mainly centered on industrial pollution and its dangerous effects on the environment. Therefore the Millennial Generation grew up with the perception that environmental problems were mainly industrial and outside the realm of individual control. However the idea of environmental consciousness was still a key component of their educational programs. Recycling programs were also a main part of the environmental education curriculum, which taught kids the importance of recycling their waste as part of their environmental consciousness development. Environmental literature such as *The Lorax* and *The Giving Tree*, were key books that taught the Millennial Generation about environmental responsibility. Different types of camping experiences were also common among that generation as part of after-school and summer time activities. All of these educational programs lead to an understanding of the human impact on the environment and the social responsibility to take action to correct it.

Role of Media:

Media advocacy is the strategic use of mass media as a resource to advance a social movement. Media can be very successful in bringing issues to the foreground and dictating to the public what issues should be talked about.^{xxiii} As television, and most recently the Internet, have become the main source of everyday information, it would be very hard to invoke change without the support of the Media. There are various forms in which the Media can give information to the public and depending on which context it is presented, the viewers will gain a different perspective. If the information is presented on

a News show, then it will be perceived as more official and factually based. An opinion program would be able to present more of the issue's debate points, whereas an educational show would illuminate more of the scholarly opinions, the scientific theories, and focus on some sort of case example. All of these types of programs would present official opinions, state facts, and would be seen as directly focusing on the issue.

Entertainment shows, however portray the issue in a different context because the topic is addressed in a secondary manner, as part of a greater running plot. Many times a television drama, comedy, or family program will dedicate an episode to addressing a prominent contemporary issue. The issue will be shown through the perspective of the main characters and how it affects their lives. As social creatures, we tend to look to how others deal with a problem to assess how best to appropriately address the issue ourselves. This type of portrayal, while very subtle, is the most influential to public opinion because it shows how the 'ordinary person' would/should deal with that issue. This is very different from the factually based discussions that other Media sources present, because the entertainment programs show, while it might take some factual points into account, presents the personal, social, and emotional perspectives of the argument. The extent of the viewer's opinion forming on the topic based on factual programs will depend on the extent of their education and interest. Whereas the viewer can be more easily swayed by the presentation of the issue on an entertainment program because they can more easily identify with the main character and hence the emotional and everyday reactions to the issue will seem more valid to their own lives.

Media gives the advantage of being able to indirectly experience things to which the audience would not normally have easy access. However in return for this vicarious

experience, Media has created a phenomenon in our contemporary society in which the public has become predominantly passive recipients of information being controlled by select institutions and individuals.^{xxiv} These small groups of producers therefore are given the power to create and/or influence mass public opinion. Yet despite this enormous power, Media executives must stay true to their viewers and present what they think will be of most interest to them. Therefore Media will adapt its forms of information and presentation for its specific audience at specific times.^{xxv} An example would be simplified information in cartoon form for children, and scientific new reports for educated adults. So that a cycle evolves in which the role of media is to collect and distribute the information on the basis of perceived public interest, while the role of the audience is to build their opinion on issues based on the information that was provided to them by the media.^{xxvi}

Television is a way in which information about Environmental issues and phenomena are provided to the general public. Most Environmentalists have formed their opinions and behaviors around the environmental reports of the media.^{xxvii} According to the research of R. Lance Holbert, Nojin Kwak, and Dhavan V. Shah, television news and documentaries do have a positive influence on motivating people to recycle, practice environmentally conscious purchasing, be more energy efficient, and have a sense of environmental stewardship.^{xxviii}

As mainstream press and public openness to environmental issues increases due to higher oil prices, natural disasters such as Hurricane Katrina, and hard science documentaries, networks are working to make more green inspirational shows. Some examples of these new eco-conscious networks are the Discovery Channel, National

Geographic Channel, Home & Garden TV, MTV, and the Sundance Channel. In response to new public environmental concern, sponsors and major corporations want to be associated with these new programs so that they too can be considered green.^{xxix} This is a prime example of the Media feeding the public more opinion forming information based on the perceived public interest in the topic. In terms of the Environmental movement this is a key victory because it creates a snowball effect of more environmentally conscious people demanding more eco-friendly shows, which in turn educate more people in pro-environmentalist perspectives.

The affects of this phenomenon can be seen in a 2007 Gallup poll showing that 44% of young adults between 18 and 34 believe that we need to take immediate and drastic action on the environment, compared with the 38% of adults from 35-54 that feel the same way. The generational difference in opinion is attributed to the Millennial Generation having grown up with recycling, organic food, annual Earth Days, and now being the first generation to feel the affects of climate change.^{xxx} However the role of the Media in this generation's environmental perspective cannot be down played. The main source of environmental information has been through various television programs, documentaries, and the Internet. This can be seen by how the Millennial generation chooses to solve the issues that they are confronted with.

This generation's form of activism is very different from that of former generations who protested wars, marched on the Capitol, and boycotted companies. Instead, they use foresight to create change, by using marketing techniques and technology to bring a larger more diverse group of people to the environmental cause. They are also working to bring environmentally friendly practices into everyday life. This

creates a broader reaching movement that is set on changing the way people live and act. They use innovated ways such as humor, clever blogs, and student movements to get the information out in a positive and modern way.^{xxxix} This use of the Media as a tool to combat environmental problems is proof that the Millennial Generation understands the power of the Media. This may be recognition of the fact that the Media was the source that molded their initial opinions.

Literature Review:

Early Environmental Education Research

David Hutchinson wrote in his 1998 book, *Growing Up Green: Education for Ecological Renewal*, about the importance of working with children between the ages of 6 and 12 to mold their environmental consciousness. He suggests different techniques of doing this, such as cultivating their theories of the nature of the universe, using natural materials such as wood or stones to build a connection between the earth and human history, having the children interact with nature, as well as advocating earth literacy that mimic natural cycles.^{xxxix} Hutchinson's holistic approach to molding an environmentally consciousness in young children would most likely produce environmental responsible people. However Hutchinson's methods are flawed in their limited reach into the population. This type of education would only be supported in liberal societies, which does not address the majority of the child population. Whereas mass media has a wide spanning reach across socio-economic, religious, ethnic, political, and racial lines. More research needs to be done in the realm of combining a holistic environmental educational

approach, such as Hutchinson's, into mass media in order to breed the greatest number of environmentally conscious people.

Elaine Swartz writes in an article in *Ecological Education in Action: Weaving Education, Culture and the Environment*, edited by Gregory A. Smith and Dilafruz R. Williams, about the affects that picture books and stories can prepare competent activists. She focuses on a story in which an entire community of diverse age, ethnicity, and ability come together to create a garden and beautify their neighborhood. She stresses that the most basic books can inspire people to action.^{xxxiii} Swartz picks up on an educational tool that is often overlooked by the educational realm due to its basic simplicity. Many people write off children's books as just that, however more research needs to be done on the actual affects that these simple, clearly articulated messages have on their audiences.

John Bunch, a professor at the University of Virginia, wrote a research paper on the added benefit of using media sources in Aesthetic (art) education. He concedes that it is preferable to have a direct experience so that the students are given the opportunity to form observation skills and personal connections; but indirect learning gives the students the ability to place the specific example into broader, more abstract knowledge and connect it to other preconceived solutions.^{xxxiv} Bunch's approach is very interesting in that it accounts for the fact that many times direct experience is not possible and introduces the idea of supplementing the education with media so that the children at least get some visual and audio conceptualization of what they are studying. This can be very useful for environmental education because many children cannot and should not be able access the

areas that contain the environmental issues that they study. But with an educational television program or movie, they can at least be shown the problem so that when they do encounter it they can recognize the situation.

Klas Sandell, a Human Geography Professor at the University of Orebro in Sweden, did a research project studying outdoor-oriented organizations in Sweden and their affect on Environmental advocacy. He discusses how ecostrategies can be used to utilize nature for developmental reasons. He connects outdoor engagement with the creation of responsible adults that are good social and environmental citizens.^{xxxv} Sandell makes a very good case for using organized outdoor groups to create a mental link between nature and being a socially responsible member of society. Robin Mittelstaedt, Laura Sanker, Beth VnaderVeer also discuss this type of organized camping connection in the form of Residential Camping. Since Residential Camping involves hands-on learning and breeds a connection with the natural world, they found that in a week-long study that it promotes a positive attitude and positive behavior changes in children. It also increases their concepts of interdependence, stewardship, and adaptation to new environments as well as promotes future environmental education and repeated outdoor experiences.^{xxxvi} Both of these studies show that it is vitally important for children to be exposed in an organized way to the natural world in order for them to be environmentally conscious later on in life. These studies highlight the direct interaction with children but further research is necessary to analyze how children that do not have access to these organized outdoor experiences form their connection with the environment.

Role of Media Research

Environmental Education for the Twenty-First Century: International and Interdisciplinary Perspectives, edited by Patricia J. Thompson, focuses on the importance of environmental education in different settings and how they are executed. David Sachsman focuses on the critical role of media as a tool for the government and environmental groups. Mass media, as a culmination of different news and information sources that provides the public with the stories and images, can help to transmit their information to the public and influence popular opinion.^{xxxvii} Sachsman picks up on the importance of the media as the liaison between the information sources and the public, yet it fails to go into how this information affects the public in a way that can galvanize environmental action. David Jernigan and Patricia Wright discuss how the can be media a strategic resource to advance a social movement in their paper *Media Advocacy: Lessons from Community Experiences*. They use social issues in the African-American and Latino community to show how media advocacy can help community organizations get government attention and policy changes.^{xxxviii} These two reports show the link between media and creating public opinion as well as how media can be a tool to get the message of an organized environmental group out to the general public to gain support. More research will need to be done to understand if mass media sources can influence the opinion formation of children and if they are affected by the environmental messages being broadcasted through media.

R. Lance Holbert, Nojin Kwak, and Dhavan V. Shah found in their study of the Environmental Concern, Patterns of Television Viewing, and Pro-Environmental Behaviors, that individuals use media to understand the world around them and their role with it. Television news and documentaries do have a positive influence on motivating people to recycle, practice environmentally conscious purchasing, be more energy efficient, and have a sense of environmental stewardship. Audience receptiveness only increases when it comes to more specialized forms of media that have specific target groups.^{xxxix} Walter Leal Filho, and Monica Villa Bandeira explore how Magazines can be used as an effective environmental education tools. They explain that since magazines have the ability to print specified articles that are directly aimed at certain receptive audiences they can motivate the readers to take environmental action.^{xl} Specified programs such as documentaries and magazine feature articles have a great propensity to communicate information, issues, facts, and case studies that move people to take action. However these mediums only affect those who would be interested enough to subscribe to them in the first place, so therefore more needs to be learned about the effectiveness of these forms of media on galvanizing the general public to change.

Robin Moore explains how direct contact with natural settings are essential for children's health and mental development. Moore argues that natural settings help stimulate all the senses which affords children with different learning abilities an equal chance to understand complex systems. It also integrates informal play with formal learning so that children do not see it as a chore but rather it captivates their attention so that they go in search for further education. However, in the past few years there have been growing

restrictions on children's use of the outdoors due to lack of parks and playgrounds, over protective parents, and few free and safe natural environments. This lack of nature has had a negative effect on child developmental learning skills as they increasingly experience nature in a passive and indirect way.^{xli} Richard Louv describes in his latest book *Last Child in the Woods*, the affect that this indoorification of childhood has had on the current generation in terms of a social malady aptly named Nature Deficit Disorder. He defines the disorder with the symptoms of diminished use of senses, attention difficulties, and higher rates of physical and emotional illnesses. He argues that having direct contact with nature stimulates the senses in a way that calls the observer's attention to the complex ecosystem and natural laws that the modern urbanized world and technology have overtaken. He sites various studies that prove the stress reducing ability and healing power of nature on ill people. Louv calls for the advocating more unstructured outdoor time for children to let their creative abilities develop.^{xlii} Both Louv and Moore talk about the importance of direct contact with nature. Yet out of the generation that would be afflicted with Nature Deficit Disorder, environmentalists are still emerging. More research needs to be done to try to understand if environmentalists can be bred without direct contact with nature, perhaps via media sources.

Research:

In order to try to measure how affective media programs are on the environmentalism of the Millennial generation, I drafted a survey that questioned which types of contact with nature are most affective to them and specifically questioned them about the affects of certain environmental media programs. The survey was specifically

targeted towards students who are part of the Millennial Generation, born between 1980 and 1995, and considered themselves environmentalists. This group was specifically targeted because they had exposure to both nature and an increase of entertainment media available to them. Environmental education programs were also available to them to some extent as well as Environmental education media sources such as *Captain Planet*, *The Lorax*, *Ferngully*, and various recycling programs. The survey's aim was to identify the main source of environmental influence as well as how these affective media in itself was on influencing pro-environmental behavior.

The survey was administered to 50 individual graduate and undergraduate students in five different environment related classes at American University. These classes covered a broad range of environmental topics such as climate change, biodiversity loss, environmental activism, and environmental risk assessment. The students did not have a choice to take the survey, but rather they were distributed to the entire class; however the fact that they had selected these upper-level environmental classes meant that they had some advanced interest in the subject. The fact that this survey was distributed on a very small scale to a very select group of people does make the research biased and unsuitable for broad ranging public generalizations. However being that Washington DC is a center for activists who are trying to make policy changes and that American University is particularly active and has a broad range of student interests, these surveys can be representative of environmentalists who want to make an active change in policy.

The survey starts off with a recording of the birth date of the participant in order to identify if they are part of the Millennial Generation. They are then asked if they

consider themselves part of the environmental movement and in what way. This helps classify the participants in terms of their involvement in the environmental movement and the level of their activity. The time span of when they first became interested in the environment is key to understanding if the participant was affected during their early childhood or if it happened later on in their life. Depending on when they were affected may determine which type of environmental education is most successful. They were then asked to rate which type of environmental encounter was most influential in sparking their Environmental Moment (the time in which they first became aware that the environment was important to them). The different encounters included: outdoor experiences such as camping, hiking, and sleep away camp; exposure through a nature based group such as the Boy/Girl Scouts; while watching a movie; while reading a book; while watching a television show; or within a specific class. Based on their ranking, they were asked to explain which influence was the primary trigger and give a brief description of that experience. The primary purpose of this portion of the survey was to identify which type of educational experience was most influential for the participant.

The second part of the survey focused more directly on the Media's affect on the forming environmental consciousness. The participants were asked to choose how often they partook in: watching *Captain Planet*, watch *Ferngully*, reading *The Lorax*, and Recycling programs. The aim of this question was to understand if these programs had a broad spanning reach and to measure the level of participation in these programs. The participants were then asked to explain how these programs affected them and then if they believed that the media in general had affected their Environmental Moment.

Results and Analysis:

The majority of the participants surveyed were born between 1985 and 1988, which is the standard age of the sophomore, junior, and senior undergraduate community. Out of the 50 people surveyed, most (28%) of the participants were born in 1987, followed by 24% born in 1986, 14% born in 1988, and 10% born in 1985. However the range of participants went from 1977 to 1988, which gives a good 11-year span in which the technological revolution took place and different types of mass media were becoming more prevalent in society.

The majority (91.3%) of the participants classified themselves as environmentalists. This affirms that the survey was distributed to the appropriate audience for which it was targeted. The participants had a variety of ways in which they said that they participated in the Environmental movement. The majority (26%) are currently studying Environmental Issues, followed by 20% working for environmental organizations and another 16% trying to make personal changes in their lives such as increased recycling and energy efficiency. Other actions that participants were taking included being environmentally conscious, encouraging others to be more environmentally friendly, taking part in student advocacy groups, teaching in local environmental education projects, policy advocacy, responsible farming, as well as planning to have future careers in environmental fields. By seeing what type of environmental action the participants have taken, the researcher gains a better understanding of how the participants are defining the Environmental Movement. It can be determined that the surveyed group generally defines being an environmentalist as educating yourself on environmental issues, working for or supporting environmental

organizations, as well as taking personal action to become more environmentally conscious in your own life.

As to when the participants became interested in the environment, 34% were influenced in their early childhood, ranging from preschool through elementary school. Contrastly, only 6% were influenced in middle school, 14% were influenced during high school, and 12% became interested in college. Aside from early childhood, most participants (18%) became involved recently, within the last two years. Others said they became interested on a specific camping and hiking trips, while traveling, and on Earthday. The majority of the surveyed participants became environmentally concerned either in early childhood or within the past two years. This shows that early childhood environmental education is important and early exposure is something that should be studied. The fact that most participants categorized when they became environmentally conscious within schooling brackets shows that there may be a connection between formal education and environmental exposure.

When asked about the affect that each nature experience had on them, the highest percentage (36%) of participants said that an outdoor experience was the most influential, followed by 22.2% saying that taking a class had the most affect, and 12.8% attributing their environmental moment to a book. This data shows that an outdoors experience is the most influential form of environmental trigger. While most of the participants rated nature based community groups (60.4%), watching a movie (47.9%), reading a book (38.3%), watching a television show (53.2%), and taking a class (24.4%) having the least affect on them.

Over all, media experiences including movies and television shows, seemed to have the least affect on the participants. The only type of media that appeared to have an affect was reading environmental books, but due to the wide variation in rating, these results are inconclusive. Nature-based community groups appeared to have had the most conclusive results, with the majority of people rating it ineffective. This outcome may have skewed results due to where the participant grew up and their access to such groups. Either way, it seems clear that most participants did not take part in these types of groups. In contrast to nature-based groups, reading a book had staggering responses that render them inconclusive, with 19.1% rating it mostly affective and 14.9% rated it moderately affective. Class effectiveness was also very split, making overall generalizations about class trends inaccurate, because despite the fact that 24.4% rated it ineffective, 22.2% rated it highly affective, and 20% rated it moderately affective. The polarization of results for reading and classroom experiences may be attributed to a gap in the learning styles of the participants. It seems that some participants have a higher affinity for more formal education, in the form of classes and books, and will hence learn better from those mediums.

	No Affect	Small Affect	Some Affect	Moderate Affect	Mostly Affective	Highly Affected	Response Count
During an outdoor experience (camping, hiking, etc)	18.0% (9)	4.0% (2)	6.0% (3)	14.0% (7)	22.0% (11)	36.0% (18)	50
With a nature-based community group (Boy/Girl Scouts)	60.4% (29)	16.7% (8)	4.2% (2)	12.5% (6)	0.0% (0)	6.3% (3)	48

While watching a movie	47.9% (23)	20.8% (10)	6.3% (3)	18.8% (9)	2.1% (1)	4.2% (2)	48
While reading a book	38.3% (18)	8.5% (4)	6.4% (3)	14.9% (7)	19.1% (9)	12.8% (6)	47
While watching a television show	53.2% (25)	14.9% (7)	8.5% (4)	8.5% (4)	10.6% (5)	4.3% (2)	47
During a class	24.4% (11)	11.1% (5)	8.9% (4)	20.0% (9)	13.3% (6)	22.2% (10)	45

In explaining which was their primary environmental trigger, there was an equal number of people who chose camping/hiking (16%) and reading (16%), followed by 14% saying that an environmental course was the primary trigger. These write-ins confirm the three most highly rated influences of outdoors experiences, classroom exposure, and reading. Although 16% wrote-in that reading was a primary affecter but only 12.8% rated it as most affective; in contrast to 14% saying that a classroom experience was the prime affecter but 22.2% rating it highly affective. This discrepancy may be due to participants citing multiple primary triggers, and hence putting reading books in conjunction with another experience. 12% of participants said that they had their environmental moment while traveling through places such as Ecuador, Costa Rica, the rainforest, Ukraine, and the US. While another 10% said that it was a general outdoor experience. Other environmental triggers include seeing the human affect on the environment, environmentalist family values, environmental school experiences, summer camps, watching an environmental television program, watching an Inconvenient Truth, teaching other social issues, owning pets, learning about climate change, and through farming and hunting. These responses show that most people listed their primary environmental trigger as having to do with exposure to natural environments (camping/hiking, traveling, and general outdoor experience), which confirms outdoor experiences as the most highly

affective environmental trigger. In addition, many participants stated that most of their nature experiences and environmental consciousness was a result of environmentalist parents or role models.

The results for the affect of media on the participants' Environmental Moment revealed that the overwhelming majority (76%) felt that media had no affect on them, with only 18% saying it did affect them and 6% saying it had some affect on them. Specific program participation varied across the board with the exception of Recycling, which had 68% of participant involvement on a regular basis. These results may be skewed due to the fact that based on where the participant was raised the ability to recycle may have varied. However it seems clear that most of the people surveyed were from areas that allowed recycling and they participated in these programs. Most participants "Hardly Ever" watched *Captain Planet*, but the results are not conclusive because 24% watched it "All of the Time" and 26% watched it "Sometimes if it was on." These results may vary due to the age of some of participants, however the majority of people surveyed were at the target age range of the show when it aired. 40% of participants watched the movie *Ferngully* "Sometimes if it was on," but 28% "Hardly Ever" watched it and 24% had never seen it. This maybe due to how accessible and well advertised the movie was in certain regions of the country. The results for the reading of *The Lorax* were the most wide spread and inconclusive, with almost an equal amount of participants in each category; 30% read it sometimes, 26% never read it, 24% hardly ever read it, and 20% read it all of the time. Due to the fact that over one quarter of the participants never heard of the book, it seems clear that accessibility to the book was a

variable that may have affected these results. However there were also numerous write-ins about the significant affect that the book had on participants.

	All the time	Sometimes if it was on	Hardly Ever	I've never heard of that	Response Count
Watch Captain Planet	24.0% (12)	26.0% (13)	36.0% (18)	14.0% (7)	50
Watch Ferngully	8.0% (4)	40.0% (20)	28.0% (14)	24.0% (12)	50
Read The Lorax	20.0% (10)	30.0% (15)	24.0% (12)	26.0% (13)	50
Recycle	68.0% (34)	14.0% (7)	4.0% (2)	14.0% (7)	50

Discussion:

It appears clear from this study that the most affective means of creating an environmental consciousness is through the use of direct nature exposure through camping, hiking, and outdoor experiences. But this is closely followed up with formal education in classrooms and through reading books. That is to say that direct contact with natural settings has a greater ability to connect people to their environment. Once they have that connection, they then seek to further their understanding of the issues that are confronting that natural space through formal education in classrooms and self-education by reading books.

Further research into the primary triggers for environmental interest still needs to be explored. Being that many of the results are inconclusive due to bi-polarization of ratings, it is suggested that another study be done on a broader scale with more

participants in order to achieve more accurate findings. However for the purpose of identifying what part media plays in creating environmentalists, this study shows that electronic media, for the most part, does not play a primary role in sparking environmental interest. Yet it is apparent from the written responses that it can be used as a supplement to gain further knowledge and understanding of the issues.

Based on this survey, the Millennial Generation that pronounce themselves environmentalists took their inspiration from interacting with nature. As many of them became environmentally aware in their early childhood, it appears that playing outdoors and having constructive positive experiences in nature sparked that interest. Environmentalist mentors such as parents, grandparents, and teachers played the greatest role in shaping their opinions and behaviors rather than the media. The role of television shows and movies for them as children mainly served as a message that conserving the environment was cool and made it a socially positive endeavor. Children's environmental books served to teach quick lessons and were mainly used as tools by environmental role models.

For the Millennials that became environmentally conscious recently, it appears that more extreme outdoors experiences, such as experiencing natural settings abroad as well as experiencing the affects of climate change through increased natural disasters, acted as their triggers. Documentaries such as *An Inconvenient Truth* and educational television programs such as *Planet Earth*, were also tools that helped them understand the wider scope of environmental issues and why they needed to be acted upon. Once these interests were sparked, these Millennials started educating themselves more intensely on

the issues of their concern through university classes, books, environmental organizations and jobs.

The role of media in creating an environmentally aware generation varies depending on when the individual first connects with nature to the point that they find it important to conserve. In children, media can serve to affirm the social acceptability of environmental activism and concern, as well as teach quick lessons on environmental morality. In adults, it can serve as an information tool, a vehicle for discussion with others, as well a chance to understand greater issues that would normally be outside the sphere of personal concern.

Suggestions

In order to create the most affective environmentally conscious future generation, it is imperative that they have the ability to create a direct connection with nature. This does not just imply having structured outdoor time, such as recess or playing organized sports, but rather it means taking children into natural settings and letting them explore and experience different ecosystems. This type of nature exposure will have a multitude of beneficial affects for children including developing creative skills, increasing attentiveness, building understanding of complex systems, and creating a personal connection between the child and nature. However, in order to give children the opportunity to develop in this way, nature conservation is of the utmost importance as well as maintaining local wildlife areas. Parents and educators need to take the lead in preserving these areas so that they can introduce and educate children within natural

settings. Through this type of direct exposure along with support from environmentalist role models, children will develop environmentally positive outlooks and behaviors.

Once children have formed a connection with nature, then it is important to reinforce this bond with formal education so that they better understand what they have experienced in conjunction with forming a better understanding of the systems and issues on a broader scale. By incorporating environmental programs, such as recycling, into regular home and school education a child gains the comprehension of what action they can take to protect the environment. Environmental classes that explain ecosystem cycles and cover contemporary issues such as climate change and pollution build the foundation for the child's environmental knowledge base. Once a child recognizes how they are involved in the natural world and how everything affects everything else, they will begin to form their environmental consciousness.

Different types of media should be used as a tool for educators and role models to reinforce environmental ideas and lessons. Books with vivid illustrations can be used to cultivate children's imaginations about far-off ecosystems and further their understanding and curiosity about other natural settings. They can also serve as conduits to addressing moral dilemmas and offering environmental solutions. Participants stated that *The Lorax* and *Lost on a Mountain in Maine* were influential children's books and influential adult literature included *No Man's Valley*, *Sand Country Almanac*, *Mandy Gardens*, *Living Down Stream*, *Song for the Blue Ocean*, *Ishmael*, *Omnivore's Dilemma*, *Monkey Wrench Gang*, *Deep Economy*, *Blue Gold Hope's Eagle*, *The World Without Us*, *Cradle to Cradle*, and *2012:Return to Quetzacoatl*.

Educational television programs can be used to passively teach children about issues by presenting them with an audio and visual experience that allows them to vicariously experience natural settings. They also present the issues in an entertaining manner so that the children do not realize that it is educational and hence will be more receptive to their message. Television shows can also be designed specifically for a target audience of children so as to cultivate shared attitudes and beliefs about certain issues over a broad spectrum of childhood backgrounds. Television's ability to reach so many children gives it the power to send out the message that environmentalism is cool and a socially positive behavior. Participants listed *Captain Planet* and *Bill Nye The Science Guy* as positive children's programs and influential adult programs included History Channel, Discovery Channel, and National Geographics documentaries, as well as the *Planet Earth* miniseries.

Movies can also be used to supplement environmental education because they have the ability to go more in-depth into a story line and draw the child into the issue through connection with the main characters. They have the ability to more fully explain issues and their affects along with solutions to problems and appropriate ways to act. Children are more likely to remember a movie over a television program because of the plot line and the longer vicarious experience of the situation. Participants said the *Ferngully* and *Fly Away Home* had an impact on them as children, while the documentaries *An Inconvenient Truth* and *Too Hot to Handle* were influential at an older age.

The combination of outdoor experience, positive environmentalist role models, classroom learning, interacting environmental programs, books, television shows, and

movies, can cultivate a well rounded and informed environmentally conscious child. This will involve active preservation efforts to conserve remaining local natural spaces and more unstructured playtime. Adults need to educate themselves on environmental issues, natural ecosystems, and environmentally responsible behavior so that they can be effective role models for their children. Schools need to include environmental education and programming into their curriculum and daily practices. More captivating environmental books need to be written as well as increased accessibility to environmental children's books through school and public libraries. New environmentally educational television programs and movies that deal with contemporary issues also need to be produced and made easily accessible to the public through basic cable broadcasting or library investment. But the most important thing to remember is that the information needs to be presented in a fun, captivating, interesting manner with a positive attitude.

Conclusion

The Millennial generation was a unique generation that grew up with equal access to natural settings and an increasing scope of entertainment media in the form of television, movies, and the Internet. Despite environmental television programs, movies, and children's books, the Millennial Generation was mainly influenced by outdoor experiences and formal education. Media education seemed to serve as a supplement to more connective types of education through direct nature experiences and classroom education on issues and natural systems. While most of the Millennials that were surveyed became environmentally conscious through these mediums as children, the ones

that just recently became interested in the environment were more influenced by the media or extreme outdoor experiences and then expanded their knowledge through taking environmental courses. Media has a more passive affect on children because many times they will not remember or do not comprehend the full message of the program, whereas it is more affective on adults because it serves as a quick and easy way to learn about an issue. Therefore it is understandable that as adults, Millennial environmentalists turn more to media sources to spread environmental messages in order to reach the maximum amount of people. This may be a mirroring of how the environmental message was spread to them through media, but is more likely due to the dominance of the media in our contemporary society.

The anomaly of the Millennial Generation lies in the fact that despite outdoor experiences being their main environmental trigger, more and more of them are leaving nature behind and confronting the world from behind a computer screen in an urban environment. While Environmental advocacy has the most far reaching affects through media sources, the connection to nature gets left behind and saving the environment becomes more of a conceptual endeavor than a personal battle. As the Millennial Generation is transforming into the new adult role models this paradox will have to be resolved so that the next generation learns that the environmental message is about connecting with nature.

Many steps need to be taken so that the next generation of children is able to understand and connect with nature in the same way that past generations were able to. Man is a creature of nature and as such must learn his environment in order to survive. The Environmental education of children is not just about learning to respect nature, it is

a lesson on life as a whole. Just as life is multifaceted and must be approached from every perspective, so should environmental education to ensure that the message is understood and appreciated. It is now up to the Millennial Generation to take a lesson from their past and to pass on the lessons of environmental appreciation and responsibility to the next generation of environmentalists.

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