

AN ABSTRACT OF THE THESIS OF

Meagan A. Ledesma for the degree of Honors Baccalaureate of Science in Zoology presented on May 25, 2012. Title: The Relationship Between Spirituality and Energy Use.

Abstract approved:

Bryan Tilt

Understanding the motivations behind the daily energy use practices of individuals may be very important for encouraging people to live more sustainably. This study delves into the motivations that influence the energy use of individuals in Corvallis, Oregon. Using a survey in conjunction with Energize Corvallis, the faculty, staff, and student body of Oregon State University was asked a variety of questions to learn about their spiritual beliefs and their energy conservation practices. Although no overall correlation was found between spiritual beliefs and energy use, it was determined that for many people, spiritual beliefs greatly influenced their desire to save energy. This study recommends that when promoting sustainable energy use practices, evoking the spiritual, ethical, and moral beliefs of people may encourage the most change.

Key Words: spirituality, energy use, conservation, climate change, religion

Corresponding e-mail address: ledesmam@onid.orst.edu

©Copyright by Meagan A. Ledesma
May 25, 2012
All Rights Reserved

The Relationship Between Spirituality and Energy Use

by

Meagan A. Ledesma

A PROJECT

submitted to

Oregon State University

University Honors College

in partial fulfillment of
the requirements for the
degree of

Honors Baccalaureate of Science in Zoology (Honors Scholar)

Presented May 25, 2012
Commencement June 2012

Honors Baccalaureate of Science in Zoology project of Meagan A. Ledesma presented on May 25, 2012.

APPROVED:

Mentor, representing Anthropology

Committee Member, representing Sociology

Committee Member, representing the Corvallis Environmental Center

Chair, Department of Anthropology

Dean, University Honors College

I understand that my project will become part of the permanent collection of Oregon State University, University Honors College. My signature below authorizes release of my project to any reader upon request.

Meagan A. Ledesma, Author

ACKNOWLEDGEMENTS

I would like to thank all of the people who had a hand in assisting me with the onerous task of completing this project. First, my mentor Bryan Tilt, for being there every step of the way, even when that meant being there all the way from China. Also Carly Lettero, whose help and cooperation made the research portion of this thesis possible, and who together with Lori Cramer served willingly as committee members whose contributions improved the quality of not only my paper, but my overall experience. I would also like to thank Energize Corvallis for allowing me to be a part of their survey, whose data is the basis for this entire project, as well as everyone who participated in or worked on the survey. Finally, I would like to thank the good people at pod4print for their wonderful assistance and excellent craftsmanship. I could not have done this without any of you.

TABLE OF CONTENTS

	<u>Page</u>
Introduction: Literature Review.....	1
Methods.....	8
Survey conduction.....	8
Content analysis.....	9
Data.....	11
Groups of respondents.....	11
Themes found about how spirituality relates to energy use.....	12
Themes found about reasons for joining the program.....	19
Results.....	22
Is climate change an ethical issue?	22
What is causing climate change?	23
Reason for participating.....	25
Do spiritual beliefs play a significant role in individual energy use?	27
Discussion.....	29
Bibliography.....	33
Appendix.....	34

LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
1. Is Climate Change an Ethical Issue? Results.....	23
2. What is Causing Climate Change? Results.....	24
3. Results on Reasons for Participating.....	25
4. Does Spirituality Influence Energy Use? Results.....	28

LIST OF TABLES

<u>Table</u>	<u>Page</u>
1. Participation groups and numbers.....	11
2. Themes found about how spirituality relates to energy use.....	12
3. Themes found about reasons for participation.....	20

DEDICATION

This thesis is dedicated to my loving family, without whom this would never have been possible. Thank you all for your support.

The Relationship Between Spirituality and Energy Use

Introduction: Literature Review

With the world's increasing population, humanity's needs for resources are growing rapidly. If no conservation effort is made, then soon the world's natural resources will be depleted. And with the increasing necessity of conservation in today's world, the everyday effort of individuals is important. However, the amount or kind of effort and its impact on conservation is not always the same. There are many different factors that contribute to one's behavior and are the basis for any possible change. Such factors include everyday routines, knowledge base, and motivation (Gram-Hanssen 2010). Some common motivations are monetarily or socially imposed, but often, conservation is important to people because of moral and ethical reasons. Because religion and spirituality can play such a significant role in determining the attitudes and behaviors of individuals as well as entire communities toward conservation, many studies have been done on this topic.

Most articles and books on the subject agree that religion has the power to shape the views of nature of its followers and can be an avenue to affect change. Many religious institutions exist that are trying to create a sustainable world (Gardener 2002). With increasing frequency and importance, religious groups are interacting with environmentalist advocates in order to create positive change (Gardener 2002). As Gary Gardener points out, "religion is an important source of change within individuals and across societies" (2002: 12). It would be unwise for environmentalists to ignore the

positive impact that the support of a religious group could bring to the cause of conservation. Some people also believe that the next step must be for religious institutions and individuals to learn to cooperate with environmentalist groups to advance the effort for sustainability. There are many obstacles preventing this cooperation including the concern of the effects that religious involvement has historically had in societal affairs, as well as disagreement about the role of women, the nature of truth, and the moral status of humanity in the natural order (Gardener 2002). Gardener argues that despite these differences, “religious people and institutions would do well to consider applying their strong assets to the pursuit of sustainability” (2002: 28). The potential that religious groups have to affect change is undeniable.

An article by Jonathan Regosin and Michelle Frankel illustrates Gardener’s point extensively using specific examples from Judaism and Zen Buddhism. Regosin (2010) makes the argument that people everywhere would benefit from understanding the core beliefs of Buddhism because it would lead to changes in behavior that help “turn the tide of needless waste of natural resources” (322). Clearly he believes in the power of Buddhism to exert change in people’s behavior, and his belief carries it one step forward with Judaism. Judaism teaches that humans are interconnected with their environment, which also has a type of divinity, so Jews must be reverent toward nature. According to Regosin and Frankel’s article, the awareness of the divinity of nature is not the goal, but rather the avenue to engage in enlightened behavior: “This awareness of the sacred permeating the world around us compels the individual and community toward a posture of reverential restraint that guides interactions with the environment” (2010: 322). One example they give is how the Sabbath inspires conservative actions because of the

prohibitions of work and electronics (Regosin 2010). Regosin, Frankel, Gardener, and many others clearly believe in the power of religion to affect positive change for the environment.

Although most articles on the topic of spirituality and conservation focus on the positive impacts of religion on conservation efforts, some focus on the negative ramifications of certain religious beliefs. One example most people are familiar with is the passage in Genesis that depicts a hierarchy with God at the top, followed by humanity, and nature at the bottom. The Bible describes how God created everything in the world for the sake of humans, and people famously use this fact as an excuse to desecrate the Earth's natural resources (Tomalin 2004). Emma Tomalin's article on the affects of biodivinity (belief that the Earth is sacred) on conservation in India argues that the recognition of biodivinity does not mean someone is an environmentalist (2004). Traditionally there has been a focus in parts of India on the protection of places deemed "sacred groves." However, in recent years, these revered places have been paved in order to build temples on sacred grounds. This is very similar to what Matthew Hall notes in his article about how the beliefs of religions vary greatly in regard to how they view the environment. He explains, "It is not enough to rely on the idea that sacred places may act as de facto biodiversity reserves, because sacred sites can still be overexploited." (Hall 2009: 720) The paving of sacred groves in India is a classic example of the exploitation of a sacred place. Anyone can see that this practice is a step backward for conservation in India. Another article by Kristina Tiedje (2007) outlines the dangers of using the word "sacred" in modern times. Most people make a connection between the belief that nature is sacred and many indigenous religions across the world, and because of this there is

often a stigma to it. Especially in recent years with the increasing tension between indigenous groups and invading outside parties, indigenous people are increasingly adopting a sacred status when asserting their rights to land (Tiedje 2007). Often, this has resulted in a government-imposed restriction of indigenous people to those designated “sacred sites” (Tiedje 2007: 326). Another ramification of sacred areas is much more historically prominent, and that is battle (Tiedje 2007). When two or more differing groups all consider a location sacred, grudges can be held, war can be fought, and it is often the environment, that very spot they are hoping to protect, that suffers.

Despite all of the information available about the relationship between religion and spirituality and conservation, there are many obvious gaps in the knowledge on this subject. There are many case studies done on various cultures and how they achieve conservation through religion like Subrat Sharma’s study in Central Himalaya (1999), Wapulumuka Mulwafu’s project in Colonial Malawi (2004), Jerry Jacka’s article focused on Papua New Guinea (2010), and many more. As would be expected for case studies, these articles focus on how religion helped to shape general cultural conservation practices such as agricultural practices, the protection of sacred sites, and respect for animals. They do not seek to determine how religious and spiritual beliefs help shape the every day behavior of the people involved, and they do not focus on a typical group of Americans. Although they ask important questions, these articles leave a large gap in the literature to be filled by studies delving into the relationship between spiritual beliefs and daily energy conservation behaviors of average Americans. One article by Gram-Hanssen did a study of a group of people in the United States participating in a project to help reduce their standby consumption in households. However, Gram-Hanssen did not ask

any questions about religion or spirituality and its impact on reducing energy consumption. She did an entire section about motivation, but for the most part conservation was barely considered a factor for most of the people in her study (Gram-Hanssen 2010). The studies that strive to deduce the impact that spiritual or religious beliefs have on conservation do not focus on daily energy use practices or Americans, and the studies that focus on Americans and their daily behaviors toward energy use do not inquire about spirituality at all. Unanswered questions about religion and conservation are focused around Americans, their daily behavior regarding conservation, and how their views on spirituality and religion help to shape their behaviors. An article by Leo Marx (1992) comments on the ambiguity of the social role of scientists and engineers. Much of the public is turning toward scientists for the answer to the globe's environmental crisis, while others place all of the blame upon them. In this piece, Marx explains that scientists need to turn toward historians, literary scholars, philosophers, and others in the social sciences and humanities in order to uncover how people regard the environment. Marx quotes Ralph Waldo Emerson as saying that "the views of nature held by any people determine all their institutions," which clearly explains why it is so necessary to understand how people view the environment. He then goes on to discuss how religion, and specifically Christianity, can play a major role in determining how an individual views the environment. If religion or spiritual views influence how people view nature and those views of nature determine their institutions and how they will treat the environment, then this link is worth investigating

It is here that my study is working to fill in this gap in knowledge. This study is aimed to get a sense of the impact that religious or spiritual beliefs have on the

motivations of daily conservation behaviors of people in the Corvallis, Oregon area through their energy use practices. Its goal is to study the link between the spiritual values and behaviors of an individual and their values toward the environment. In collaboration with the organization Energize Corvallis, responses to questions regarding their religious or spiritual strength of belief and intensity of practice as well as their energy use practices were elicited from individuals on the local college campus, Oregon State University. My goal is to see if there is any quantifiable evidence of a correlation between spiritual beliefs and overall attitude towards energy use, which is an example of behavior towards the environment, of people in the study. Also to be examined are other aspects of conservation, or environmental behavior, such as reduced carbon emissions and water use and a general sense of whether people consciously consider their spiritual beliefs when making decisions about conservation.

Conservation is becoming an increasingly important issue. Because it is so imperative, it is vital to understand the motivations behind conservation efforts. Some motivations may be money or peer pressure, but religious and spiritual views may also play an important part. It is well understood that religion can shape our views of nature as well as be important for initiating change, and it is the most understood on a community level. Many studies have been done on groups outside of the United States about how religion impacts their conservation practices regarding agriculture and sacred sites, and some even outline the negative environmental consequences of religion. However, studies do not focus on the *daily behavior* of Americans and understanding how spiritual beliefs impact their energy use. My study is working to understand better this connection between religion and everyday energy conservation. A better

understanding of the motivations of people's every day behaviors could be the key to advancing conservation efforts further. Great acts of conservation such as reducing logging, preventing over-fishing, or designating protected areas like national parks can only go so far. In the end it is not up to governmental agencies or large corporations to save the planet. In addition to the large project efforts made by both private and government organizations, individual efforts to reduce the overall need for natural resources are essential to help save the environment for future generations.

Methods

Survey conduction

In order to determine the general relationship between spiritual beliefs and energy use, I participated in the conduction of a survey on the Oregon State University Corvallis campus about the every day conservation practices of individuals including energy use, carbon emissions, and water consumption by Energize Corvallis. As a collaborative program between the Corvallis Sustainability Coalition and the Corvallis Environmental Center, a program of the Corvallis Environmental Center called Energize Corvallis conducts surveys to evaluate views on climate change and challenge respondents to take on new conservation practices including behaviors to reduce energy use and carbon emissions. My questions inquire into the religious and spiritual beliefs of individuals, and pair informatively with the questions about energy use.

The survey was conducted in the month of April 2012. On April 2, the pre-survey was sent to members of the Oregon State Corvallis community in an e-mail asking them to take part in the Campuses Take Charge program. After filling out the survey about current everyday practices and spiritual beliefs, respondents were challenged to select a few items on a list of other practices not already done regularly to reduce their energy use, water consumption, carbon emissions, waste production, etc. At the end of one month, beginning on April 30, a post-survey was conducted, inquiring into the success of respondents in adhering to the new practices they agreed to take on at the beginning of the month. All questions analyzed in this study can be found in the Appendix. Out of

522 total respondents in the Campuses Take Charge program, 493 answered enough questions to be included in this study.

Content analysis

I conducted a content analysis of the answers to the spirituality questions of the respondents. This analysis included an open-ended question asking individuals to link their spiritual beliefs and energy use practices and six scaled statements, three each about strength of beliefs and intensity of practice. I split the respondents into categories based on their level of agreement with the statements out of five choices: Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree. Based on their responses, I created nine categories to group respondents with similar ratings together.

Once I sorted the responses into categories, I examined the difference in the energy use practices between categories. Research questions I examined included how do the spiritual beliefs and behaviors of an individual correspond, if at all, to every day behaviors toward energy use? How do spiritual beliefs correspond to behaviors about carbon emissions and water use? Is there a general difference seen in the daily practices of those who acknowledge that spirituality plays a part in their energy use versus those who don't?

To answer these questions, I took the following steps. First, for the open-ended question about spirituality and energy use, I read the full responses multiple times and analyzed them for the presence of themes, or “analytical categories”, that unite multiple units of text, in this case responses to survey questions, into groups based on similarity (Bernard 2006: 492). I chose the themes and named them with direct exemplar

quotations from the text based on repetition, word use, and similarity (Bernard 2006: 494). I then sorted all responses into one of eleven groups based on the themes present in the text. Once the themes were identified, I calculated the percentage of each theme contained in each category of respondent.

Similarly, I analyzed the answers to the open-ended question about each respondent's reason for participating in the program using content analysis, searching for common themes, as outlined above. Finally, for each group of respondents, I calculated the percentage of each of the following answers for the question "Do you think climate change is an ethical issue?": Yes, No, and I Don't Know. Once I analyzed all the responses for each group, I examined them closely for trends within groups and also cross-examined for any significant differences between groups to see if spirituality has an impact on the answers to these questions.

Data

Groups of respondents

Each respondent was asked to rate their level of agreement with six scaled statements about their spirituality, three questions delved into the respondents' strength of beliefs and three into their intensity of practice. The statements all had five options for levels of agreement: Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree. Based on these responses, nine groups were created to reflect degree to which individuals have spiritual beliefs and practice them. The groups and the number of respondents in each group can be seen in Table 1 below.

Table 1. Participation groups and numbers

Group Description	Number of Respondents
(1) Strong spiritual beliefs and intense practices	106
(2) Strong spiritual beliefs and neutral practices	47
(3) Strong spiritual beliefs and weak practices	29
(4) Neutral spiritual beliefs and intense practices	9
(5) Neutral spiritual beliefs and neutral practices	60
(6) Neutral spiritual beliefs and weak practices	75
(7) Weak spiritual beliefs and intense practices	0
(8) Weak spiritual beliefs and neutral practices	7
(9) Weak spiritual beliefs and weak practices	160

It should be noted that group 7 was included for thoroughness, even though there are no respondents who were identified as fitting the criteria. This makes sense as people with weak beliefs would have nothing to practice intensely.

Themes found about how spirituality relates to energy use

After analyzing the responses to the open-ended question asking respondents if their spiritual beliefs affect their energy use, it was found that most responses (438 out of 493) expressed views related to at least one of ten themes. Some responses expressed multiple themes, while others expressed none. Most people (246 out of 493) said simply yes or no that their spiritual beliefs influence their energy use practices. When respondents elaborated, the themes found in their responses ranged from conscientious explanations about how energy use is influenced by their ethics and morals, respect for other people or future generations, or their desire to take care of the earth to practical explanations about how reducing energy use is logical or saves them money, as seen in Table 2. Not all respondents chose to answer this question, and some of those who did admitted that they do not know the answer.

Table 2. Themes found about how spirituality relates to energy use

Theme	Number of Respondents	Description
(1) No	219	Contains simple responses whose only message is that their spiritual beliefs do not affect their energy use
(2) Yes	27	Contains simple responses whose only message is that their energy use is influenced

		by their spiritual beliefs
(3) I don't know	11	Contains responses indicating that the individual is uncertain whether or not their spiritual beliefs in any way affect their energy use
(4) Ethics and morality	35	Contains responses indicating that energy use is an ethical and moral issue, or that the individual's intention to save energy stems from integrity or a desire to do the right thing
(5) Stewards of the earth	67	Contains responses indicating that humans have a God-given role as stewards of the earth or that the individual wants to save energy out of respect for the earth or a caring for the environment
(6) Respect for others	32	Contains responses revealing the individual's desire to protect the environment out of respect for other people including their families, future generations, and the underprivileged
(7) Common sense	11	Contains responses indicating that reducing energy use makes sense, is logical, efficient, pragmatic, or that the individuals used their education and knowledge of facts to make their decision on the subject
(8) Way of life	11	Contains responses indicating that spiritual beliefs are a way of life and therefore guide daily decisions about everything including energy use practices

(9) Everything is connected	10	Contains responses indicating that everything in the world is connected, so their energy use impacts the rest of the world as a whole
(10) Save money	7	Contains responses indicating that the economy or saving money plays a large role in deciding the individual's amount of energy use
(11) Miscellaneous	30	Contains responses that did not fit into the other theme categories or no themes emerged

The first three themes, “No,” “Yes,” and “I Don’t Know,” consisted of very simple answers usually only a few words long. Individuals whose responses fell in the first theme most commonly answered with the single word “no,” although some responses varied to phrases such as “nope,” “not at all,” or “not really.” The only overall message of responses with this theme is that these individuals do not believe that their spiritual beliefs in any way influence their energy use, without any in depth explanation as to why. Some people did, however, explain that they are not spiritual or have no religious affiliation like the person who said “I am not spiritual, so, no,” while others indicated that they do have spiritual or religious beliefs, but don’t see a connection between the two as seen in this response: “No. I don’t relate conserving energy to my religious beliefs.” A few of the responses seemed confused or baffled by the question as though the individual could not fathom a reason why someone’s spiritual beliefs would influence their energy use, which is exemplified by the response, “How on earth would they?” Overall, responses in Theme 1 had one message: spiritual beliefs do not influence their energy use.

The second theme generally contained responses of only a few words, most commonly, “yes.” The rest of the responses had one main message, which was that spiritual beliefs do influence their energy use without an in depth explanation why. Some people mentioned that this was something they had not considered before, but after being asked to think about it, they came to the conclusion that spiritual beliefs do affect their energy use, as illustrated by the answer, “I haven’t really thought about it before, but I can see how it would.” Similar to Theme 1, Theme 2 included individuals with spiritual beliefs and those without them. Certain people identified their lack of spiritual beliefs as having an impact on their overall energy use: “My lack of spiritual beliefs definatley [sic] does.” Overall, the one message seen in Theme 2 is that spiritual beliefs do influence their energy use.

Theme 3 consists of responses expressing that the individual is uncertain what impact their spiritual beliefs have on their energy use. Most responses were short such as “Possibly” or “I’m not sure,” though others gave a few sentences about how the individual had not thought about the subject before. The only overall message of Theme 3 is that the individual does not know how much their spiritual beliefs affect their energy use.

The fourth theme included a variety of responses all involving ethics and morality. Most people directly used the word ethical or moral in their answer, while some talked about doing the right thing or their integrity. One person reported, “I think my morals play a significant role in my energy use,” and another using the word ethical said, “I don’t know that SPIRITUAL [sic] beliefs do, but ethical ones do.” Many people expressed their belief that helping the environment is the right thing to do, which is why

they want to reduce their energy use. For example, one person said “Yes I choose to do what is right.” Another wrote, “I just try to do what I think is right.” Some people combined these phrases making statements like “I try to cut back because ethically and economically it’s the right thing to do.” These responses were grouped together because ethics is the philosophy of morals, and morals define what is right and wrong. The responses all expressed the same theme, that energy use is an ethical/moral issue of right and wrong.

Many people regardless of spiritual beliefs expressed a desire to help the earth or the environment, and those responses were grouped under Theme 5. A common phrase mentioned in responses in Theme 5 was “stewards of the earth” as seen in the answers “I believe we should be stewards of the earth,” and “I believe that I should be a good steward of the planet and reduce my impact.” Others did not directly mention stewardship, but did mention caring for the earth or the environment. One person said “I believe in looking out for the planet...” while another expressed the idea by saying, “In some way the protection of the earth we live in is very important.” Although they had different reasons why (e.g. respect for the earth and others, responsibility given by God, etc.) all of the responses in this theme emphasized caring for the earth and the environment.

Theme 6 includes responses in which the individual emphasized respect for other people. Some people explained that what they do, such as their energy use, affects others, so they want to reduce their energy use for those people, which was exemplified by the response, “They do, because my education [sic] has taught me that my energy use negatively [sic] effects others. Therefore, reducing energy use is better for other people

and is an obligation.” It was common for individuals to mention future generations like the person who said, “I believe we have a duty to future generations to change our behavior,” or all of humanity like the person who said, “My concern for energy and water use is rooted in a concern for humanity and its continuation in this century and (hopefully) far beyond,” and one person even mentioned their family. One of the most compelling arguments of this theme, however, was those who brought up the poor or homeless of the world who will be the most affected by a changing climate as seen in the response that said, “It [spirituality] also impacts my thinking around justice in that climate change will probably have its earliest and most significant impact on the poor and marginalized people of the world – those who already are lacking in basic resources to support daily living will now be even more challenged.” Overall, the responses with this theme all mentioned the importance of energy use for other people.

Many people expressed in their responses that reducing energy use makes sense, and these responses were grouped together in Theme 7. Responses in this theme are all connected by one thing: logic. Some people said that reducing energy use is logical, that it makes sense, or that it is common sense, as seen in the answers, “I rely on logic and reasoning for reducing my energy waste,” and “Common Sense play a significant role in my energy use....” Others talked about their education or the use of facts to make an informed decision about the issue. For example, one person said, “No, my education and understanding of facts plays a role on my energy usage [sic].” Still others expressed that this is a pragmatic issue or their desire to be efficient. Despite the wide variety of responses in Theme 7, the overall message was that the individual used their mind and reason to determine their beliefs about energy use.

The eighth theme found in responses was that spiritual beliefs are a way of life. These responses were all united by the idea that spiritual beliefs impact everything that someone does, even seemingly trivial, everyday behaviors such as energy use practices. Some people gave examples of decisions their spiritual beliefs helped to guide such as becoming a vegetarian to eat food that requires less energy to grow, purchasing food from a store that promotes sustainability, etc. Others were broader in their responses like the person who said, “Yes, if my decisions are influenced by my spirituality then, my energy use would be affected,” indicating that spiritual beliefs help guide all aspects of their lives. Overall, the message of Theme 8 is that spiritual beliefs impact daily decisions, which therefore would include energy use practices.

Theme 9 consists of responses that express how everything is connected. All responses in this theme used some variation of the word “connected” even though they referred to a variety of points that are connected or talked about being a part of something bigger. Commonly people expressed a connectedness between everything on earth, like the person who said, “I consider myself spiritual in the fact that I believe there is a larger connection between everything on earth. In that sense, yes, it does, because energy conservation benefits all and helps support the Earth,” while others expressed a connectedness between all living things or the entire universe. The main message of Theme 9 is that because everything is connected, individual energy use impacts other people and other things, so humans have an obligation to use energy responsibly.

Surprisingly few responses mentioned money or the economy, but those that did were grouped into Theme 10. Most of the time saving money was not the dominant theme present in a response, but rather added as a side note, tacked onto the end, or

lumped together with another underlying cause as seen when one individual wrote, “Spiritual behavior is personal and the society/economy determines much of my energy use.” Some, however, admitted that their only desire behind saving energy is to reduce their power bill: “No, my energy use habits are driven entirely by economics.” All of these responses included words like money, economy, or cost, making the overall message behind this theme a desire to spend less money on energy.

In addition to these ten themes, there were many responses that expressed themes that did not fit together with many others, so they were termed “Miscellaneous.” Some of the Miscellaneous themes included a karmic view of the universe (3 out of 493), the desire to keep the environment clean for health reasons or outdoor hobbies, the individuals satisfaction, and many more.

Themes found about reasons for joining the program

Responses to the question about the respondents’ reasons for joining Campuses Take Charge were also analyzed, and eleven main themes were identified. As with all of the questions, not all individuals answered the question, but those that did (435 out of 493) expressed ideas related to themes ranging from their desire to reduce their energy use or save their earth to their intention of earning extra credit in a class or receiving complimentary merchandise. Many responses included multiple themes, all of which were accounted for in the analysis. All themes can be seen in Table 3.

Table 3. Themes found about reason for participation

Theme	Number of Respondents	Description
(1) Perks	109	Contains responses indicating that the individual wanted extra credit for a class, free gifts such as a water bottle, sunglasses, or coupons, or saving money on bills
(2) Conserving energy	114	Contains responses indicating that the individual is interested in helping out by reducing their overall footprint, which may mean energy use or carbon emissions, or increasing sustainability
(3) Saving the earth	44	Contains responses indicating that saving the earth or the environment is a priority
(4) Fun/interesting	35	Contains responses indicating that Campuses Take Charge sounded fun, challenging, or interesting, or that the individual wanted to try something new
(5) Easy	16	Contains responses indicating that Campuses Take Charge sounded easy or simple
(6) Important cause	62	Contains responses indicating that saving energy and conservation is important, worthwhile, or a good idea that the respondent likes
(7) Learning about the topic	22	Contains responses indicating that the individual wanted to learn about new sustainable practices or get new ideas

(8) Doing their part	29	Contains responses indicating that the individual wanted to do their part or make a difference
(9) Insistence of others	30	Contains responses indicating that other people encouraged or insisted upon the individual participating in Campuses Take Charge, often by a friend also participating who wanted company
(10) Encouraging others	11	Contains responses indicating that encouraging others to get involved, raising awareness for sustainability or becoming a role model were important factors

Results

Is climate change an ethical issue?

All respondents were asked the question “Is climate change an ethical issue?” with three possible responses of “Yes,” “No,” and “I Don’t Know.” All but one of the 493 respondents included in this study answered this question; 335 individuals (67.95 %) selected “Yes,” 85 (17.24 %) selected “No,” and 72 (14.60%) selected “I Don’t Know.” Out of the groups of respondents made based on the spirituality questions that can be seen in Table 1, all had a higher percentage of individuals who selected “Yes” than either of the other two options, as depicted in Figure 1. Groups 1, 2, and 3 that are identified as having strong spiritual beliefs all had a higher percentage of individuals who view climate change as an ethical issue than any other group, with the exception of group 9. Although the first three groups may have a higher “Yes” percentage than most of the other groups, it is not a large difference. All groups had “Yes” percentages between 55.56 and 82.76 percent, with a mean of 66.13 percent, when group 7 is excluded. Overall, spiritual beliefs do not appear to make a significant difference in whether or not individuals view climate change as an ethical issue.

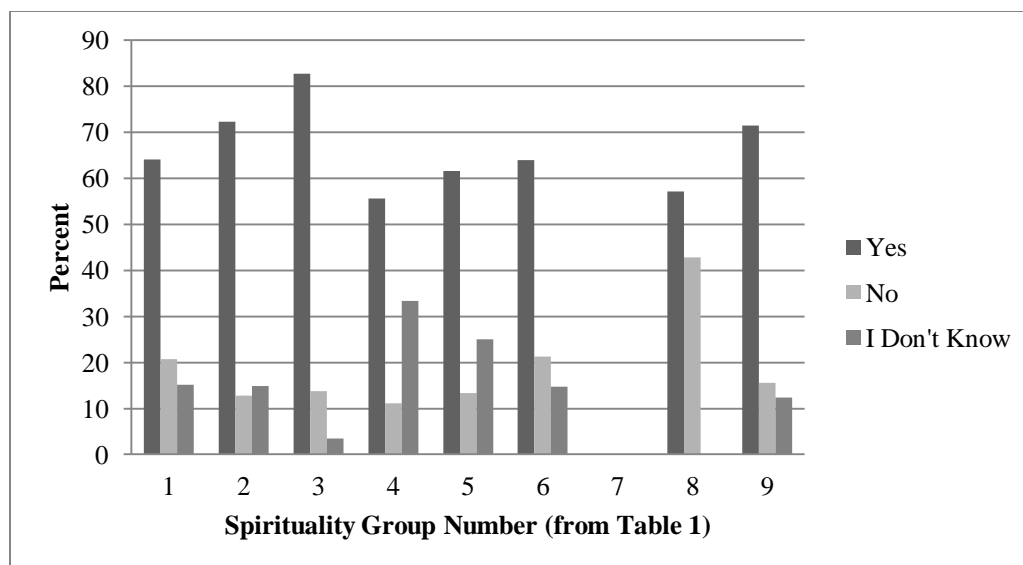


Figure 1. Is Climate Change an Ethical Issue? Results

What is causing climate change?

One question asked of the respondents was about the cause of climate change today. It was a multiple choice question with options such as “Caused mostly by human activities,” “Caused mostly by natural changes in the environment,” and “Caused by both human activities and natural changes.” After tallying all of the responses, the vast majority of people chose one of the three answers listed above. All 493 respondents answered the question with 151 (38.54%) selecting “Caused mostly by human activities,” 26 (5.27%) selecting “Caused mostly by natural changes in the environment,” and 267 (54.16%) selecting “Caused by both human activities and natural changes.” Of the remaining ten respondents, six indicated that they don’t know the cause behind climate change, three expressed the belief that climate change is not happening, and one selected “Other.” In order to determine if there is a correlation between believing that climate

change is (or is not) an ethical issue and belief about the cause of climate change, the percentage of individuals that selected each cause was calculated for each group “Yes,” “No,” and “I Don’t Know” from the question about believing climate change is an ethical issue. The results can be seen in Figure 2.

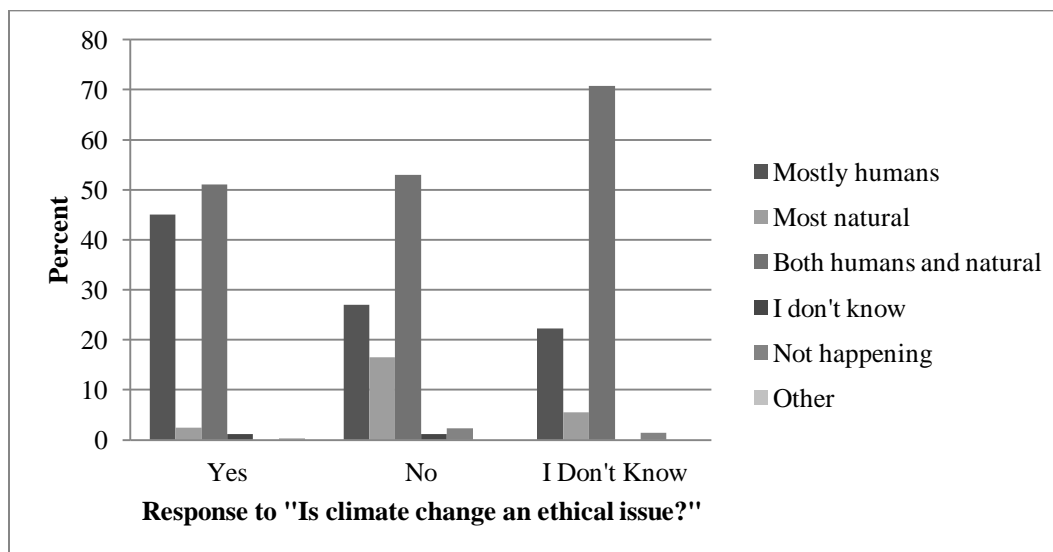


Figure 2. What is Causing Climate Change? Results

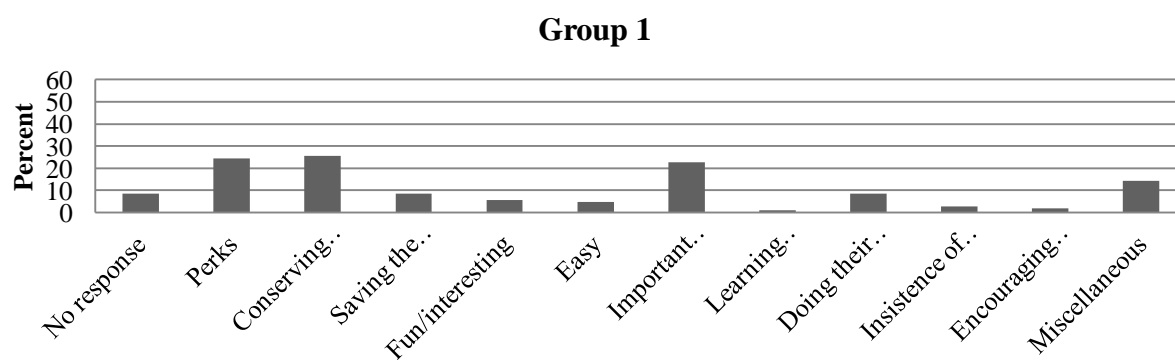
Figure 2 clearly shows that the group of people who believe climate change is an ethical issue has the highest percentage of people who believe it is caused mostly by humans. Within this group, very few people believe it is mostly natural or are unsure, which explains part of why they believe it is an ethical issue. Figure 2 also shows that the groups with the highest percentage of people who believe climate change is mostly caused by natural events are those who do not believe climate change is an ethical issue or are unsure. The few who believe climate change is not happening are also found in the two latter groups, which makes sense since one must believe climate change is happening to believe it is an ethical issue.

Reason for participating

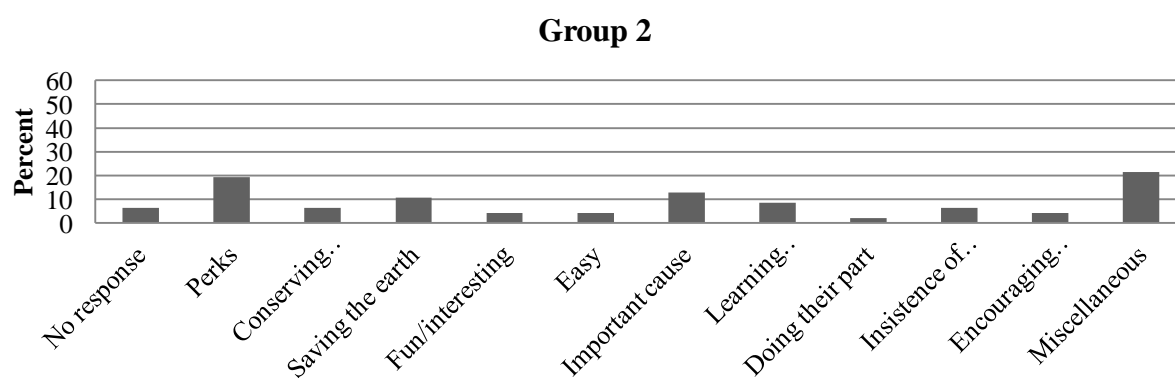
The respondents were asked an open-ended question about their reasons for participating in the program. After organizing their responses into categories with common themes, it becomes apparent that there is no trend of similar responses within any of the spirituality groups from Table 1, as can be seen in Figure 3. The most common reasons for people to join the Campus Carbon Challenge were to conserve energy and for perks such as extra credit in a class, coupons, or free gifts like a water bottle or pair of sunglasses.

Figure 3. Results on Reasons for Participating

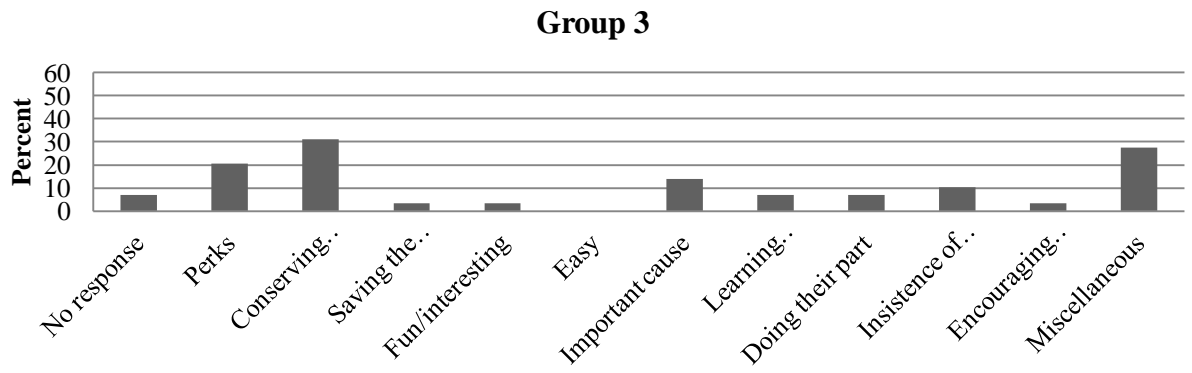
A)



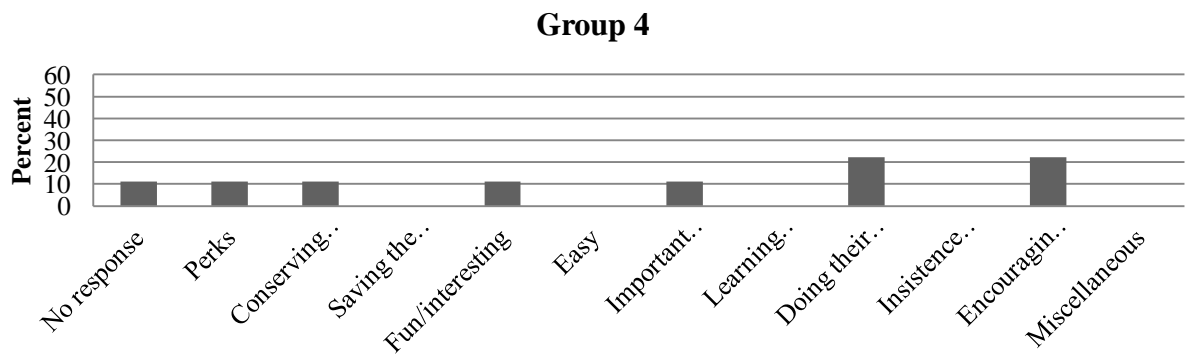
B)



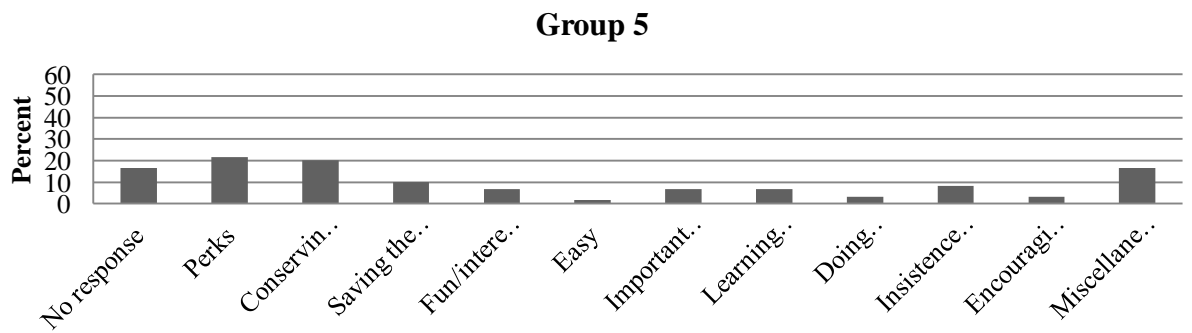
C)



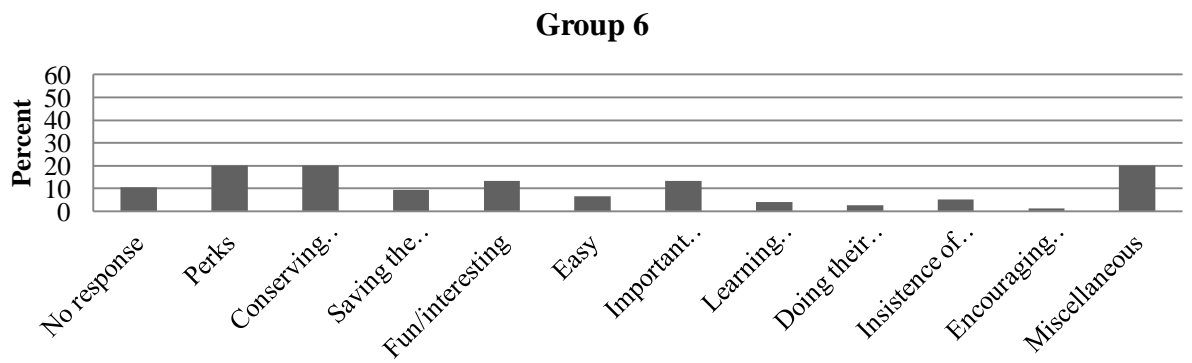
D)



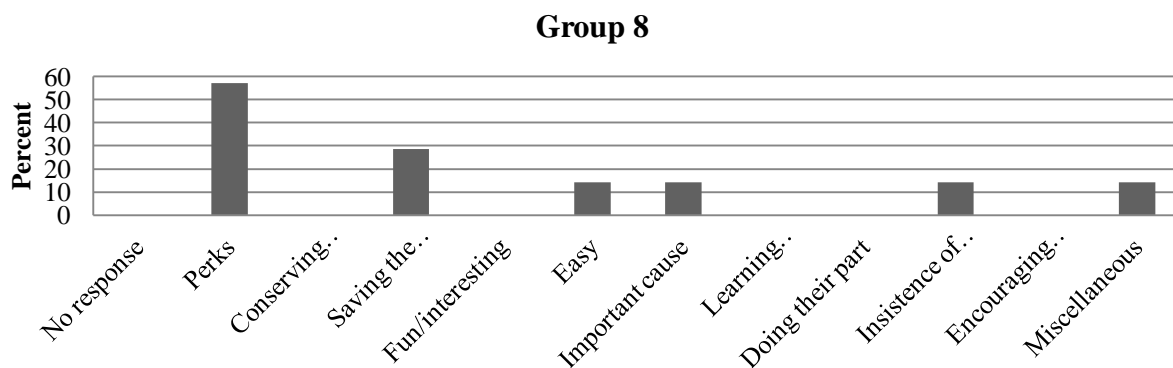
E)



F)



G)



H)

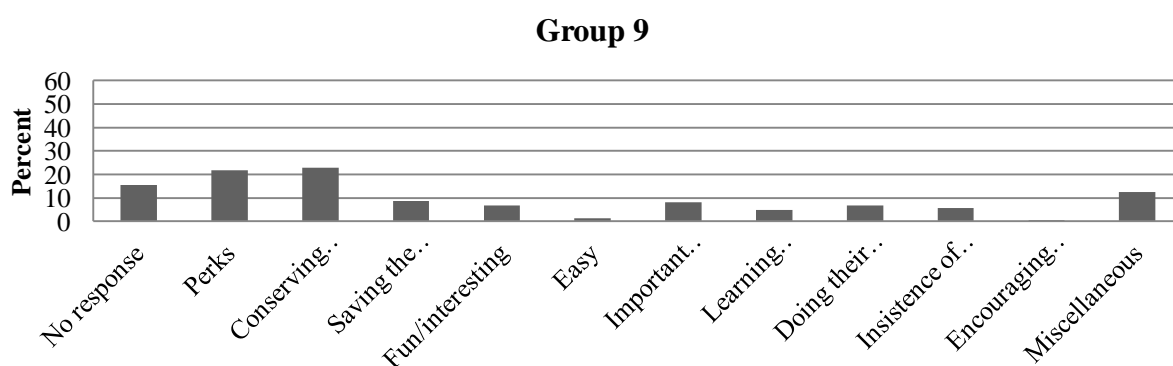


Figure 1. A) Shows the results for group 1 and the most common reasons for participating: Perks, Conserving energy, and Important cause. B) Shows the results for group 2 and the most common reason for participating: Perks. C) Shows the results for group 3 and the most common reasons for participating: Perks and Conserving energy. D) Shows the results for group 4 and the most common reasons for participating: Doing their part and Encouraging others. E) Shows the results for group 5 and the most common reasons for participating: Perks and Conserving energy. F) Shows the results for group 6 and the most common reasons for participating: Perks and Conserving energy. G) Shows the results for group 8 and the most common reason for participating: Perks. H) Shows the results for group 9 and the most common reasons for participating: Perks and Conserving energy.

Do spiritual beliefs play a significant role in individual energy use?

When asked if respondents believed that their spiritual beliefs played a significant role in their energy use, the answer was overwhelmingly no. Out of the 439 respondents that answered this question, only 135 (30.75%) of them gave answers indicating that they do believe their spiritual beliefs impact their energy use. 293 (66.74%) individuals said no, and the remaining 11 (2.51%) indicated that they were unsure of the affect their

spiritual beliefs had on their energy use. As seen in Figure 4, the distribution of answers differed greatly between groups.

Figure 4. Does Spirituality Influence Energy Use? Results

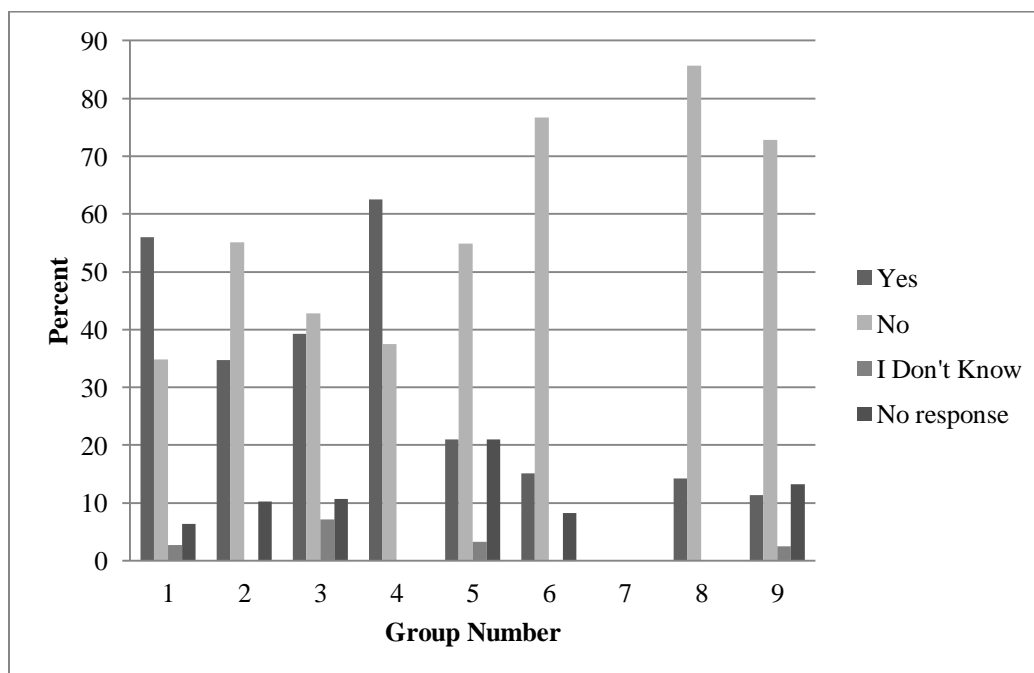


Figure 4 clearly depicts that the first four groups, united by strong spiritual beliefs and/or intense practices, all had significantly higher percentages of individuals who answered yes than any of the other groups. Groups 1 and 4 are also the only two groups that had more people that said yes than no within their own group, and despite the fact that groups 2 and 3 had more people that indicated no than yes within their group, the distribution was much closer to even than any of the other remaining groups.

Discussion

Overall, there was not very many significant differences found in the data between groups of those with strong spiritual beliefs and those without them. Regardless of spiritual belief, most people believe that climate change is an ethical issue, though there are some with every variety of spiritual belief that believe it is not, and those who are unsure. People's belief about the cause behind climate change impacts their belief about whether or not it is an ethical issue. In this study, those who believe climate change is caused entirely by humans more commonly believe it is an ethical issue than those who believe that climate change is caused entirely by natural events. Similarly those who believe climate change is not happening exclusively believe it is not an ethical issue or are unsure. Just as with their views on climate change, people's reasons for joining the Campus Carbon Challenge varied regardless of spiritual beliefs with the most common reasons being to reduce energy and to gain complimentary gifts. Despite the lack of correlation between spirituality and reason for participating in the program, what became clear during the analysis is that for many people, spiritual beliefs are a driving force in their desire to save energy and live more sustainable lives, particularly for those respondents with strong religious beliefs or practices

Some people said simply that yes, they believe their spiritual beliefs play a role in their energy use. However, others explained in more detail how their spiritual beliefs influence their attitudes toward energy use. Responses varied greatly, but a few important themes took shape, appearing in many different answers. Some people explained that their spiritual beliefs are a way of life and guide everything in their lives

including their ideas about the difference between right and wrong and how that might apply to their environmental practices. Others expressed their feeling of responsibility to be good stewards of the earth and caring for the environment that they have been given. Karma was not a very common spiritual belief, but still present in the results. People expressed the belief that if they do good things, like living sustainably, then good things will happen to them. Similarly, a few people said that their spiritual beliefs tell them that everything is connected. Therefore, what they do to the environment affects themselves and others, and this makes them want to save energy. Finally, one of the most common themes was that spiritual beliefs made individuals feel that saving energy was another way of being respectful to others. Using energy is tolling on the environment, which is shared by all people, including future generations, and therefore we should not waste it. Also, the first people to be affected by a changing climate, which may be influenced by our energy use, such as carbon emissions, are the underprivileged. Poor and homeless people that do not have away to protect themselves from the elements will be the most vulnerable to significantly higher and/or lower temperatures.

Even those who said that their spiritual beliefs do not play a role in their energy use expressed similar ideas about what influences their desire to protect the environment as those who said yes. Many people separated the idea of ethics/morality and spirituality saying that for them energy use was not a spiritual issue, but an ethical and moral one. This is interesting given that other people explained that their spirituality determines their ethics, which then influences their conservation practices. Similarly, there were people who said no, spiritual beliefs do not affect their energy use, rather their energy use was greatly affected by their desire to be respectful toward or help others and future

generations. At the same time there were people who found a responsibility to future generations to be a spiritual idea.

One of the main goals of this study was to help understand the underlying motivations of individuals to save energy, and identify any part that spirituality may play in those motivations. It is clear from the findings about motivations to save energy that for many individuals, spirituality plays a significant and positive role toward encouraging sustainable energy use practices even if spirituality did not have a significant affect on the answers to other questions. Even for those who do not identify their motivations as having spiritual roots, many of the ideas and feelings of responsibility are the same. One enthusiastic respondent expressed the same sentiment that made this study so important: “Energy reduction takes a scientific spin in the media but I believe a spiritual or ethical spin is the one that will capture more people’s attention and commitment because they understand it, even if they don’t understand science.” By understanding that spirituality, ethics, and morals are in the forefront of so many people’s minds when discussing the subject of energy use, this statement is more important than ever. If we are to encourage individuals to conserve energy to save the environment for ourselves and for future generations, spirituality will play a very important role.

The key to increasing the world’s conservation effort, and therefore progress, may be to unravel and encourage the positive influences in the every day practices of individuals. Motivation is one important factor that contributes to the behaviors of people around the world. Understanding not only that spiritual beliefs are an imperative motivation for some people, but why and how they are influential, can be the basis for encouraging positive change. When promoting more sustainable energy use practices to

the general public, bringing up the ethical, moral, and spiritual aspects of conservation of resources and climate change may be one of the most effective tactics. Perhaps bringing the message to congregations and other spiritual gatherings could yield positive results as well as spinning the topic as a spiritual issue to encourage people to look into their conscience for the right thing to do. Understanding people's motivations help us to proclaim the message in a manner more effective and easily accepted than ever before.

Learning and understanding the motivations behind individual energy use practices is good, but the implications of this study go beyond this and delve into the reality of the possibility of change. In general, many people believe that it is too late to make a difference in the world because the environment is already too far gone and people are unwilling to take the necessary steps to save it. However, if the majority of people view climate change as an ethical issue regardless of their spiritual beliefs or their views on the cause behind climate change, then those people will be willing to take steps to lessen humanity's collective blow to the environment. It is clear from the data about people's reason for participating in the program that energy use, carbon emissions, water consumption are all topics that are on the minds of people in the Corvallis area, and they want to reduce their impact. If this group of people is thinking about the issue, believing it is an ethical concern, and wanting to make a difference, then chances are there are others in the state, region, country, and world that are just like them. This study shows that people care and are willing to change, and for many people, spirituality is the reason why.

BIBLIOGRAPHY

- Bernard, H. Russell (2006) *Research Methods in Anthropology: Qualitative and Quantitative Approaches*. AltaMira Press: A Division of Rowman & Littlefield Publishers, Inc. 451-521.
- Gardener, Gary (2002) *Invoking the Spirit: Religion and Spirituality in the Quest for a Sustainable World*. World Watch Paper 164: 5-51.
- Gram-Hanssen, Kirsten (2010) Standby Consumption in Households Analyzed With a Practice Theory Approach. *Journal of Industrial Ecology*. 14(1): 150-165.
- Hall, Matthew and Grim, John and Tucker, Mary Evelyn (2009) Need for Religions to Promote Values to Conservation. *Nature*. 462(7274): 720.
- Jacka, Jerry K. (2010) The Spirits of Conservation: Ecology, Christianity, and Resource Management in Highlands Papua New Guinea. *Journal for the Study of Religion, Nature, & Culture*. 4(1): 24-47.
- Marx, Leo (1992) Environmental Degradation and the Ambiguous Social Role of Science and Technology. *Journal of the History of Biology*. 25(3): 449-468.
- Mulwafu, Wapulumuka O. (2004) The Interface of Christianity and Conservation in Colonial Malawi. *Journal of Religion in Africa*. 34(3): 298-319.
- Regosin, Jonathan V. and Frankel, Michelle (2010) Conservation Biology and Western Religious Teachings. *The Nature Conservancy*: 322-324.
- Sharma, Subrat and Rikhari Hem C. and Palni Lok Man S. (1999) Conservation of Natural Resources Through Religion: A Case Study from Central Himalaya. *Society and Natural Resources*. 12(6): 599-612.
- Tiedje, Kristina (2007) The Promise of the Discourse of the Sacred for Conservation (and its Limits). *Journal for the Study of Religion, Nature, & Culture*. 1(3): 326-339.
- Tomalin, Emma (2004) Bio-divinity and Biodiversity: Perspectives on Religion and Environmental Conservation in India. *Numen: International Review for the History of Religions*. 51(3): 265-295.

Appendix: Survey Questions

Campuses Take Charge: Pre-Survey

[For each action selected]

1. **How easy or difficult do you think it will be to do this action?**
 - Very difficult
 - Somewhat difficult
 - Neither difficult nor easy
 - Somewhat easy
 - Very easy
2. **How did you hear about the Campuses Take Charge?**
 - A **volunteer came to my door**
 - I received a **door hanger**
 - I received an **email**
 - A **friend or colleague** told me about it
 - I saw a **lawn sign**
 - Other: *[text box]*
3. **Why did you decide to join Campuses Take Charge? [text box for open-ended response]**

In this section, we'll ask you a few questions about climate change and your ethical and spiritual beliefs.

4. Recently, you may have noticed that climate change (also called global warming) has been getting some attention in the news. Climate change refers to the idea that the world's average temperature has been increasing over the past 150 years, may be increasing more in the future, and that the world's climate may change as a result. What do you think? Do you think that climate change is happening?
 - Yes
 - No
 - I don't know
5. Do you think climate change is an ethical issue?
 - Yes
 - No
 - I Don't Know

6. Please indicate your level of agreement with the following statements as strongly agree, agree, neutral, disagree, or strongly disagree.

I consider myself a spiritual person.

I incorporate religious practices into my daily life.

My spiritual beliefs play a prominent role in my life.

I am steadfast in my spiritual/religious beliefs.

I attend religious services regularly.

My spirituality impacts my daily decisions.

7. Do you believe that your spiritual beliefs play a significant role in your energy use? Explain.

To help us better understand Campuses Take Charge participants, please complete the following questions:

[Ten questions were omitted here because they were unused in this study.]

Thank you for joining Campuses Take Charge. Good luck in your efforts to save energy and money! We'll send you an email with your list of actions in a few minutes. If you don't receive the email, please check your SPAM folder for an email from info@energizecorvallis.org. We look forward to hearing about your experiences saving energy in four weeks.

For more information about Campuses Take Charge and other energy-efficiency programs in Corvallis, please visit <http://energizecorvallis.org/takecharge>