Spring 5-2024

ECO-ANXIETY EFFECTS COLLEGE STUDENTS

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by

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AN UNDERGRADUATE THESIS

Presented to

The Environmental & Sustainability Studies Program at the University of Nebraska-Lincoln

In Partial Fulfillment of Requirements

For the Degree of Bachelor of Arts

Major: Environmental Studies

Concentration Area: Policy, Advocacy and Social Justice

Under the Supervision of Hillary Mason

Thesis Reader: Dr. Pattrick Bitterman

Lincoln, Nebraska

May 2024

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University of Nebraska-Lincoln, 2024

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Abstract

A survey was conducted on the UNL student population to evaluate whether college students, 18-25 year olds who are currently attending an accredited post-secondary school, are experiencing eco-anxiety and if eco-anxiety affects their pro-environmental behaviors. Climate change is taking a toll not only physically on us but also mentally. The mental health of people, especially college students, is not often studied in relation to climate change, but if we are to understand how to create change in this issue then we need to be looking at the whole picture. The hypothesis is that if college students are experiencing eco-anxiety, then students will exhibit pro-environmental behaviors because anxiety is an activating agent that elicits an action to ease it. (Stanley et al, 2021) This survey is based on two previously established scales, in this survey participants' demographics were collected, gauged on their care for the environment, then used the Climate Change Worry Scale (CCWS) and the Pro-Environmental Behavior Scale (PEBS) to help find if there was a correlation between the two, followed up by three open-ended questions. Overall, the results of the survey results showed a strong positive correlation between eco-anxiety and pro-environmental behaviors, which is even further supported by the written responses of the participants in the open-ended questions results.

Acknowledgements

I want to say thanks to my thesis advisor, Hillary Mason, for helping me through this entire process and encouraging me to pursue this topic. I would like to thank Dr. Patrick Bitterman for always being willing to help and for reading and offering advice throughout the process. This work would not have been possible without Dave Gosselin guidance and his many words of wisdom.

Eco-Anxiety Effects College Students

Introduction

Climate change is a growing topic of conversation around the world and its presence has made itself blatantly known in the last few decades. It has become a topic of political conversation at political debates and policy conversations. Student groups around the world have been raising awareness and pleading for people to save the Earth from the impeding effects of climate change. We are constantly experiencing natural disasters, one after another, whether it be a forest fire, hurricane, tornado, drought, etc. The physical and visual effects of climate change have made itself known to us. As everyone stops to stare at the impacts of the latest hurricane, has anyone stopped to look at people, and their mental health? We are constantly cleaning up debris, repairing homes, providing food and water to people, but what about people's mental health? To fully understand how climate change is impacting people around the world we must understand what eco-anxiety is and how it can impact behaviors, specifically pro-environmental behaviors.

Climate change is a popular topic in the world today and it can cause people to feel stressed, anxious, or worried. The "chronic fear of environmental doom", (Schreiber, 2021) also known as eco-anxiety, encompasses all those feelings about climate change into one word. Other articles have defined it as "anxiety experienced in response to ecological crisis" (Stanley et al, 2021), and the "chronic fear of environmental cataclysm that comes from observing seemingly irrevocable impact of climate change and the associated concerns from one's future and that of the next generation" (Jain, 2022). Overall eco-anxiety is a chronic condition brought on by experiencing or interacting with climate change related events or impacts. Anxiety is seen as an activating agent towards pro-environmental behaviors. (Stanley et al, 2021) Other terms often

used in replace of eco-anxiety are Climate Change Anxiety, Environmental Anxiety, Climate Change Distress, and Ecological Stress.

In addition, some more related concepts are: Eco-emotion, Eco-depression, Eco-anger, Solastalgia, Ecological Grief, Conservation Psychology, Ecopsychology, and Ecological Identity. All these terms have been discussed throughout several articles of research in correlation to eco-anxiety. It is important to understand what eco-anxiety is and how all these terms are encompassed under or related to the topic of it.

Figure 1. Related Concepts to Eco-Anxiety

Term	Definition	Citation
Eco-emotion	Feelings and attitudes, "emotion", in reaction to environmental impacts or events. There are three eco-emotions studied in relation to environmental behavior: Eco-anxiety, Eco-depression, and Eco-anger.	Stanley et al, 2021
Eco-depression	An eco-emotion that is in reaction to environmental events, usually causing a person to become inactive or less likely to act with pro-environmental behavior.	Stanley et al, 2021
Eco-anger	An eco-emotion that is in reaction to environmental events, usually causing a person to have pro-environmental behaviors and possibly go even further to promote climate action.	Stanley et al, 2021
Solastalgia	Is distress that is caused by experiencing painful	Stanley et al, 2021

	environmental destruction in your home environment. The American Psychological Association describes it as, "homesickness you have when you are still at home…because the land has become unrecognizable."	Schreiber, 2021
Ecological Grief	When you watch the land, you have lived on morph and slip away before your very eyes.	Schreiber, 2021
Conservation Psychology	It is psychological research that is directed towards understanding environmental sustainability. It does this by understanding how people connect to and care about the environment, and how to motivate people to interact in the most environmentally friendly ways possible.	Saunders, 2003
Ecopsychology	The connection between people and the environment through environmental and psychological principles.	Blaschke, 2013
Ecological Identity	The experiences in your life that have molded the way you connect to and engage with the natural environment.	Pavani et al, 2023

If we want to start dealing with climate change, we need to start at the source, and that source is people. There is a need to understand why people interact with the environment the way that they do. Why do people choose inaction over action towards pro-environmental behavior. Eco-anxiety is a starting point to understanding this greater topic of human behavior towards the environment. This study surveys college students, 18-25 year olds who are currently attending an

accredited post-secondary school, to see if they are experiencing the impacts of climate change and if that manifest into something more, potentially eco-anxiety. As the future generation sits in higher education classes are they experiencing the stress, anxiety and depression related to environmental degradation and catastrophe?

Anxiety has three main features: One is that it can be negative, and it causes people to be avoidant. Two is that it can give an emotional high, it almost energizes and motivates people to act. Three, it can trigger a defense behavior if you are feeling threatened by situational threats. (Pavani et al, 2023) "Anxiety can be hypothesized to motivate problem solving behaviors," except when the problem is too big and cannot be controlled, then that can lead to inaction. (Pavani et al, 2023). In addition, since anxiety can be seen as an activating agent towards pro-environmental behaviors, (Stanley et al, 2021) that is why this study is important, to evaluate and understand if college students are experiencing any anxiety related to climate change, and what are the impacts of eco-anxiety on students.

When it comes to knowing if college students are experiencing eco-anxiety, it seems there is little research on the topic which is why this study allows for further understanding of this topic. College students are part of the next group of young adults who will be tasked to deal with the impacts of climate change, and all that can take a toll on people. Eco-anxiety can cause stress, anxiety, and depression but it does not mean that it is a bad thing. One study looked specifically at college students, evaluated students pre and post a class that discussed global environmental issues, which showed us that, "it is clear that the process of learning about global environmental problems has a significant impact on this group of students", (Oluk et al, 2009) but fails to go into any more detail. Other research has shown that anxiety can cause pro-environmental behavior because anxiety is an activating emotion. (Stanley et al, 2021) Lastly, some research has also stated that it can be deactivating as well, but that tends to turn more into eco-depression.

When the anxiety gets so bad that you are paralyzed with fear. (Schreiber, 2021) It is important to know where the next generation stands along that scale. Ultimately eco-anxiety can be a good thing when it comes to having pro-environmental behaviors. According to the article, Eco-Anxiety and Environmental Sustainability interest: A secondary data analysis, "Anxious people are more likely to take action to reduce its negative impact; therefore, people with higher eco-anxiety could show greater interest in environmental sustainability", (Chung et al, 2023) therefore aiding the idea eco-anxiety can lead to positive environmental interactions.

Research has shown that eco-anxiety does have an impact on mental health, and the articles Psychology of Global Climate Change, Ethics of Climate Responsibility and Eco-Anxiety, and Nature connectedness in the climate change context: Implications for climate action and mental health, all share how mental health professions should be equipping themselves to deal with the mental health crisis that is going to be caused by climate change. Eco-anxiety is rooted in general anxiety, which can be seen in today's young adults (Curll et. Al, 2022), but is anxiety that is specifically caused by climate change events and impacts. All of this depends on your personal relationship to the environment, your knowledge of environmental issues, and how environmental changes have impacted you. A person who reads about the destruction that hurricanes are having on the east coast in the United States can experience eco-anxiety just the same as someone experiencing the impacts of hurricanes firsthand. It can be caused by any number of environmental experiences.

As this study moves forward, the evaluation of the research questions, to what extent are college students experiencing any anxiety related to climate change allows us to see if students are experiencing general anxiety towards climate change. Since eco-anxiety is a "chronic fear of environmental doom" (Schreiber, 2021) this question allows for survey to be conducted of college students to gather quantitative and qualitative data on students' anxiety levels, and to see

whether it is related to climate change. In addition to that, qualitative research evaluating the question, what are the impacts of eco-anxiety on students' pro-environmental behaviors, will be answered as well.

It is important to note that eco-anxiety does not cause pro-environmental behaviors, but instead it is merely correlated with pro-environmental behaviors. (Pavani et al, 2023) Also, although many sources share that anxiety is an activating agent, there have been a few sources that share that it is not, this is mostly in comparison to eco-anger, which is known to correlate to activism as well. (Coffey et al, 2021) Lastly, a lot of the research that this study draws on is very recent, within the last 5 years, so this limits our understanding of the long-term effects of eco-anxiety on people and their behavior.

Overall, climate change is playing a role in the development of eco-anxiety in people around the world. Eco-anxiety is a chronic condition brought on by experiencing or interacting with climate change related events or impacts. This study seeks to find a correlation between eco-anxiety and pro-environmental behaviors in college students.

Methods

In trying to understand if there is a correlation between eco-anxiety and pro-environmental behaviors in college students, 18-25 year olds who are currently attending an accredited post-secondary school, this study has evaluated several different, pre-established scales. This was done to understand the how and why these scales used the questions they used to evaluate different habits and emotions of people related to climate change and the environment. To evaluate UNL students I combined two different pre-established scales, the Pro-Environmental Behavior Scale (PEBS) and the Climate Change Worry Scale (CCWS). The reason I used these two scales is because they each evaluate one of the two main questions of this study. In addition to these two scales, there are three open ended questions that allow for the research to gain qualitative data in addition to the quantitative data that will be provided by the scales.

To what extent are college students experiencing any anxiety related to climate change? This question is best evaluated using the questions from the CCWS. The first reason this scale was chosen over the Climate Anxiety Scale (CAS) was that more of the questions seem to fit the college lifestyle. What I mean by this is that the CAS asked a lot of questions about anxiety and about dwelling on climate change, and the reality is that college students have a lot going on from having a varied and heavy class load to learning how to be an adult so that they can take care of their own needs by themselves. Therefore, asking college students if they often sit and dwell on climate change may not offer desired results due to the idea that college students have very little time to sit and think about one thing in general. Second, the word 'worry' specifically may not seem related to the term eco-anxiety, but according to the author of the CCWS, "worry is a more fundamental psychological feature and one that is rooted in the symbols of thought and language"(Stewart, 2021), therefore making the word worry more palatable than anxiety for people to understand and respond to. Just like a senior thesis sounds more daunting than a senior

capstone, anxiety sounds more daunting than worry. Lastly, when you ask Google for a synonym for anxiety, worry is one of the first words to pop up. According to Merian Webster Dictionary (2023) a synonym is defined as one of two or more words or expressions of the same language that have the same or nearly the same meaning in some or all senses. Therefore, the use of the CCWS still relates to the concept of eco-anxiety because anxiety and worry are very similar in meaning. In addition, if a person is experiencing increased worry in climate change, then we will potentially see an increase in pro-environmental behaviors.

Figure 2. Climate Change Worry Scale.

1. I worry about climate change more than other people.
2. Thoughts about climate change cause me to have worries about what the future may hold.
3. I tend to seek out information about climate change in the media (e.g., TV, newspapers, internet).
4. I tend to worry when I hear about climate change, even when the effect of climate change may be some time away.
5. I worry that outbreaks of severe weather may be the results of changing climate.
6. I worry about climate change so much that I feel paralyzed in being able to do anything about it.
7. I worry that I might not be able to cope with climate change.
8. I notice that I have been worrying about climate change.
9. Once I begin to worry about climate change, I find it difficult to stop.
10. I worry about how much climate change may affect the people I care about.

(Stewart, 2021) Questions used to evaluate eco-anxiety in the survey.

The PEBS allows us to evaluate this study's second research question which is, to what extent does eco-anxiety have an affect their pro-environmental behaviors? This study will have students answer questions related to their environmental anxiety using the CCWS, then have them answer questions about if they practice sustainable and environmentally friendly habits using the PEBS. The PEBS scale was tweaked to match college students' habits, one example is the use of a vehicle mileage was removed from the list of questions because a lot of college students live on

campus or do not know their milage if they live off campus. Another question that was removed was about heating and cooling of their living space, and again, a lot of the time students do not have control over this aspect of their life. The prediction is that if students show more signs of worry and anxiety on the CCWS then we will see higher scores on the PEBS. Both the PEBS and CCWS are evaluated using a Likert scale from 1-5: (1) never, (2) rarely, (3) sometimes, (4) usually, (5) always.

Figure 3. Pro-Environmental Behaviors Scale.

1. How often do you turn off lights and electronics when you leave a room?
2. How often do you limit your time in the shower in order to conserve water?
3. How often do you wait until you have a full load to use the washing machine or dishwasher?
4. How frequently do you watch TV, movies, or internet videos about environmental issues?
5. How often do you talk to others about their environmental behaviors?
6. During the past year how often have you used public transportation?
7. During the past year how often have you walked or cycled instead of driving?
8. During the past year, how often have you tried to eat less red meat?
9. How often do you eat organically grown fruits and vegetables?
10. How often do you engage as a member of an environmental, conservation, or wildlife protection group?

(Markel, 2013) Questions used to evaluate pro-environmental behaviors in the survey.

The combination of these scales allows for both research questions to be answered. It feels appropriate to combine this scale because we are looking to see if there is a potential correlation between eco-anxiety and pro-environmental behaviors, and there are no scales previously created that evaluates eco-anxiety and pro-environmental behaviors in the same scale. Therefore, the combination of the two was necessary to be able to evaluate the college students within one survey. The reason for one survey and not two separate ones with each scale is because we cannot guarantee that students are going to fill out both and we would have to make the surveys not anonymous anymore to keep track of the paired surveys. One survey that has both scales in

one allows for the surveys to be anonymous and increase the likelihood of students completing them.

Lastly, there are three open-ended questions used to gain qualitative data from the college students. These questions were asked to see if students had any specific information, they are willing to share so that they can have a deeper understanding of how their potential eco-anxiety relates to their behavior.

1. Have you ever learned about climate change in the classroom? What did you learn about? Do you remember how you felt when you learned about XYZ?
2. Do you ever think about climate change? How often do you think about climate change? (daily, weekly, monthly, etc.) please elaborate more if you can.
3. What habits in your life have you changed based on your knowledge of climate change?

These methods of evaluation were chosen because it allows us to receive current and relevant data from college students. Using a set of questions from two scales allows for the study to evaluate the student's perspective from a more well-rounded lens. In addition, the use of the final three interview questions allows for people to share personal quotes about their views on the topic firsthand. These two ways to measure allow the study to receive and review both qualitative and quantitative data on of eco-anxiety. This means that I am using mixed methods research design to achieve my desired results. The survey will be distributed through myself and my advisors to my peers and to their classes. This project used random and convenience sampling. The use of college students for sampling was chosen because there was a gap in the

literature about whether college students were specifically experiencing any levels of eco-anxiety and if that was impacting any of their behaviors that lead to environmentally friendly actions.

When evaluating the literature, I compared different articles that shared that each scale offers different perspectives on the idea of evaluating eco-anxiety. Each has its pros and cons, but ultimately it came down to the fact of which questions college students will be able to relate to with their current lifestyle and living habits. College students are in a gap year of adulthood where they are on their own but not completely so not everything in their life is under their control. These questions were modified and picked to reflect that aspect. In addition, each scale shared that it analyzes different dimensions of how anxiety can affect a person, so one scale is not better or more accurate than another, it is more based on what information are your trying to find out based on certain aspects of a person's lifestyle.

These data will be analyzed from a statistical perspective to see if there is indeed correlation between eco-anxiety and pro-environmental behaviors based on the quantitative data received from the CCWS and PEBS. The CCWS will help answer the first reach search question because the question specifically analyzes if people are experiencing any anxiety related to climate change. If we can see that people are indeed experiencing anxiety related to climate change, then we say that they are experiencing eco-anxiety based on the definitions given in the introduction about the term. In tandem with the CCWS, the PEBS allows us to see if people have increased environmental and sustainable actions in their daily life. If the CCWS shows that the student is experiencing eco-anxiety, then we can reference the second research question which looks at the impacts it has on students. Based on previous literature, students are more likely to exhibit more pro-environmental behavior if they are experiencing eco-anxiety. In addition, this date will also be analyzing the qualitative data from student's responses to open-ended questions to see if there are any specific quotes that reference the research questions.

Results

The survey consisted of four demographic graphic questions, one question gauging the student's interest in the environment using a 5-point Likert scale, 20 multiple choice questions that were presented also using a 5-point Likert scale and then ending with three open ended questions. The results of the study were put into a statical calculator site, Statistical Kingdom, to help analyze the data.

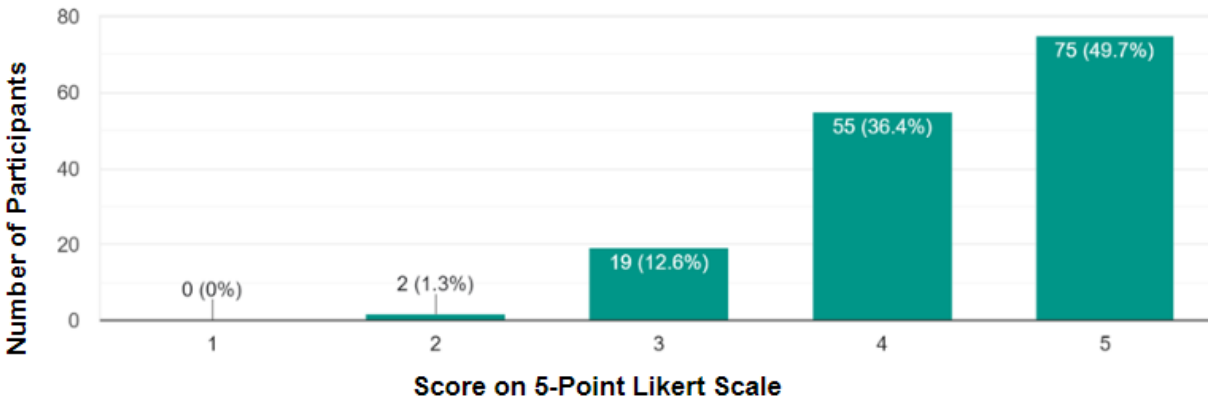
Demographics

This study had 153 participants, and out of that 153 there were two participants who were not UNL students, so their answers to the survey were excluded from this study, because this study was to be conducted on UNL students only. Bringing the total number of participants to 151. Of the 151 participants, 61.6% identified as female, 33.8% identified as male, and 4.6% identified as non-binary. In addition, 91.4% of participants fell in the age range of 18-22 years old, 7.9 % were 23+ years old, and less than one percent of the participants were 17 years old and under. Lastly, there were 53 majors represented in this study, with Environmental Studies being the major that was reported the most, making up 22.5% of the respondents. Other popular majors that completed the study are Psychology making up 13.9% and Fisheries & Wildlife making up 9.9%. Also, Engineering made up 3.9% and Biology, Chemistry, and Criminal Justice respectively made up 3.3% of the total results. The remaining 39.9% was made up of 46 different majors.

To understand where the sample population lies in respect to care for the environment, the question "How much do you care about the environment?", was placed into the survey after the demographic questions. The results of this question can be seen in the chart below. M =

4.34, SD = 0.75, SE = 0.06, Mdn = 4, IQR = 4 - 5 or IQR = 1. Overall, 130 out 151 participants selected that they mostly care about or always care about the environment.

Graph 1. How Much Do You Care About the Environment.



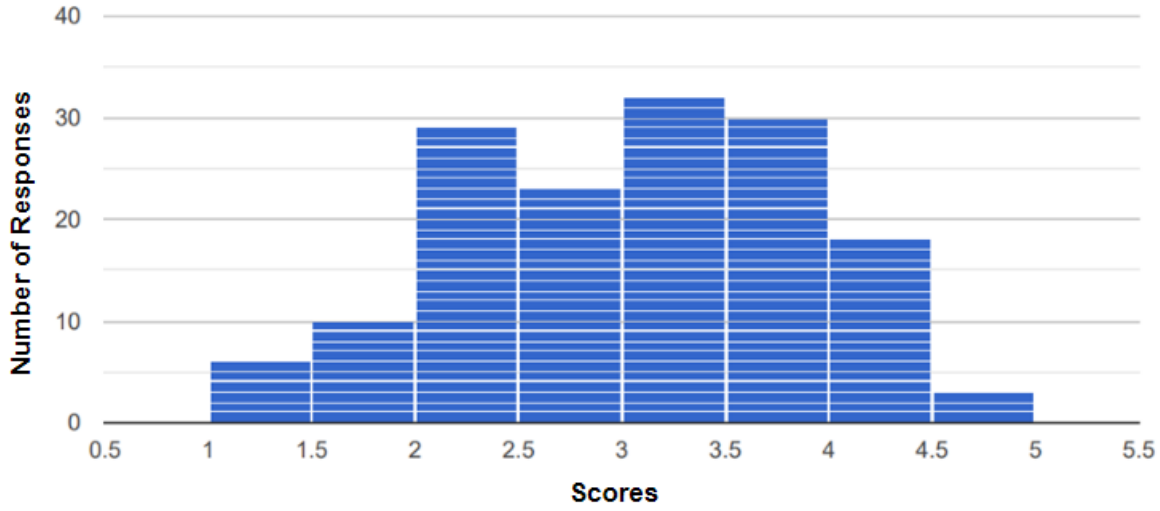
'How much do you care about the environment?'
1 = Never care about it & 5 = Always care about it

CCWS

The results of the CCWS can be seen in the graphs below. M = 2.98, SD = 0.84, SE = 0.068, Mdn = 3, IQR = 2.35 - 3.6 or IQR = 1.25. Students who are experiencing eco-anxiety would score a 3 or higher, based on the average score on the first 10 questions of the survey that follow the question, "how much do you care about the Environment", which is the Climate Change Worry Scale. Based on the results of the CCWS 55.0% of participants, are experiencing eco-anxiety, which means their overall average score of the participants was 3 or higher. In addition, 14.6% of participants scored a 4 or higher, and there were no participants who scored a 5. Overall, based on the results of the CCWS, half of the participants are experiencing eco-anxiety. Graph 3 shows us that a most participants' response scores fell between 2.35 to 3.6 on a 5-point

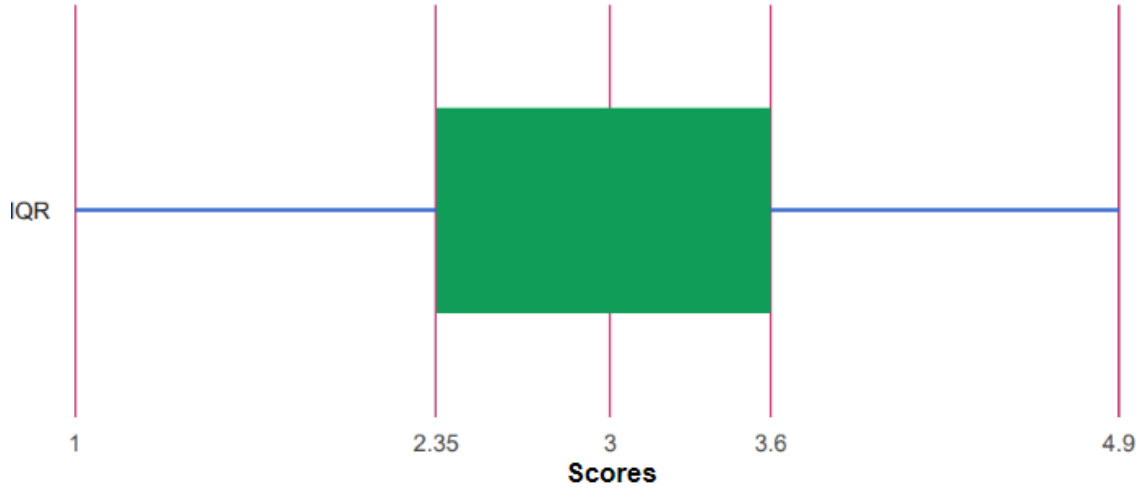
Likert scale. Histogram (Graph 2) shows a unimodal symmetry indicating normal distribution around the mean.

Graph 2. Distributions of Average Scores on CCWS.



Distribution of average scores on the CCWS with 1= never and 5= always.

Graph 3. Ranges of CCWS Average Scores.

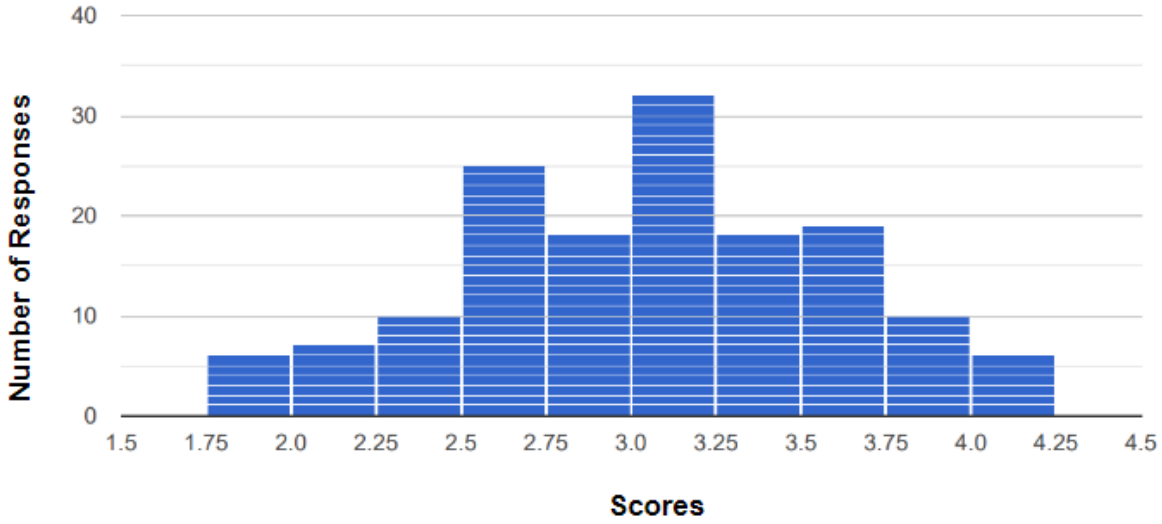


Ranges of average scores on the CCWS, with 1= never and 5= always.

PEBS

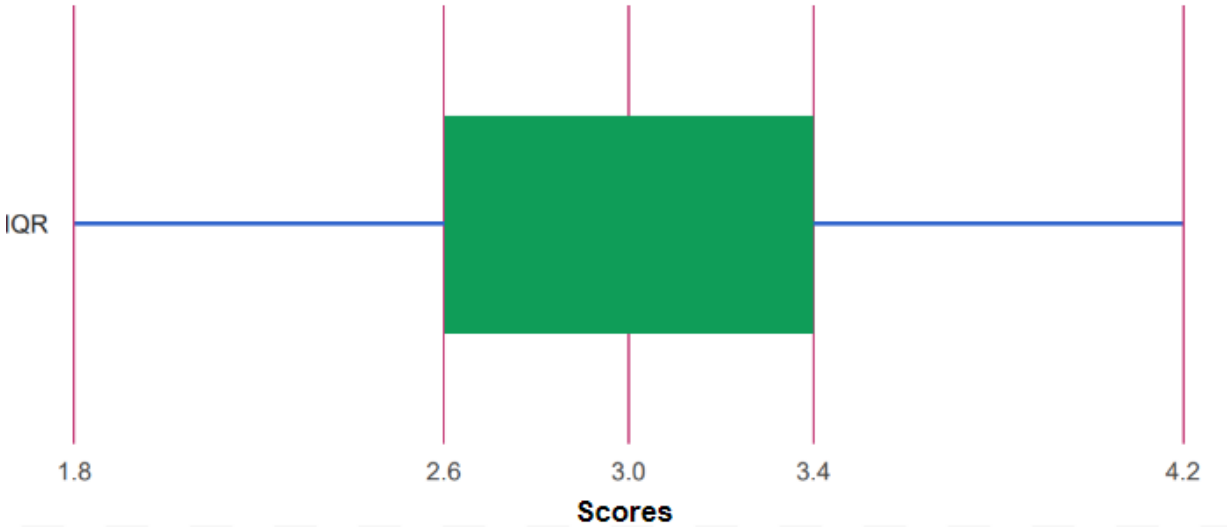
The results of the PEBS can be seen in the graphs below. M = 3.02, SD = 0.55, SE = 0.045 Mdn = 3, IQR = 2.6 - 3.4 or IQR = 0.8. Students that are exhibiting pro-environmental behaviors will score a 3 or higher, based on the average score on the second 10 questions of the survey that follow the question, "I worry about how much climate change may affect the people I care about", which is the Pro-environmental Behavior Scale. Based on the results of the PEBS, 57.6% of the participants are exhibiting pro-environmental behaviors. Based on Graph 5, we see that most participants' scores fell between 2.6 to 3.4 on a 5-point Likert scale. Histogram (Graph 4) shows a unimodal symmetry indicating normal distribution around the mean.

Graph 4. Distribution of Average Score on PEBS.



Distribution of average scores on the PEB with 1= never and 5= always.

Graph 5. Ranges of PEBS Average Scores.



Ranges of average scores on the PEBS, with 1= never and 5= always.

Correlation Results

The second goal of this study was to see if there was correlation between eco-anxiety and pro-environmental behaviors. We saw that respectively students were experiencing eco-anxiety and pro-environmental behaviors, but 17.2% of participants currently do not experience eco-anxiety but exhibit pro-environmental behaviors. Vice versa, 14.6% of participants are experiencing eco-anxiety but are not exhibiting pro-environmental behaviors. A conclusion could be drawn that participants that experience eco-anxiety but do not exhibit pro-environmental behaviors are experiencing are most likely experiencing eco-depression, but that idea was dismissed due to most of the participants scores for eco-anxiety are within 3.0-3.9 range while there PEBS score needs to be 2.9 or below, and to be considered for eco-depression we would need to see scores of 4.0 or higher on eco-anxiety. There were only two participants that exhibited factors that met the eco-depression standard. One with a CCWS score of 4.3 and PEBS of 2.9, and the other with a CCWS score of 4.4 and PEBS of 2.9. In addition, their score for how much they care about the environment was 5 and 4 respectively.

Figure 4.

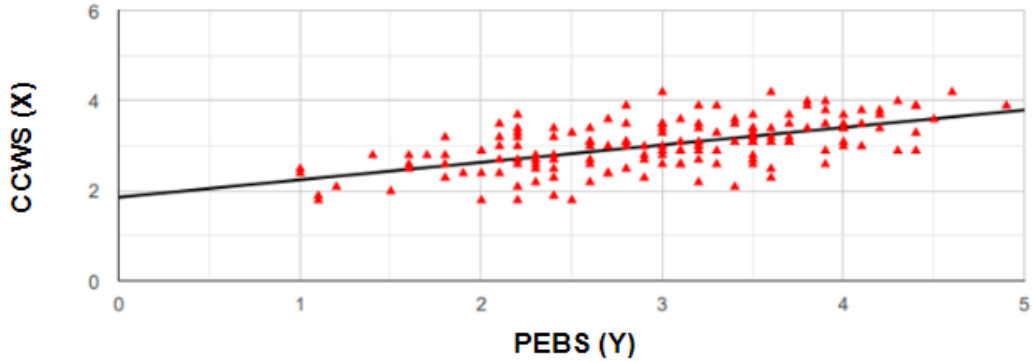
Parameter	Value
Pearson correlation coefficient (r)	**0.5874**
r^2	0.345
P-value	2.22e-15
Covariance	0.2742
Sample size (n)	151
Statistic	8.8598

Correlation study results

The results of the Pearson correlation indicated that there is a significant large positive relationship between X and Y, ($r(149) = .587$, $p < .001$). Therefore, a correlation can be seen between eco-anxiety and pro-environmental behaviors. The study results showed that 40.4%, participants scored 3 or higher on the CCWS and PEBS. Indicating that participants are experiencing eco-anxiety and then they are exhibiting pro-environmental relations in connection with it. It is important to note that this is a correlation, not a causation. Which means that there is a connection between eco-anxiety and pro-environmental behaviors, but eco-anxiety does not directly cause pro-environmental behaviors. About 30% of the participants scored 3 or higher on

one of the scales and lower than 3 on the other, which means that students do not need one to exhibit the other. Based on the data there is a correlation between eco-anxiety and pro-environmental behaviors.

Graph 6. Correlation Study Between CCWS and PEBS.



Postive correltation between the CCWS and PEBS.

Qualitative Findings

There were three open-ended questions at the end of the survey to gather qualitative data on the participants' relationship and experience with the environment. This was done to get a better understanding of where the participants are in their care and concern for the environment. In addition, it allows for a connection to be drawn between the CCWS & PEBS to the responses of the participants on the open-ended questions.

Have you ever learned about climate change in the classroom? What did you learn about it? Do you remember how you felt when you learned about XYZ?

For these questions, 124 participants reported having learned about climate change in the classroom from early in their education to recently as UNL students. The majority of the participants remember something about the environment or climate change, and a lot of them remember facts that are relevant to their field of study or areas of interest. A participant stated that, “sometimes back in high school we would talk about pollution and greenhouse gases. I didn’t like learning about it because it was concerning”. The rest of the participants reported learning about climate change in early education but not remembering what they learned, to reported taking self-initiative and learning about climate change on their own, and lastly, people have not chosen to take classes that talk about this subject. Participants shared how their experiences learning about climate change have started to cause stress in their life, one participant said, “I had a whole class once on climate change (NRES 104). We learned about how the current and future projections of climate change compare to the climate record (humans are changing everything, and mostly for the worse). I remember feeling slightly hopeless about the future of our world, because I don't feel like I can do much as one single person”. These feelings of concern, anxiousness related to the environment show that these participants are experiencing eco-anxiety, one participant quoting that they are anxious, “…I am anxious that my children will not have a WORLD to live in”. This anxiety and worry relate back to the data that showed that 55.0% of participants based on the CCWS are experiencing eco-anxiety. Whether the participant learned the information in elementary school, high school, college, etc. people experience valid feelings of concern, anxiousness, and worry for the future of our planet, another participant stating, “I just remember feeling stressed”, when learning about climate change in high school, even though the participant does not remember the information fully. There is an emotion tie to learning about climate

change, and between the participants written responses and the CCWS results, students at UNL are experiencing eco-anxiety.

Do you ever think about climate change? How often? (daily, weekly, monthly, etc.) Please elaborate more if you can.

Figure 5.

How Often	Number of Participants
Daily	48
Weekly	49
Monthly	29
Yearly	13
Never	9

"How often do you think about climate change" question results.

A feature of eco-anxiety is how often you think and dwell in your worry of environmental doom (Schreiber, 2021). This second open-ended question shows that over half of the participants think about climate change at least once a week. Many interact with the topic so often due to taking classes through UNL, but a lot of that dwelling happens outside of the classroom, one participant shares that they think about climate change "daily, often I make a lot of connections with occurrences happening in my daily life and how that relates to climate change", showing that participants are taking what they know and learn and are applying it. This relates back to the CCWS and PEBS data that shows that participants are experiencing eco-anxiety and that is showing as pro-environmental behaviors in some cases. Some students directly share how they are experiencing both in just a few words, a participant writes, "I think about climate change almost daily and this leads me to try and do what I can every day to help the environment". One participant shares that though they do not think about it often, it still takes a toll on them, "I actually think about climate change maybe once or twice a month. I try to avoid it because it makes me spiral into mental breakdown", which shows that eco-anxiety is present in students based on the previous definition stated in the introduction.

What habits in your life have you changed based on your knowledge of climate change?

This open-ended question allowed us to see the connection between PEBS results and the participants responses to this last question. Most of the participants engage in some form of pro-environmental behavior. 52 participants shared how they recycle, 43 conserve energy, and 39 conserve water and reduce waste/ consumption. Other sustainable habits participants engage in are changing their eating habits, so consuming less red meat to becoming vegetarians. 34 participants use other modes of transportation rather than driving solo, for example, they walk, bike, take the bus, or carpool. In addition, some participants even reported engaging in activist groups, educating their fellow peers on climate change topics, or being active in sustainable clubs on campus. All these responses show that participants are actively exhibiting pro-environmental behaviors throughout their daily lives, whether it is just recycling to a combination of several pro-environmental behaviors. One participant share that they have "made an effort to reduce electricity consumption and transition to more sustainable products such as using reusable food containers and grocery bags…". This participant has shown that even the little things can make a difference, as this one continue to share that, "there is still room for me to continue to improve but I am trying to make small changes here and there to better the environment." Based on the notion that anxiety is an activating agent (Stanley et al, 2021), this statement shows that to reduce one's eco-anxiety, exhibiting pro-environmental behaviors helps ease that that worry, therefore the correlation between eco-anxiety and pro-environmental behaviors is again shown through the open-ended questions. Other participants share state that, "I try to eat less meat overall, and I bike when I can now. I try to save water and I compost at home instead of throwing food waste away", and "I'm vegetarian, I try to conserve energy when

I can, I ride public transport or walk when able, I try to limit dairy, I limit getting drinks to go or takeout food", which again shows how students are exhibiting pro-environmental behaviors.

Discussion

Through this research there are two questions that were attempting to be answered to what extent are UNL students experiencing eco-anxiety and to what extent does that affect their pro-environmental behaviors. The hypothesis for this research was that if students are experiencing eco-anxiety, then students will exhibit pro-environmental behaviors because anxiety is an activating agent that elicits an action to ease it. (Stanley et al, 2021) Using my survey based on two previously established scales, I surveyed participants' demographics, then used the CCWS and the PEBS to help find if there was a correlation between the two, followed up by three open-ended questions. The open-ended questions allowed for the research to obtain qualitive data so it can be related back to the quantitative data. Overall, the survey results showed that there is strong positive correlation between eco-anxiety and pro-environmental behaviors, which is even further supported by the written responses of the participants in the open-ended questions results. Over half of the participants are thinking about or engaging with the topic of climate change weekly which increases the likelihood of experiencing eco-anxiety. Students find themselves learning or relearning information about climate change in classes at UNL, which explains the consistent interaction with the topic by participants. Eco-anxiety exists within a normal range of emotions, therefore students having it plays a vital role in how we understand and interact with this generation of students in regard to climate change, and it shows us the potential benefits, like exhibiting pro-environmental behaviors, that can occur while experiencing it. If we can start to better understand the mental impacts that climate change has on people, then we can understand

and equipe ourselves to tackle the issue of climate change, and the other issues that arise because of it.

Conclusion

The topic of eco-anxiety is relatively new to research, and a lot of literature used for this study was written within the last five years. Future research should continue to understand how eco-anxiety impact college students, especially as they take classes throughout their college career that are based on climate change. Understanding how college students interact and deal with the changing climate could be beneficial to the fight against climate change. In addition, there could be further research into the connection between eco-anxiety and pro-environmental behaviors, especially on college students. There could also be further research into that connection and the differences between gender, age, and majors. This study was limited by random and convenience sampling, and it would be beneficial to increase the amount of people in non-environmental related majors in the sample to get a better representation of the university population. Also, a comparison could be made between majors to see what kind of influence one's major has on oneself in regard to eco-anxiety and pro-environmental behaviors. As the last of the millennials and start of generation z start to graduate from higher education, we need to start to focus more on the impacts that climate change plays on their mental health. This way we can empower and be proactive about how we tackle and approach climate change issues.

References

Blaschke, P. (2013). Health and Wellbeing of Conservation in New Zealand. *Science for Conservation 321. Department of Conservation, Wellington. 37 p.*

https://www.ecopsychology.info/what-is-ecopsychology

Chung, S. J., Chung, S. J., & Jang, H. (2023). Eco-anxiety and environmental sustainability interest: A secondary data analysis. *International Journal of Mental Health Nursing.* https://doi.org/10.1111/inm.13150

Clayton et al. (2015). Psychology of Global Climate Change. *American Psychological Association Task Force on the Interface Between Psychology and Global Climate Change.* https://www.apa.org/science/climate-change

Coffey, Y. et al. (2021). Understanding Eco-anxiety: A Systematic Scoping Review of Current Literature and Identified Knowledge Gaps. *The Journal of Climate Change and Health. Vol.3.* https://doi.org/10.1016/j.joclim.2021.100047

Curll, S. L., Stanley, S. K., Brown, P. M., & O'Brien, L. V. (2022). Nature connectedness in the climate change context: Implications for climate action and mental health. *Translational Issues in Psychological Science., 8(4), 448–460.* https://doi.org/10.1037/tps0000329

Hogg et al. (2021). The Hogg Eco-Anxiety Scale: Development and validation of a multidimensional scale. *Global Environmental Change. Vol. 71.* https://www-sciencedirect-com.libproxy.unl.edu/science/article/pii/S0959378021001709

Köse, A. (2023). The role of school counsellors in response to eco-anxiety. *Journal of Psychologists and Counsellors in Schools., 1–7.* https://doi.org/10.1017/jgc.2023.11

Jain, N., & Jain, P. (2022). Eco-Anxiety and Environmental Concern as Predictor of Eco-Activism. *IOP Conf. Ser.:Earth Eviron. Sci.* https://iopscience.iop.org/article/10.1088/1755-1315/1084/1/012007/meta

Markle, G. L. (2013). Pro-Environmental Behavior: Does It Matter How It's Measured? Development and Validation of the Pro-Environmental Behavior Scale (PEBS). *Human Ecology., 41*(6), 905–914. https://doi.org/10.1007/s10745-013-9614-8

Mean, Median, Mode Calculator. (n.d.). StatsKingdom. Retrieved March 27, 2024. https://www.statskingdom.com/mean-median-mode-calculator.html

Merriam Webster. (2023) https://www.merriam-webster.com/dictionary/synonym

Oluk, S., Ozuredi, O., & Sakaci, T. (2009). Determination of State-Trait Anxiety Levels of University Students during the Learning Process of Global Environmental Problems. *US-China Education Review, 6(1), 49-53.* http://libproxy.unl.edu/login?url=https://www.proquest.com/scholarly-journals/determination-state-trait-anxiety-levels/docview/61898846/se-2

Pavani, J.-B., Nicolas, L., & Bonetto, E. (2023). Eco-Anxiety motivates pro-environmental behaviors: a Two-Wave Longitudinal Study. Motivation and Emotion. https://doi.org/10.1007/s11031-023-10038-x

Pearson Correlation Test. (n.d). StatsKingdom. Retrieved March 27, 2024. https://www.statskingdom.com/correlation-calculator.html

Raz, S. (2022). Ethics of Climate Responsibility and Eco-Anxiety. *Psychoanalytic Dialogues., 32(4), 348–350.* https://doi.org/10.1080/10481885.2022.2090814

Saunders, C. D. (2003). The Emerging Field of Conservation Psychology. *Human Ecology Review, 10(2), 137–149.* http://www.jstor.org/stable/24706965

Schreiber, M. (2021). Addressing Climate Change Concerns in Practice. *American Psychological Association. Vol. 52. No. 2.* https://www.apa.org/monitor/2021/03/ce-climate-change

Standard Deviation Calculator. (n.d.). StatsKingdom. Retrieved March 27, 2024. https://www.statskingdom.com/standard-deviation-calculator.html

Stanley et al. (2021). From anger to action: Differential impacts of eco-anxiety, eco-depression, and eco-anger on climate action and wellbeing. *The Journals of Climate Change and Health. Vol. 1*. https://doi.org/10.1016/j.joclim.2021.100003

Stewart, A. E. (2021). Psychometric Properties of the Climate Change Worry Scale. *International Journal of Environmental Research and Public Health, 18*. https://www.semanticscholar.org/reader/0ca9e67524c20e8c40d115ebb8c1d3338f5081e7