



Relationship among Big-5 Personality Factors, Eco-Anxiety, and Eco-guilt among Young Adults

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ABSTRACT

With ecological deterioration and climate change happening at a rapid pace, it becomes important to understand the psychological consequences of these changes. Eco-anxiety and eco-guilt are two of the many variables which can help us understand this. As personality can influence how we react to situations, therefore, studying its relationship with eco-anxiety and eco-guilt can help. The current research aimed to study the relationship among Eco-anxiety, Eco-guilt and Big-5 personality factors in 20–30-year-olds. The data was collected from 31 respondents between the ages of 20-30 years. Standardized scales were used to measure big-5 personality factors, eco-anxiety and eco-guilt. The results showed a significant positive correlation between one of the five personality factors, that is conscientiousness and eco-guilt and conscientiousness, and one of the two factors used to measure eco-anxiety, that is, habitual ecological worry. A significant positive correlation was also found between eco-guilt and both the factors of eco-anxiety that is habitual ecological worry and negative consequences of anxiety. Further research needs to be conducted to

find out if these results are of any significance in developing interventions for psychological effects of climate change and ecological deterioration.

Keywords: *Eco-anxiety, eco-guilt, personality, eco-psychology*

INTRODUCTION

In March 2023 a report by the Intergovernmental Panel on Climate Change (IPCC) was released which was summarized by Kaisa Kosonen, a climate expert at Greenpeace International in the following words, “This report is a final warning on 1.5C. If governments just stay on their current policies, the remaining carbon budget will be used up before the next IPCC report (due in 2030).” This report is being increasingly seen as a final warning with regards to climate change and is a clear indication that ecological degradation and climate change is happening at a rapid pace. As human beings are a part of the ecological system, any change in that system will influence humans too. Therefore, it becomes important to understand how ecological change is impacting human lives, especially human mental health. Eco-anxiety, which deals with anxiety strictly in relation to ecological challenges and climate change, is therefore important along with eco-guilt which holds a lot of importance especially when we take into consideration its role in pro-environmental behavior. Gaining an understanding of how personality factors are related with different ecopsychology variables can have practical implications in identification of at-risk population, treatment, encouraging pro-environmental behavior etc. Therefore, the current research is an attempt to understand how eco-anxiety and eco-guilt are related with different personality factors.

Thoma et al. (2021) studied the mental health impacts of climate and environmental crisis and explored various impacts of specific changes which are linked with climate change. The researchers found that rising temperatures and extreme heat events have been linked to aggressive behavior, sleep disorders, suicide, depression etc. Droughts have been linked to general mental distress and an increase in suicide rate. Water and food scarcity have been linked to depression and stress and water scarcity has also been linked to anxiety, suicidality and hopelessness. There is a strong relationship between air pollution and the development of depressive symptoms. Changes to natural environment can lead to eco-grief, and solastalgia, which is loss of solace, which was experienced in a particular place, generally home environment. Increased awareness about climate change has been linked to ecological anxiety, anger and fear.

Coming specifically to eco-anxiety and eco-guilt, Ágoston et al. (2022) conducted a qualitative study to find out the types of eco-anxiety and eco-guilt. For eco-anxiety and eco-guilt, they found 6 and 8 categories respectively. The components of ecological anxiety included, worry for future and next generations; empathy; conflicts with family, friends and colleagues primarily because of differences in attitudes and behavior related to action associated with climate change; physical symptoms, confusion and uncertainty resulting from disturbance due to environmental changes; mental health symptoms; helplessness and frustration associated with lack of control over the challenge of climate change and the magnitude of the problem. The types of eco-guilt included prophetic individual responsibility; self-criticism, self-examination, self-blame; guilt/individual responsibility criticism; dissatisfaction with actions of self; guilt about one's past; system maintenance guilt; dilemma of harm; guilt for one's existence.

Review of literature

Eco-anxiety

According to Albrecht (2012) eco-anxiety is "the generalized sense that the ecological foundations of existence are in the process of collapse." Clayton (2020) defined eco-anxiety as the "anxiety associated with perceptions about climate change, even among people who have not personally experienced any direct impacts."

Coffey et al. (2021) conducted a review study to understand eco-anxiety and they found that previous studies show that the most vulnerable group is children. Additionally, women are more likely to experience anxiety as compared to men. Climate scientists are also more likely to suffer from eco-anxiety. The reason can be their close intellectual and emotional connection with the natural world.

Clayton et al. (2020) reported that those who have had experience with climate change or care more about it are more likely to experience climate anxiety. This can explain the higher levels of eco-anxiety in children and younger people. Indigenous groups may be more vulnerable to climate anxiety because of the vulnerability of the areas they inhabit to climate change. However, there is a significant lack of research to prove this.

Coffey et al. (2021) mentions physical illness, panic attacks, irritability, sadness, numbness, helplessness, guilt, anger, frustration, and hopelessness along with hope, feeling of empowerment and connection as factors associated with climate change.

Eco-guilt

According to Mallett (2012) eco-guilt is the "guilt that arises when people think about times, they have not met personal or societal standards for environmental behavior."

Ágoston et al. (2022) found a low, negative correlation between eco-guilt and age. They didn't find any relationship between eco-guilt and subjective socio-economic status. However, eco-guilt was found to be higher among females and environmental activists.

Moore and Yang (2018) found a significant relationship between eco-guilt and environmental behavioral intention. They also found out that when adult participants who reported a lesser pro-environment attitude were exposed to a pro-environment video game trailer, their environmental behavior intention increased. Further, they found out that a significant predictor of environmental behavior intention was trait empathy. They suggested the need to use guilt in environmental communication to promote pro-environment behavior.

Guilt can be classified as personal or collective guilt. Mallet et al. (2013) conducted a study in which they found that participants reported higher personal guilt when they learned that they had a higher-than-average carbon footprint of an American citizen, as compared to those who realized that they had a lower-than-average carbon footprint. However, the same was not true for shame or anger. They also reported higher collective guilt for participants who learned that Americans had a bigger carbon footprint as compared to other industrialized nations, than participants who learned that the carbon footprint of Americans was smaller. However, they did not report any differences in the collective pride of the two groups.

Personality

According to Baron (1993) personality “is an individual’s unique and relatively stable patterns of behavior, thoughts and emotions.” Bergner (2020) defined personality as “the enduring set of Traits and Styles that he or she exhibits, which characteristics represent (a) dispositions (i.e.,

natural tendencies or personal inclinations) of this person, and (b) ways in which this person differs from the “standard normal person” in his or her society.”

There are several different models of personality which have given factors of personality. The Big-5 factors of personality come from the five-factor model which essentially states that all humans possess these same basic factors to varying degrees and they develop in response to biological and environmental influences. These factors are openness to experience, extraversion, agreeableness, conscientiousness and neuroticism. (Novikova, 2013; Soto et al., 2015)

Fan (2020) found that anxiety and conscientiousness were negatively correlated, and this correlation was significant. Extraversion and anxiety were also negatively related. They also found an interaction effect between conscientiousness and extraversion which essentially means that for participants who were high on extraversion, the relation between conscientiousness and anxiety was less strong. Also, the effect of conscientiousness on anxiety was weakened by extraversion.

Lyon et al. (2020) showed that specific facets in personality can explain variance in anxiety and depression. Depression facet in neuroticism and positive emotion and assertiveness facets in extroversion were found to be positively associated with affective disorder scores. Competence facet in conscientiousness also explained variance in anxiety and depression. However, they did not find any facet of agreeableness or openness which explained the variance.

Methodology

Purpose

The purpose of this study is to study the relationship among ecological anxiety, ecological guilt and big-5 personality factors in 20–30-year-olds.

Hypothesis

1. There is no significant relationship between big 5 personality factors and eco-anxiety.
2. There is no significant relationship between big 5 personality factors and eco-guilt.
3. There is no significant relationship between eco-guilt and eco-anxiety.

Method

Sample

A total of 31 people between the ages of 20 and 30, mostly from Chandigarh and surrounding areas, participated in the study. Out of 31 people, 6 were men, 24 were women and 1 participant belonged to the gender nonbinary/ gender queer category. The age range of respondents was 20 to 30 years.

Measures

- ***Eco-Anxiety Questionnaire (EAQ-22)***

EAQ-22 has been given by Ágoston et al. (2022). It is a 22-item scale which is used to assess ecological anxiety. It has two factors i.e. habitual ecological worry and negative consequences of eco-anxiety. Responses on items are scored on a 4-point Likert scale.

- ***Eco-Guilt Questionnaire (EGuiQ-11)***

EGuiQ-11 has been given by Ágoston et al. (2022). It is an 11-item scale which is used to assess ecological guilt. Responses on items are scored on a 4-point Likert scale. It is a unidimensional questionnaire on which higher scores indicate higher ecological guilt.

- ***Ten Item Personality Measure (TIPI)***

Ten Item Personality Measure is a 10-item measure of the Five Factor Model personality dimensions, given by Gosling, Rentfrow and Swann Jr. (2003). Responses on the items are scored on a 7-point scale. There are two items for each personality factor. Five items are reverse scored.

Procedure

The participants were informed about the purpose of the research. The consent of the participants was taken, and they were informed about their rights as a participant. The questionnaires were filled in through Google forms. Standardized psychological tests were administered to the participants. Each participant was thanked for their cooperation.

Analysis of Data

Results

Table 1

Shows the mean, median and standard deviation of all the participants on extraversion, agreeableness, conscientiousness, emotional stability, openness to experience, eco-guilt, habitual ecological worry and negative consequences of anxiety

Variables	N	Mean	Median	Sd
Extraversion	31	7.65	8	2.61
Agreeableness	31	10.45	10	2.46
Conscientiousness	31	10.10	11	2.56
Emotional stability	31	8.06	8	2.03

Openness to experience	31	10.52	11	2.13
Eco-guilt	31	28.48	28	6.20
Habitual ecological worry	31	39.77	41	8.68
Negative consequences of anxiety	31	17.06	18	5.05

Table 2

Shows the correlation between extraversion, agreeableness, conscientiousness, emotional stability, openness to experience, eco-guilt, habitual ecological worry and negative consequences of anxiety

	Extraversion	Agreeableness	Conscientiousness	Emotional stability	Openness to experience	Eco-guilt	Habitual ecological worry	Negative consequences of anxiety
Extraversion	-							
Agreeableness	-0.259	-						
Conscientiousness	-0.119	0.167	-					
Emotional stability	0.350	-0.086	0.261	-				
Openness to experience	0.010	0.362*	0.015	-0.124	-			
Eco-guilt	0.042	0.226	0.510**	0.106	0.180	-		

Habitual ecological worry	0.061	0.267	0.388*	0.118	0.214	0.610***	-	
Negative consequences of anxiety	0.151	-0.292	0.211	0.029	-0.056	0.452*	0.523**	-

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Discussion of Results

The results found out that there is a significant positive correlation between eco-guilt and habitual ecological worry ($r = 0.610$, $p < 0.001$), between eco-guilt and negative consequences of anxiety ($r = 0.452$, $p < 0.05$). Out of all five personality factors, the results only showed significant positive correlation between conscientiousness and eco-guilt ($r = 0.510$, $p < 0.01$) and between conscientiousness and habitual ecological worry ($r = 0.388$, $p < 0.05$). The results also showed that there is a significant positive relationship between agreeableness and openness to experience ($r = 0.362$, $p < 0.05$) and between habitual ecological worry and negative consequences of anxiety ($r = 0.523$, $p < 0.01$).

The first hypothesis stated that there is no significant relationship between big 5 personality factors and eco-anxiety. Out of the five personality factors, only conscientiousness showed a significant relationship with habitual ecological worry which is one of the two factors used to assess eco-anxiety. None of the other four personality factors i.e. extraversion, agreeableness, emotional stability, openness to experience showed a significant relationship with eco-anxiety. For negative consequences of anxiety, the second factor used to assess eco-anxiety, none of the five personality factors showed a significant correlation. The hypothesis is partially accepted. The

results indicate that those who score higher on conscientiousness are likely to have higher levels of habitual ecological worry.

The second hypothesis stated that there is no significant relationship between big 5 personality factors and eco-guilt. Out of the five personality factors, conscientiousness showed a significant relationship with eco-guilt. Therefore, the hypothesis is partially accepted. The results indicate that those who score higher on conscientiousness are likely to have higher levels of eco-guilt.

The hypothesis stated that there is no significant relationship between eco-guilt and eco-anxiety. Since the results showed a significant relationship between eco-guilt and habitual ecological worry as well as between eco-guilt and negative consequences of anxiety, therefore the hypothesis is rejected. The results indicate that people with higher levels of ecological guilt tend to have higher levels of habitual ecological worry and higher negative consequences of anxiety.

With the rapid rise in ecological deterioration, variables like eco-anxiety and eco guilt assume greater significance. Further studies can be conducted to understand how correlation between eco-anxiety and eco-guilt can explain results attained in other studies. Pavani et al. (2023) showed that at a given point in time those who experience higher eco-anxiety are likely to show greater increases in their pro-environment behaviors and activities as compared to those with lower eco-anxiety. Mallett (2012) found that when college students think of their environmental behavior, it leads to eco-guilt, which further leads to pro-environment behavior. The results of this study can be used to conduct further research to find the common thread in eco-anxiety and eco-guilt which can explain higher pro-environmental behavior. Further, the finding that people with higher levels of conscientiousness have higher levels of eco-guilt and habitual ecological worry can be taken

further and causation can be studied. This can potentially help in developing more targeted interventions.

Conclusion

The current research aimed to study the relationship among Big 5 personality factors, eco-anxiety and eco-guilt in 20–30-year-old people. Out of the five personality factors, conscientiousness showed a significant positive correlation with eco-guilt and one factor of eco-anxiety that is habitual ecological worry. A significant positive correlation was found between eco-guilt and both the factors of eco-anxiety that is habitual ecological worry and negative consequences of anxiety. The results revealed that among 20–30-year-olds, those who have higher levels of eco-guilt are likely to have higher levels of eco-anxiety. For the purpose of this study, a short scale was used to measure the scores on personality factors. Further studies need to be conducted using Big-5 inventory (BFI) to get more accurate results. Also, find out if these results are of any significance in developing interventions for psychological effects of climate change and ecological deterioration.

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