

ECO-ANXIETY AND PRO-ENVIRONMENTAL BEHAVIOR: A DOUBLE-EDGED SWORD?

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Abstract

The increasingly apparent phenomenon of global climate change has given rise to significant psychological responses among the public, one of which is eco-anxiety. This study aims to examine the relationship between eco-anxiety and pro-environmental behavior through a literature review approach. This study analyzes various empirical and theoretical findings that address whether eco-anxiety acts as a driver of ecological action or inhibits it due to its excessive emotional impact. The results indicate that eco-anxiety has a dual role: on the one hand, it can encourage individuals to engage in concrete actions for environmental sustainability; on the other hand, if not managed properly, this anxiety can lead to feelings of hopelessness and inactivity. This study concludes that constructively managing eco-anxiety is crucial to transform it into positive motivation supporting environmentally friendly behavior. Furthermore, educational and psychological interventions are needed that can frame ecological anxiety as a form of concern, rather than a paralyzing fear.

Keywords: eco-anxiety, pro-environmental behavior, climate change, environmental psychology

INTRODUCTION

The increasingly apparent impacts of climate change have led to multidimensional impacts that not only affect physical and ecological aspects but also affect human psychology. Amid the increasing frequency of natural disasters, environmental degradation, and the increasingly widespread narrative of the climate crisis, a new psychological phenomenon known as "eco-anxiety" has emerged. This term refers to feelings of anxiety, fear, and helplessness experienced by individuals in response to perceived or projected environmental threats. Eco-anxiety differs from general anxiety because it is rooted in an awareness of the global ecological crisis and the uncertainty of the

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Earth's future. This phenomenon is increasingly experienced by the younger generation and communities with high levels of environmental awareness (Colombo et al., 2025a). Although not yet officially classified as a psychological disorder in diagnostic manuals, eco-anxiety has received significant attention in the literature on environmental psychology and contemporary mental health studies.

Meanwhile, within the discourse on environmental behavior, a crucial question arises: does eco-anxiety encourage or hinder pro-environmental action? Pro-environmental behavior refers to actions individuals consciously undertake to minimize negative impacts on the natural environment (Karl & Stanley, 2024a). These actions take various forms, ranging from reducing energy consumption and recycling to avoiding plastic products and engaging in climate activism. Theoretically, someone experiencing high levels of anxiety about environmental damage may be more motivated to act for change. However, this is not always the case. Some individuals experiencing eco-anxiety exhibit passive, apathetic reactions, even withdrawing from reality due to the perceived emotional burden (Pavani et al., 2023a). On the other hand, some people mobilize these feelings of anxiety into motivation to make real changes. This makes the relationship between eco-anxiety and pro-environmental behavior complex and paradoxical, resembling a double-edged sword.

This is where this research is crucial. Few studies have systematically examined the dialectical relationship between eco-anxiety and pro-environmental behavior from the perspectives of environmental psychology and behavioral sociology. Some previous research tends to view eco-anxiety as a negative symptom to be minimized, without considering its potential constructive implications. However, in the context of the global environmental crisis, emotions such as ecological anxiety can be a starting point for social transformation and lifestyle changes. Therefore, a comprehensive literature review is needed to identify how eco-anxiety plays a role in shaping, encouraging, or even inhibiting pro-environmental behavior. Does it serve as a catalyst for change or a paralyzing barrier to action?

In ecopsychology and social psychology, several approaches have developed that attempt to understand the role of emotions in collective action. Negative emotions such as guilt, fear, and anxiety are often seen as social energies that can be mobilized for positive purposes (Mathers-Jones & Todd, 2023). However, their effects are highly dependent on the social context, the individual's capacity to manage emotions, and the support of the surrounding social environment. In this regard, eco-anxiety can be a source of ecological

empathy and a trigger for engagement, but it can also turn into despair if not balanced with a sense of hope and self-efficacy. The concepts of hope and self-efficacy are important intervening variables to examine in understanding this dynamic. When individuals believe that their actions are meaningful and can bring about change, eco-anxiety has the potential to be a powerful motivator. Conversely, without such confidence, eco-anxiety will only deepen feelings of helplessness (Hannuzet et al., in press).

This situation is increasingly relevant in the context of digital media, which is currently a primary source of climate information and narratives (Qin et al., 2024). Constant exposure to alarming environmental news can exacerbate feelings of anxiety, especially among younger generations who intensively access information. On the one hand, media can strengthen ecological awareness and sensitivity (Yao & Dai, 2025). However, on the other hand, an overly intense flow of information can also trigger emotional exhaustion or even climate fatigue. Within this framework, it is crucial to understand how the interaction between media, ecological emotions, and individual capacities shapes daily behavior. Therefore, this study seeks to comb through the academic literature examining the role of eco-anxiety in pro-environmental behavior, both in individual and collective contexts, and to examine the factors influencing the ambivalent effects of eco-anxiety.

This research also has practical relevance in designing environmental policy interventions that rely not only on a rational-informational approach but also take into account the emotional dimensions of society. If ecological anxiety is well understood, public communication strategies, environmental education, and social campaigns can be designed to strengthen a sense of hope, increase emotional literacy, and channel anxiety into constructive action. Therefore, it is crucial to understand that eco-anxiety is not simply a psychological disorder, but rather a complex human response to a real and pressing threat. Viewing it as a double-edged sword, this research will explore how we can harness the productive side of eco-anxiety while simultaneously mitigating its destructive potential.

Through a systematic literature review, this research is expected to provide theoretical contributions to the field of environmental psychology as well as practical implications for policymakers, educators, activists, and mental health practitioners. Ultimately, a deeper understanding of the relationship between eco-anxiety and pro-environmental behavior will provide a crucial foundation for designing more effective, humane, and sustainable interventions in addressing the increasingly complex environmental crisis.

RESEARCH METHOD

The research method used in this study is a literature review, which aims to explore the relationship between eco-anxiety and pro-environmental behavior. This study focuses on conceptual analysis and empirical findings from various relevant scientific sources, including journal articles, academic books, research reports, and other scientific documents published in the last two decades. This method was considered appropriate for examining the complex psychological dynamics of eco-anxiety and its impact on human behavior in the context of environmental sustainability.

The study procedure began with a literature search through scientific databases such as Scopus, ScienceDirect, SpringerLink, and Google Scholar using the keywords "eco-anxiety," "climate anxiety," "pro-environmental behavior," and "environmental psychology." The selected literature was selected based on topic relevance, publication quality, and recency, specifically those published between 2005 and 2025. The analysis was conducted by classifying key findings into several themes, such as the causes of eco-anxiety, individual emotional and cognitive responses, and their implications for environmentally friendly intentions and actions.

Next, the researchers conducted a critical synthesis of the collected research findings to identify common patterns, discrepancies, and potential research gaps. This study not only illustrates the linear relationship between environmental anxiety and ecological behavior but also examines the ambivalent aspect of eco-anxiety, namely its ability to both encourage and inhibit pro-environmental actions. With this approach, it is hoped that this literature review will provide a deeper theoretical understanding and serve as a foundation for further empirical research in the fields of environmental psychology and climate change.

RESULT AND DISCUSSION

Pro-Environmental Behavior: Dimensions, Motivation, and Implementation

Pro-environmental behavior is becoming an increasingly important topic in the context of the global ecological crisis currently facing the world. This behavior refers to the conscious actions of individuals or groups aimed at minimizing negative impacts on the environment and supporting ecosystem sustainability (Pongiglione, 2014). In studies of environmental psychology and behavioral sociology, pro-environmental behavior is viewed not only as physical activities such as recycling, conserving energy, or choosing environmentally friendly transportation, but also encompasses the values, attitudes,

motivations, and ecological awareness that underlie these actions. Understanding the types of pro-environmental behavior, the motivations that drive them, and the relationship between knowledge, emotions, and actions is crucial for designing effective behavior change strategies.

The types of pro-environmental behavior are diverse and can be classified based on their scope and the level of commitment required. Some behaviors are simple and practiced daily, such as disposing of trash properly, reducing the use of plastic bags, or turning off lights when not in use. Other behaviors are more complex and require a high level of commitment, such as participating in environmental movements, advocating for public policy, or making a complete lifestyle change towards sustainable consumption patterns. Furthermore, pro-environmental behavior can be both personal and collective. Personal actions encompass decisions made by individuals in their daily lives, while collective actions involve participation in community settings, campaigns, or collective policies. This distinction demonstrates that pro-environmental behavior reflects various forms of engagement influenced by social, cultural, and psychological contexts (Sharpe et al., 2021).

Various behavioral psychology theories have been used to explain the motivations behind pro-environmental behavior. The Theory of Planned Behavior (TPB), developed by Ajzen, emphasizes that behavior is determined by behavioral intentions, which are influenced by attitudes toward the behavior, subjective norms, and perceived self-control. In the environmental context, the TPB explains how positive attitudes toward environmental protection, social pressure from reference groups, and beliefs about one's own abilities can motivate individuals to act in an environmentally friendly manner. Meanwhile, the Value-Belief-Norm Theory (VBN) introduced by Stern places greater emphasis on the role of personal values, beliefs about environmental consequences, and moral norms in driving ecological behavior (Shafiei & Maleksaeidi, 2020). This theory emphasizes that pro-environmental behavior emerges when individuals feel a moral responsibility to act, based on altruistic and biospheric values. Both theories, despite their different approaches, emphasize the importance of cognitive and normative factors in explaining why someone chooses to care for the environment.

Furthermore, the relationship between knowledge, emotions, and environmental action has also been highlighted in the literature on pro-environmental behavior (Bijani et al., 2022). Many studies have shown that environmental knowledge alone is not always sufficient to motivate concrete action. Individuals with a deep understanding of ecological issues may not

necessarily engage in environmentally friendly behavior without emotional engagement or internal motivation. Emotions such as ecological anxiety, empathy for living things, fear of environmental damage, or awe for nature can be powerful triggers for action. These emotions play a role in shaping awareness and a sense of urgency regarding the need for behavioral change (Ojo, 2022). However, if not managed properly, emotions can also become obstacles, such as when excessive anxiety leads to helplessness.

The relationship between knowledge, emotion, and action emphasizes the need for a holistic approach to promoting pro-environmental behavior (Kothe et al., 2019). Environmental education that solely emphasizes the cognitive aspect without addressing the affective domain may be ineffective in driving behavioral change. Conversely, approaches that build emotional awareness, reinforce ecological values, and provide concrete means for action are more likely to produce sustainable change (Budzanowska-Drzewiecka & Tutko, 2021). In this regard, community-based behavioral interventions, participatory education, and emotionally engaging campaigns can be important strategies. By understanding the complex dynamics of human behavior toward the environment, efforts to transition to a more environmentally conscious society can be carried out more wisely and effectively.

The Relationship Between Eco-Anxiety and Pro-Environmental Behavior

The relationship between eco-anxiety and pro-environmental behavior has become an increasingly relevant topic in modern environmental psychology studies, particularly in the context of growing awareness of the global climate crisis. Eco-anxiety, or ecological anxiety, generally refers to feelings of worry, fear, helplessness, and stress arising from awareness of environmental degradation and threats to the Earth's future. In some cases, these feelings can trigger positive action, encouraging individuals to adopt environmentally friendly lifestyles, engage in advocacy movements, or strengthen commitment to conservation. However, in other contexts, eco-anxiety can produce the opposite effect, namely psychological paralysis, apathy, or avoidance, which actually inhibit active participation in environmental behavior (Hogg et al., 2024). Therefore, the relationship between eco-anxiety and pro-environmental behavior is complex, not always linear, and highly dependent on mediating psychological and social factors.

Empirical studies have shown mixed results regarding how eco-anxiety influences a person's tendency to act environmentally. Pro-environmental behavior. Research conducted by (Lutz et al., 2023) shows that moderate levels

of eco-anxiety can be a motivating factor for action, as long as individuals believe their actions can bring about change. Conversely, research by Helm et al. (2018) indicates that excessively high levels of anxiety tend to lead to feelings of helplessness and pessimism about the effectiveness of individual actions, ultimately reducing motivation for environmentally friendly behavior. In this regard, eco-anxiety can be a double-edged sword; it can be either a motivator or a deterrent depending on the individual's psychological capacity to respond to the stress. Another finding from (Pavani et al., 2023b) highlights that feelings of anxiety about the future of the environment are not always associated with concrete action, especially when individuals lack the emotional and social resources to manage their anxiety.

In understanding the complexity of this relationship, it is important to consider the role of mediating factors that can strengthen or weaken the impact of eco-anxiety on environmental behavior. One important factor is self-efficacy, which is an individual's belief that they are capable of doing something beneficial to address environmental problems. High levels of self-efficacy can transform anxiety into a constructive drive, while Low levels of self-efficacy actually reinforce feelings of helplessness. Furthermore, social support plays a key role in determining the direction of eco-anxiety's influence (Türkarslan et al., 2023). Individuals with supportive social networks, such as environmental communities or groups of friends concerned with ecological issues, tend to be better able to manage anxiety and translate it into concrete actions (Shao & Yu, 2023). On the other hand, those who feel isolated or lack support are more susceptible to demotivation and withdrawal. A third significant factor is a person's environmental values. Individuals with an intrinsic value for nature tend to be better able to internalize feelings of anxiety as part of their moral commitment, while those whose values are less focused on sustainability may be more easily overwhelmed and ultimately withdraw from responsibility (López-García et al., 2025).

Therefore, it can be concluded that eco-anxiety has great potential to be a catalyst for positive change, but only when psychological and social conditions support the transformation of this anxiety into action. In the context of environmental education and climate awareness campaigns, it is crucial to not only convey anxiety-provoking information but also equip individuals with coping strategies, build self-efficacy, create supportive communities, and reinforce sustainability values. Without a comprehensive approach, the risk of eco-anxiety becoming a barrier increases, reinforcing fatalistic and passive attitudes towards the ecological crisis. Therefore, further studies are needed to

explore the dynamics of this relationship and to design interventions capable of directing eco-anxiety in a productive and transformative direction in the struggle for a more sustainable future.

Eco-Anxiety as a Double-Edged Sword

Eco-anxiety, as a contemporary psychological phenomenon, has become a complex reflection of human feelings regarding the increasingly apparent global environmental crisis (Karl & Stanley, 2024b). Defined as anxiety arising from awareness of environmental damage, climate change, and the uncertain future of the planet, eco-anxiety is often described as a form of anxiety that stems not from a direct threat to the individual, but from a collective and systemic threat to the survival of humans and other living things. This phenomenon has become increasingly relevant in global discourse due to increased exposure to news about natural disasters, species extinction, forest fires, water crises, and rising sea levels, which are not only scientific facts but also pervasive emotional experiences in the daily lives of many individuals. In this context, eco-anxiety exhibits a dual function, resembling a double-edged sword: on the one hand, it can be a source of constructive motivation, but on the other, it also has the potential to trap individuals in a spiral of despair and helplessness.

The constructive impact of eco-anxiety is seen in its ability to mobilize individuals to take concrete action in addressing the environmental crisis. Anxiety about the condition of the earth can trigger greater ecological awareness and encourage participation in various forms of pro-environmental action, both at the individual and collective levels. Many environmental activists acknowledge that fear and anxiety about the future of the planet are the primary drivers of their involvement in environmental movements, such as campaigns to reduce carbon emissions, advocate for green policies, and advocate for sustainable lifestyles. In fact, the younger generation is now the most vocal group in advocating for change, using eco-anxiety as an emotional force that ignites a collective passion to challenge the status quo. In this regard, eco-anxiety can be considered a form of moral awareness that enables individuals to emerge from apathy and take responsibility for environmental sustainability. When managed healthily, this anxiety can increase ecological empathy, social solidarity, and a willingness to engage in sustainable systemic solutions (Colombo et al., 2025b).

However, the destructive side of eco-anxiety cannot be ignored. For some individuals, heightened awareness of environmental damage actually gives rise

to feelings of hopelessness, emotional exhaustion, and even a tendency to withdraw from environmental issues themselves. When someone feels that the scale of the problem is too great to address and that individual efforts will not bring about significant change, what emerges is not the urge to act, but rather a psychological numbness. This condition can be exacerbated by constant exposure to narratives of doom in the media, which often emphasize apocalyptic scenarios without including hope or recovery strategies (Pavani et al., 2023c). In this context, eco-anxiety becomes a crippling emotional burden and can even develop into more serious psychological disorders such as depression or generalized anxiety disorder. Feelings of guilt for not being able to live up to ideals of sustainability also become a moral burden that exacerbates individuals' mental health, especially those living within systems that do not support an environmentally friendly lifestyle.

One root of this paradox is the imbalance between growing environmental awareness and individual capacity to act effectively (D. Wang et al., 2025). On the one hand, many people understand the urgency of the climate crisis and the importance of collective action. However, on the other hand, they often lack the resources, access, or political influence to make significant changes (Larionow et al., 2024). This imbalance creates a psychological chasm that makes eco-anxiety a constant source of internal conflict. Individuals with a high level of knowledge and concern, but limited ability to act directly or see concrete results from their actions, are vulnerable to deep frustration (Nutkiewicz, 2022). In this regard, efforts to raise public awareness are insufficient if not accompanied by capacity building, social support, and policy systems that enable concrete action. Without adequate structural support, eco-anxiety, essentially a natural emotional response, can escalate into an existential crisis that worsens society's collective mental state. Therefore, in interpreting eco-anxiety as a double-edged sword, it is important to position this phenomenon not only as an individual problem but also as a reflection of systemic failure in addressing the environmental crisis. The necessary interventions are not merely psychological, but also social and political. Empowering environmental education, media narratives that balance urgency and hope, and the provision of collective spaces for collective action can provide a middle ground for making eco-anxiety a transformative force, rather than a psychological burden. When anxiety is linked to hope and the capacity to act, eco-anxiety can be transformed into fuel for social and ecological change. However, if left unsupported, it will continue to spiral in a cycle of

anxiety and helplessness that endangers both individuals and society as a whole.

Eco-Anxiety Management Strategies to Encourage Positive Behavior

Facing increasingly widespread eco-anxiety, strategies are needed that not only reduce anxiety but also redirect it into positive energy for concrete action. These strategies include psychological approaches that build mental resilience, environmental education that fosters hope and deep understanding, and systemic support from the media, communities, and social institutions. Rather than viewing eco-anxiety as a symptom to be avoided, these management strategies redirect this emotion into a source of motivation for change. In this context, it is crucial to design interventions that bridge awareness of the ecological crisis with individual and collective capacity for action. Without this bridge, eco-anxiety risks leading individuals to emotional exhaustion, despair, or even apathy toward the environment (Brophy et al., 2023).

Psychological approaches play a central role in managing eco-anxiety (Ayassamy et al., 2024). One effective intervention is emotion regulation techniques that help individuals recognize, accept, and constructively channel environmental anxiety (Tanveer et al., 2024). Mindfulness practices, cognitive behavioral therapy, and environmentally sensitive counseling have been shown to help individuals reduce psychological burdens without ignoring the urgency of ecological issues. Furthermore, community-based interventions such as support groups and peer counseling create spaces for individuals to feel heard and understood. In these spaces, feelings of helplessness are replaced by solidarity, and narratives of fear are gradually replaced by stories of success that inspire hope. Another important aspect is building self-efficacy, namely the belief that individual actions, no matter how small, still have meaning in the landscape of global environmental change. By strengthening feelings of efficacy, individuals will be more motivated to engage in pro-environmental behaviors, not as an escape from anxiety, but as an expression of empowerment.

Furthermore, supportive environmental education is key to developing a generation that is not only environmentally aware but also psychologically resilient. The educational curriculum must balance the presentation of alarming environmental facts with solution-based learning, action, and innovation. When students are presented only with environmental crisis data without a narrative of hope, they tend to experience paralysis by analysis, a condition where

information leaves them feeling paralyzed and unsure where to begin (H. Wang et al., 2023). Therefore, education must stimulate critical thinking skills while fostering a sense of ownership for the earth. Educational programs such as environmental projects, involvement in local ecosystem restoration, and collaboration with environmental activists provide hands-on experiences that foster a sense of responsibility and meaning. In this realm, teachers act as facilitators of change, not only imparting knowledge but also instilling an empathetic, reflective, and proactive attitude toward ecological issues.

The media, communities, and public institutions have a collective responsibility to frame eco-anxiety productively. The media must stop focusing solely on disaster and destruction and instead highlight stories of collective action, community-based solutions, and inspiring innovation. Balanced media framing will help the public develop a more comprehensive understanding that the climate crisis is real, but we are not completely powerless. Local communities can also become safe spaces for individuals to practice sustainable lifestyles together (Malboeuf-Hurtubise et al., 2024). Movements such as waste banks, urban farming, and cycling communities are not only environmental mitigation strategies but also social platforms that strengthen a sense of belonging and connectedness. Meanwhile, government institutions and non-profit organizations can expand access to environmental education, provide green facilities, and facilitate citizen engagement in environmental decision-making. When this social ecosystem is supportive, eco-anxiety will transform into social capital that strengthens ecological solidarity.

Strategies for managing eco-anxiety effectively also require shifting perspectives from fear to hope and collective action (Nieminen et al., 2025). This is not about denying the reality of the crisis, but rather about reframing the emotions that arise to become drivers of change. It is necessary to build a culture of reflection that enables individuals to recognize their position and role in the global ecological network, and to recognize that change begins with consistent, local action. A narrative of hope does not imply empty optimism, but rather an awareness that change is possible through the synergy of many parties. In this regard, it is crucial to prioritize the principle of cross-generational and cross-sector collaboration, combining the energy of youth, the wisdom of older generations, and the capacity of technology and public policy. Such an approach creates a collective sense that although we face significant challenges, we are not alone and not without hope.

Thus, managing eco-anxiety is not merely an effort to alleviate individual anxiety, but also a strategy for broader social transformation. Through an

empathetic psychological approach, constructive environmental education, and support from the media and community, eco-anxiety can become a transformative force that encourages sustainable, pro-environmental behavior. When fear turns into concern, and concern into action, we are building a future that is not only greener but also more emotionally and socially resilient.

CONCLUSION

The conclusions of the literature review on eco-anxiety and pro-environmental behavior underscore the complex relationship between environmental anxiety and environmentally friendly behavior. On the one hand, eco-anxiety can trigger awareness and encourage individuals to take concrete action for environmental sustainability. Anxiety stemming from concern about ecosystem damage can motivate more environmentally responsible behavior, such as reducing carbon footprints, sustainable consumption, and participation in environmental movements.

However, on the other hand, if not managed healthily, eco-anxiety risks causing negative psychological impacts such as hopelessness, helplessness, and even apathy toward environmental issues. Excessive feelings of anxiety can hinder active engagement and create emotional distance from the ecological issues at hand. This suggests that while eco-anxiety can act as a trigger for behavioral change, it also has potential counterproductive effects that must be anticipated.

Thus, eco-anxiety is a double-edged sword that requires a thoughtful psychological and educational approach. Educational institutions, the media, and communities play a crucial role in channeling this anxiety into constructive, rather than destructive, action. Efforts to increase environmental literacy accompanied by emotional support and individual empowerment can be the key to turning eco-anxiety into a transformative force that drives a collective shift towards sustainable, pro-environmental behavior.

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