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"Beyond the Cosmos : Transdisciplinary Perspectives on Ecotheology and Global Sustainability"

BUILDING ECO-RESILIENT SCHOOLS: PSYCHOLOGICAL, SPIRITUAL, AND ENVIRONMENTAL STRATEGIES FOR ADDRESSING ECO ANXIETY

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Abstract

Climate change has increasingly become not only an environmental issue but also a psychological and educational concern, particularly through the emergence of eco anxiety among students. This study aimed to systematically review the forms of eco anxiety experienced in educational settings and explore holistic school-based intervention strategies integrating psychological, environmental, and spiritual approaches. This research employed a Systematic Literature Review (SLR) design following the PRISMA 2020 guidelines. Relevant articles were collected from Scopus, ScienceDirect, and Google Scholar using keywords related to eco anxiety, climate anxiety, school intervention, spiritual resilience, and environmental education. Fourteen studies published between 2015 and 2026 met the inclusion criteria and were analyzed using thematic synthesis. The findings indicate that eco anxiety among students manifests in emotional distress, cognitive and future-oriented concerns, behavioral responses, and psychological vulnerability. The review further identified three major school-based intervention pathways: psychological interventions, environmental and geographical education, and spiritual resilience approaches. Psychological strategies such as counseling, socio-emotional learning were found to strengthen emotional resilience and adaptive coping. Environmental education approaches involving climate literacy, nature-based learning, and community engagement fostered environmental agency and constructive climate action. Meanwhile, spiritual approaches emphasizing meaning-making, hope, reflection, and religious coping contributed to emotional calmness and resilience. This study concludes that eco-resilient schools should adopt holistic and climate-responsive educational models integrating psychological support, participatory environmental education, and spiritual resilience to support students' wellbeing and adaptive engagement amid climate uncertainty.

Keywords: eco anxiety; eco-resilient school; spiritual resilience; environmental education; school-based intervention.

1. INTRODUCTION

Climate change has increasingly become not only an environmental issue but also a psychological and educational concern. The growing frequency of floods, extreme weather events, rising temperatures, and ecological degradation has contributed to emotional distress among students, particularly in the form of eco anxiety, defined as chronic fear and worry related to environmental destruction and climate uncertainty. Recent studies indicate that schools are becoming important spaces where students experience and process climate-related emotions, including fear, hopelessness, grief, and uncertainty about the future (MacNeil, 2026; Olsen et al., 2024).

Eco anxiety has emerged as one of the most discussed psychological impacts of climate change and environmental degradation. The term generally refers to persistent worry, fear, distress, or



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emotional discomfort associated with ecological crises and uncertainty about the future of the planet. The American Psychological Association defines eco anxiety as a "chronic fear of environmental doom" (Dodds, 2021). Recent literature suggests that eco anxiety is not necessarily pathological; rather, it may represent a rational emotional response to real environmental threats (Kırimer-Aydınlı et al., 2025; Pihkala, 2020). Pihkala's review also identified eco anxiety as a multidimensional phenomenon closely associated with grief, guilt, helplessness, anger, and despair. However, eco anxiety may also possess adaptive dimensions by encouraging environmental responsibility and climate action when individuals receive adequate emotional and social support (Pihkala, 2020).

Another literature has expanded the discussion beyond anxiety alone into broader eco-emotions, including: eco grief, eco anger, eco guilt, sadness, hopelessness, and solastalgia. A rapid review on children and adolescents demonstrated that environmental crises evoke complex emotional responses that significantly affect young people's psychological wellbeing (Wu et al., 2025). Importantly, educational and climate-action programs were found capable of transforming fear into hope, empowerment, and resilience. Similarly, Brophy et al. emphasized that youth eco anxiety remains underexplored despite increasing global concern. Their integrative review concluded that supportive environments and coping strategies are essential in preventing eco anxiety from developing into chronic psychological distress (Brophy et al., 2022).

In educational settings, eco anxiety may affect not only students' psychological wellbeing, but also learning motivation, emotional regulation, and future orientation. Climate education, while intended to increase environmental awareness, may also unintentionally intensify emotional burden when students are repeatedly exposed to catastrophic climate narratives without adequate emotional support systems. MacNeil highlighted that many teachers experience difficulties responding to students' emotional reactions toward climate change because educational systems still focus primarily on scientific knowledge rather than emotional resilience and psychological support (MacNeil, 2026).

Students are increasingly exposed to climate-related information through formal education, media, and social discourse, which may intensify emotional distress regarding environmental futures. Studies show that eco anxiety among students can influence concentration, motivation, emotional wellbeing, future orientation, and school engagement (Olsen et al., 2024). Olsen et al. also emphasized that effective responses to eco anxiety should not only focus on environmental literacy (heads) and environmental action (hands), but also on emotional and psychological dimensions (hearts). Transformative environmental education integrating cognitive, emotional, and behavioral approaches can help learners process eco anxiety more constructively (Olsen et al., 2024). However, most existing studies still predominantly emphasize psychological coping and environmental education, while spiritual dimensions remain underexplored.

Spirituality has increasingly been recognized as an important protective factor in psychological resilience. Spiritual approaches may play an important role in helping students develop meaning-making, hope, emotional regulation, connectedness, and resilience in the face of climate uncertainty. Studies on adolescent mental health suggest that spiritual wellbeing contributes positively to emotional regulation, coping capacity, meaning-making, and resilience against anxiety (Izzah et al., 2026). Within environmental contexts, emerging literature on eco-spirituality argues that environmental crises are not only ecological problems



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but also existential and spiritual challenges. Eco-spiritual approaches encourage individuals to develop: connectedness with nature, meaning and purpose, hope, transcendence, and moral responsibility toward the environment (Putra & Pratiwi, 2025; Ramli et al., 2024). These studies indicate that integrating spirituality into environmental learning may strengthen emotional resilience and ecological awareness simultaneously. In the context of education, spirituality may support students in transforming fear into adaptive engagement and constructive environmental responsibility. Several emerging studies also suggest that eco-spirituality and reflective educational practices can foster hope and resilience amid climate-related distress (Skilling et al., 2023; Sapitri et al., 2025).

Nevertheless, the integration of psychological, spiritual, and environmental approaches within school systems has not been systematically synthesized in previous literature. Current literature increasingly highlights the importance of schools as spaces for psychological and emotional support in the climate crisis era. School responses to eco anxiety may include: counseling services, socio-emotional learning, climate literacy education, environmental engagement programs, reflective learning, and spiritual or value-based education. However, existing studies remain fragmented. Most reviews discuss either environmental education, psychological wellbeing, or spirituality separately. There is still limited synthesis regarding holistic school-based responses integrating: psychological approaches, spiritual resilience, and environmental education (Ramli et al, 2024; Olsen et al., 2024; Pihkala, 2020). This gap indicates the need for a more integrative framework positioning schools not only as places of climate education, but also as systems that help students process climate-related emotions, construct meaning, and develop resilience.

Therefore, this study aims to systematically review the existing literature on school responses to eco anxiety by integrating psychological, spiritual, and environmental educational approaches. This review seeks to identify the forms of eco anxiety experienced in educational settings, explore intervention strategies implemented by schools, analyze the role of spiritual resilience in supporting students' wellbeing, and propose a conceptual framework for holistic school responses to eco anxiety.

2. RESEARCH METHOD

This study employed a Systematic Literature Review (SLR) design to comprehensively identify, evaluate, and synthesize previous studies related to eco anxiety and holistic school responses through psychological, spiritual, and environmental educational approaches. The SLR method was chosen because it allows researchers to systematically map research trends, identify conceptual gaps, and develop integrative theoretical frameworks from existing literature. The review process followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) guidelines to ensure transparency, rigor, and replicability throughout the study process.

The population of this study consisted of scientific publications discussing: eco anxiety, climate anxiety in educational settings, school-based interventions, spiritual resilience, psychological support, and environmental education. Relevant articles were collected from several international academic databases, including: Scopus, ScienceDirect and Google Scholar. The search process was conducted using combinations of the following keywords: “eco anxiety”.



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“climate anxiety”, “school intervention”, “school response”, “spiritual resilience”, “environmental education”, “psychological support” and “student wellbeing”.

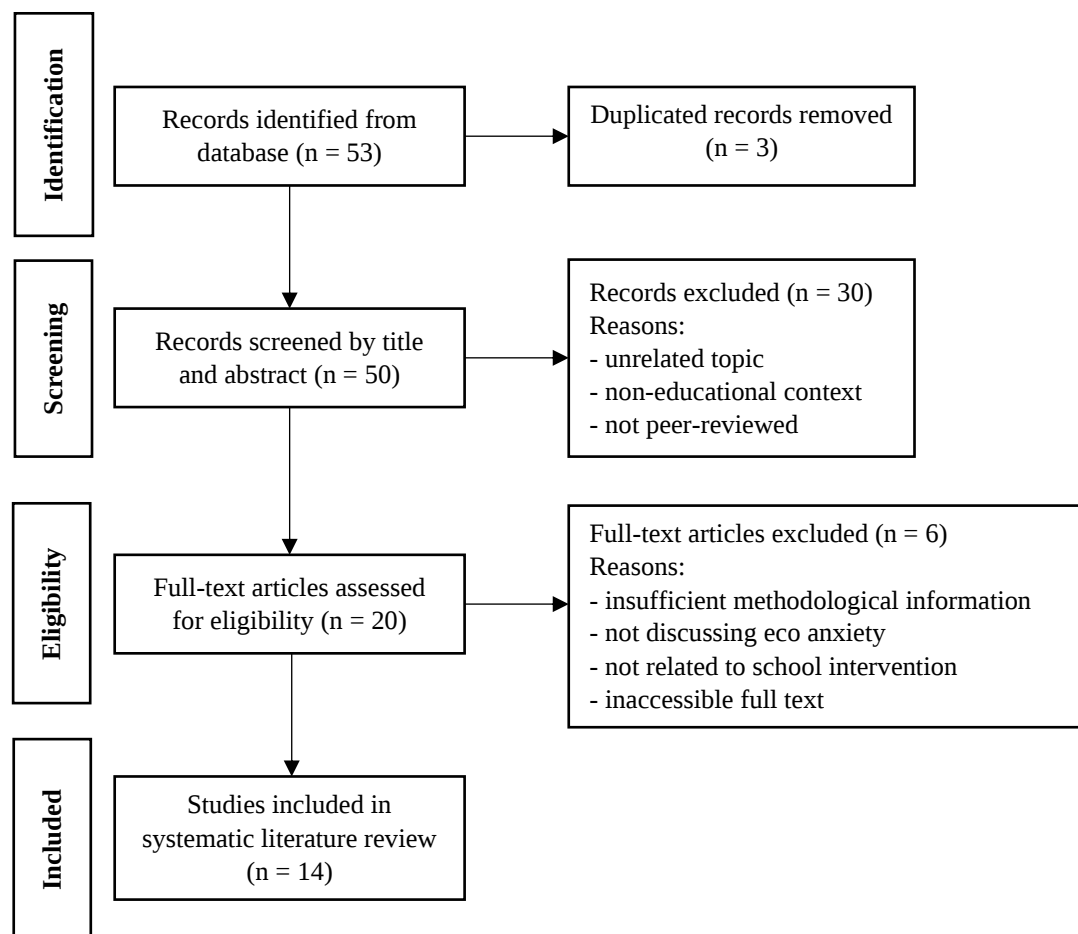


Figure 1. PRISMA 2020 flow diagram illustrating the identification, screening, eligibility assessment, and inclusion process of studies in this systematic literature review.

The selected articles were determined based on the following inclusion criteria:

1. Articles published between 2015 and 2026.
2. Peer-reviewed journal articles.
3. Studies discussing eco anxiety or climate-related psychological distress.
4. Studies focusing on educational settings or school-based interventions.
5. Articles written in English or Indonesian.
6. Articles discussing psychological, spiritual, or environmental educational approaches.

The exclusion criteria included:

1. Non-academic publications.
2. Conference abstracts without full text.
3. Duplicate articles.
4. Studies unrelated to education or student wellbeing.
5. Articles lacking sufficient methodological information.



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The data collection process consisted of several stages following the PRISMA framework: (1) identification, (2) screening, (3) eligibility assessment, (4) and final inclusion. Initially, articles were identified through database searching using predefined keywords. Duplicate articles were removed, followed by title and abstract screening based on the inclusion criteria. Subsequently, full-text screening was conducted to determine the eligibility of each study. The PRISMA flow diagram can be seen in Figure 1. The selected studies were then organized and documented using a literature review matrix containing: author(s), publication year, country, research objectives, methodology, and major findings.

The collected data were analyzed using thematic synthesis analysis. This technique was used to identify recurring themes, conceptual patterns, and intervention models related to school responses to eco anxiety. The analysis process involved: (1) coding important findings from each study, (2) categorizing findings into broader themes, (3) comparing similarities and differences across studies, (4) and synthesizing conceptual relationships among psychological, spiritual, and environmental educational approaches. The final stage of analysis aimed to develop an integrative conceptual framework regarding holistic school responses to eco anxiety. This framework highlights how schools can support students’ emotional wellbeing and resilience through multidimensional interventions integrating psychological support, spiritual meaning-making, and environmental education.

3. RESULT AND DISCUSSION

Table 1. Result findings from literatures review

No.	Author(s), Year, Country	Research Objectives	Methodology	Major Findings
1	Rimba, F. & Putri, A.P.; 2025; Indonesia	To analyze research trends and knowledge networks on eco-anxiety.	Bibliometric	Eco-anxiety is a multidimensional issue: emotional responses (eco guilt, eco grief, and coping); responses among young people; vulnerability among children and adolescent; climate change awareness; and pro-environmental behavior; while also opening opportunities for cross-cultural research and the development of adaptive instruments to manage this phenomenon constructively.
2	Panu Pihkala, 2018, Finland	To explore the phenomenon of eco-anxiety and its existential, psychological, emotional, and spiritual dimensions in the context of climate change.	Qualitative conceptual and interdisciplinary literature review approach	The study found that eco-anxiety is a complex emotional and existential response to climate change that includes fear, grief, helplessness, and concerns about mortality and meaning in life. Many individuals suppress or deny these emotions despite experiencing deep ecological distress. The article highlighted the importance of acknowledging grief and emotional suffering as part of climate change adaptation. It also



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				emphasized that religion, spirituality, and faith communities can play important roles in alleviating eco-anxiety by providing hope, opportunities for mourning, existential meaning-making, and emotional support.
3	M. O. Williams & . M. Samuel, 2023, United Kingdom	To examine the potential of Acceptance and Commitment Therapy (ACT) as a therapeutic approach for addressing climate distress and eco anxiety.	A conceptual and literature-based review.	The study found that ACT provides a promising framework for addressing eco anxiety because it emphasizes psychological flexibility, emotional acceptance, mindfulness, and values-based action rather than avoidance of climate-related distress. The article highlighted that suppressing climate emotions may worsen psychological suffering, whereas acceptance and meaning-focused coping can improve wellbeing and encourage constructive environmental engagement. The findings also emphasized the importance of connectedness with nature, emotional processing, and value-driven action in helping individuals cope adaptively with climate distress. ACT was considered particularly relevant for supporting resilience and psychological wellbeing in the context of climate uncertainty.
4	Glynn, R., Dwer, C.O., Casey, M., Sharma, S., Harrold, P., O'Connor, P., Harrold, P., Glynn, L.G.; 2025; Ireland	To explore the effect of a nature-based intervention on climate capability and eco-anxiety among teenagers.	A randomized controlled trial study	The study results appear to confirm the effectiveness of a nature-based intervention in teenagers to build positive relationships with the environment and build their own capacity and capability to effect positive environmental change. Those responsible for developing school curricula should consider including climate education and engagement in the education of young people if we are to ensure that we have enough climate capable citizens of the future.
5	Daenick, C., Kioupi, V., & Vercammer, A.; 2023; United Kingdom	To understand the occurrence and personal management of climate anxiety in UK university students.	Survey (through an online questionnaire)	Problem-focused coping was the most commonly endorsed strategy, although the prior literature on coping suggests that this may not be sustainable for individually intractable problems. Highly climate-anxious students were more likely to consider climate



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				change in all five decision-making domains, including family planning, long-term habitation, career, financial and travel decisions. This study has identified a need to communicate effective climate anxiety coping strategies to environmental practitioners, university students and educators.
6	Le Vay, J.N., Cunningham, A., Soul, L., Dave, H., Hoath, L., & Lawrence, E.L.; 2024; United Kingdom	To explore ways in which the goals of climate change education and safeguarding children and young people mental health are aligned. .	Literature review	Eight principles of the whole school approach to promoting good mental health and wellbeing could be applied to practical integration of mental health into climate change education: (1) leadership and management, (2) curriculum teaching and learning, (3) student voice, (4) staff development, (5) identifying and monitoring impact, (6) parents and carers, (7) targeted support and appropriate referral, (8) ethos and environment
7	Scafuto, F., Conversano, C., Presaghi, F., Santoni, G., Vaglini, I., Girardi, F., Matiz, A., & Crescentini, C.; 2025; Italy	To evaluates the effectiveness of a novel program, called MINDhEARTH, grounded in the ecopsychological approach, and aimed to improve individual wellbeing and ecological self-awareness in adolescents	Mixed method	MINDhEARTH program partially affected connectedness to nature that increased in the intervention group. The study concludes with analysis of limitations and suggestions for future school mental health programs that consider a combination between mindfulness interventions and nature-based activities to increase wellbeing and antecedents of ecological citizenship.
8	Mosca, A., Luciani, D., Chiappini, S., Miuli, A., PsyClimate Research Group, Cianconi, P., Pettoruso, M., Janiri, L. & Martinotti, G.; 2025; Italy	To investigate the prevalence and correlates of eco-anxiety in an Italian sample, focusing on associations with demographics, environmental disaster exposure, psychological distress, psychosis-risk indicators, and quality of life.	A cross-sectional online survey was conducted with 1051 participants.	Eco-anxiety was higher among younger participants, women, and individuals without children, while education showed a weak negative association. No differences emerged by rural vs. urban residence. Participants exposed to floods, droughts, wildfires, and landslides reported elevated eco-anxiety. Scores correlated strongly with general distress ($r = 0.57$), positively with psychosis-risk indicators (PQ-16 distress, $r = 0.42$), and negatively with quality of life ($r = -0.25$). Eco-anxiety in Italy is linked to socio-demographic vulnerabilities, disaster exposure, and impaired mental health. Eco-anxiety as a



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				pressing public health concern and stress the need for prevention and interventions that promote adaptive coping and engagement with climate change.
9	Harriz, M.A., Supriyanto, B.E., & Aslam, S.; 2024; Indonesia	To investigate the effectiveness of green-space-based interventions in reducing eco anxiety among urban adolescents, a population increasingly vulnerable to climate-related psychological distress.	Mixed method	Quantitative results showed a substantial reduction in eco-anxiety symptoms, with participants experiencing approximately a 30% decrease in climate-related worry after the intervention. Improvements were also observed in emotional resilience, including enhanced self-regulation, greater cognitive clarity, and improved coping capacity. Qualitative findings reinforced these outcomes, revealing that participants reported deeper emotional calm, stronger feelings of agency, and an increased sense of connectedness with nature.
10	Cosh, S.M., Bartik, W., Ryan, R., Jeffreys, A., Tully, P.J., & Lykins, A.D.; 2025; Australia	To explore the acceptability, feasibility, and clinical utility of a group-based eco-anxiety intervention.	Exploratory study	Rural children and young people are an especially vulnerable population for the mental health impacts of climate change. To date, the evidence based for interventions for treating eco-anxiety remains sparse, especially for young people and children who typically have higher rates of eco-anxiety than older age groups. This study will provide preliminary evidence of a group-based treatment for children and adolescents experiencing eco-anxiety that can inform practitioners.
11	Swinton, S.; 2025	To explore the potential of a Nature-Based Art Therapy (NBAT) group program to provide emotional support and foster resilience in young people aged experiencing eco-anxiety.	Literature review	NBAT holds unique potential to support youth in processing eco-anxiety by fostering emotional regulation, creative expression, connection to land and pro-environmental identity development. By incorporating natural materials and outdoor environments, NBAT also aligns with ecological principles and supports sustainability within the therapeutic process. Furthermore, its flexibility and emphasis on tangible experiences make it



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				well suited for youth who may struggle to articulate eco-emotions verbally
12	Najamuddin, Tamrin, S., Suhaeb, F.W., Rizal, A., & Malik, A.R.; 2025; Indonesia	To examine climate anxiety levels among university students in Sulawesi, Indonesia, and how religious engagement shapes resilience	Mixed method	Results show moderate to high emotional anxiety but low functional disruption, meaning worry is common but daily life continues normally. Frequent prayer and strong personal faith are linked to lower anxiety. Students interpret climate threats as moral lessons and find comfort in prayer and worship, which encourage responsible behavior. Findings suggest integrating spiritual support into climate education and mental health programs. For policymakers and educators, this highlights the importance of designing interventions that combine scientific knowledge with cultural and religious resources to strengthen youth resilience.
13	Royer, A.; 2026; United States	To synthesize the current literature on how students cope with climate anxiety, addressing the research question: How do students experience climate-related hope and anxiety, and how do different interventions or practices influence their motivation to engage in climate action?	Scoping literature review	This analysis identified three main themes: the complex relationship between climate anxiety and pro-environmental behaviors, the role of hope as a coping strategy, and education-focused interventions for coping with climate anxiety. This analysis highlighted tools that can be utilized in education to help students manage climate anxiety, foster critical hope, and maintain motivation to engage in pro environmental behaviors. This literature review supports the call for academic institutions to integrate well-being support for their students studying climate-related subjects. It suggests further research on coping strategies to develop critical hope among undergraduate students.
14	Mbiriri, M.; 2025; Kenya	To examine how climate education can transform climate-related anxiety into psychological resilience and empowered action among youth.	Literature review	The climate education, when integrated with psychological awareness, plays a critical role in fostering adaptive coping mechanisms, self-efficacy, and proactive environmental engagement. Programs that emphasize participatory learning, critical thinking, and community-



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				based environmental projects were found to reduce fear and cultivate optimism and agency. Moreover, school-based climate initiatives that address emotional well-being enable students to process environmental threats constructively, shifting their responses from despair to action-oriented hope. The effective climate education not only improves environmental literacy but also strengthens mental health outcomes, emotional intelligence, and leadership capacities among youth. The equipping learners with both scientific understanding and emotional resilience is essential for building a generation capable of facing ecological challenges with confidence, creativity, and compassion.

The review of the selected literature indicates that eco anxiety in educational settings emerges as a multidimensional psychological response shaped by climate uncertainty, environmental degradation, disaster exposure, and increasing climate awareness among students. Across studies, eco anxiety was found to manifest not only as emotional worry about climate change but also as cognitive, existential, behavioral, and psychosocial distress affecting students' wellbeing and educational experiences.

a. Forms of Eco Anxiety Experienced in Educational Settings

The literature suggests that eco anxiety among students commonly appears in several forms. First, students experience emotional distress, including fear, sadness, helplessness, grief, guilt, hopelessness, and chronic worry regarding environmental destruction and uncertain futures. Pihkala emphasized that eco anxiety includes existential concerns related to mortality, meaning in life, and uncertainty, while Rimba and Putri identified eco grief, eco guilt, and emotional coping as central dimensions of eco anxiety. Eco anxiety was also associated with elevated psychological distress and reduced quality of life, particularly among younger populations exposed to environmental disasters. Second, eco anxiety manifests as cognitive and future-oriented concerns. Students increasingly consider climate change in major life decisions, including education, careers, financial planning, family planning, housing, and travel decisions. Daenick et al. found that highly climate-anxious students were more likely to integrate climate uncertainty into long-term decision making, indicating that eco anxiety extends beyond emotional reactions into future orientation and life planning. Third, studies reveal behavioral and motivational responses to eco anxiety. While climate anxiety may generate emotional burden, it can also encourage pro-environmental engagement, activism, and ecological awareness when supported through adaptive coping mechanisms. Royer and Mbiriri demonstrated that climate anxiety can be transformed into hope-driven environmental action when educational systems provide psychological support and meaningful opportunities for



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participation. Fourth, eco anxiety often appears alongside psychological vulnerability and reduced wellbeing. Mosca et al. found strong associations between eco anxiety and psychological distress, including poorer mental health and lower quality of life. In school contexts, this suggests that climate distress may interfere with emotional wellbeing, emotional regulation, concentration, and resilience if left unsupported.

These results further confirm that emotional distress is one of the most dominant manifestations of eco anxiety in educational settings. Students frequently experience fear, sadness, hopelessness, and chronic worry about environmental degradation and uncertain futures. Similar findings were reported by Caroline Hickman and colleagues, who found that young people across multiple countries reported intense emotions related to betrayal, fear, anger, and hopelessness concerning climate change (Hickman et al., 2021). Furthermore, while eco anxiety may reduce wellbeing and increase psychological distress, studies by Maria Ojala suggest that adaptive coping, constructive hope, and environmental engagement can transform climate anxiety into pro-environmental action and resilience (Ojala, 2012). These findings imply that schools should adopt more holistic and climate-responsive approaches by integrating environmental education with psychological support, emotional literacy, resilience-building, and spiritual meaning-making to help students process eco anxiety constructively and maintain psychological wellbeing amid climate uncertainty.

b. Intervention Strategies Implemented by Schools

The literature review identified multiple intervention strategies implemented or recommended in educational settings to address eco anxiety, which can be categorized into psychological, environmental/geographical, and spiritual approaches.

1) Psychological and Mental Health Interventions

Several studies emphasized school-based psychological interventions to strengthen emotional resilience and adaptive coping. Acceptance and Commitment Therapy (ACT) was identified as a promising framework for helping students process climate distress through emotional acceptance, mindfulness, psychological flexibility, and values-based action rather than emotional avoidance. Similarly, group-based eco anxiety interventions and school mental health programs were reported as useful for reducing emotional burden and fostering coping skills among children and adolescents. Whole-school mental health approaches integrating leadership, wellbeing curricula, emotional monitoring, targeted counseling, and referral systems were also highlighted as effective strategies for responding to climate anxiety in educational settings.

The findings highlight the importance of school-based psychological interventions in addressing eco anxiety and strengthening students' emotional resilience. Previous studies have shown that psychological flexibility helps individuals cope adaptively with uncertainty and distress, including climate-related anxiety (Hayes et al., 2013). Similarly, recent studies on eco anxiety interventions suggest that group-based programs, emotional processing activities, and school mental health initiatives can reduce emotional burden and foster constructive coping among children and adolescents (Pihkala, 2020). These findings imply that schools should focus on develop comprehensive mental health systems that support emotional resilience, adaptive coping, and psychological wellbeing in the context of increasing climate uncertainty.

2) Environmental and Climate Education Approaches



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Environmental and geographical education emerged as a major intervention pathway. Rather than limiting climate education to scientific literacy, studies increasingly recommend participatory and emotionally responsive approaches. Nature-based interventions, climate capability education, green-space activities, ecological citizenship programs, and experiential environmental learning were shown to reduce eco anxiety while simultaneously strengthening environmental agency, connectedness to nature, and climate competence. Glynn et al., Harriz et al., and Mbiriri found that educational activities integrating environmental action, community participation, and climate literacy helped students move from fear and helplessness toward hope and constructive engagement.

The findings indicate that environmental and geographical education can serve as effective intervention pathways for reducing eco anxiety and strengthening students' adaptive coping capacities. Previous studies have emphasized that climate education should not only focus on scientific knowledge but also address emotional engagement, agency, and participation. Louise Chawla argued that meaningful engagement with nature and environmental action can reduce feelings of helplessness while fostering resilience and hope among young people (Chawla, 2020). Similarly, research by Martha Monroe found that climate education programs emphasizing active participation, problem-solving, and collective action can improve students' sense of efficacy and emotional wellbeing in facing climate change (Monroe et al., 2019). The reviewed studies further suggest that nature-based learning, green-space activities, and experiential environmental education help students develop connectedness to nature, ecological competence, and constructive environmental engagement. These approaches may transform climate-related fear into hope, agency, and resilience by allowing students to participate directly in environmental solutions. Therefore, the findings imply that schools should adopt participatory and emotionally responsive environmental education models integrating climate literacy, experiential learning, and community-based ecological action to support both environmental awareness and students' psychological wellbeing amid climate uncertainty.

3) *Spiritual and Meaning-Making Interventions*

Spiritual resilience emerged as an important but still underexplored protective strategy in educational settings. Pihkala and Najamuddin et al. reported that religious engagement, spirituality, prayer, hope, and existential meaning-making may help students reinterpret climate threats in adaptive ways, reducing emotional overwhelm while fostering responsibility and resilience. Students with stronger spiritual engagement reported lower anxiety levels and greater emotional calm, suggesting that schools may benefit from integrating spiritual reflection, moral values, hope cultivation, and meaning-centered discussions into climate education and psychosocial support programs.

The findings suggest that spiritual resilience is an important protective factor against eco-anxiety, although it remains underexplored in educational settings. Studies by Panu Pihkala also found that spirituality, prayer, hope, and existential meaning-making help students cope adaptively with climate-related distress by reducing anxiety and fostering emotional calmness, responsibility, and resilience (Pihkala, 2018). These findings are consistent with the meaning-making theory proposed by Crystal L. Park, which explains that spirituality helps individuals reinterpret stressful experiences positively and maintain psychological wellbeing during crises (Park, 2005). In the context of Islamic spirituality, concepts such as *tawakkal* (trust in God), *sabr* (patience), gratitude, and human responsibility as *khalifah fil ardh* (stewards of the Earth) are also associated with psychological resilience and environmental responsibility. Previous



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Islamic psychology studies have shown that religious practices such as prayer (*shalat*), remembrance (*dzikir*), and reflection strengthen emotional regulation, inner peace, and coping capacity during stressful situations (Najamuddin et al., 2025). The findings imply that eco-resilient schools should integrate spiritual reflection, moral values, hope-centered dialogue, and culturally sensitive psychosocial support into climate education programs to promote students' emotional wellbeing and adaptive environmental engagement.

c. *Synthesis of Findings*

The reviewed literature demonstrates that effective school-based interventions (eco-resilient school) for eco anxiety require an integrated approach encompassing psychological, environmental, and spiritual dimensions that presented in Figure 2.

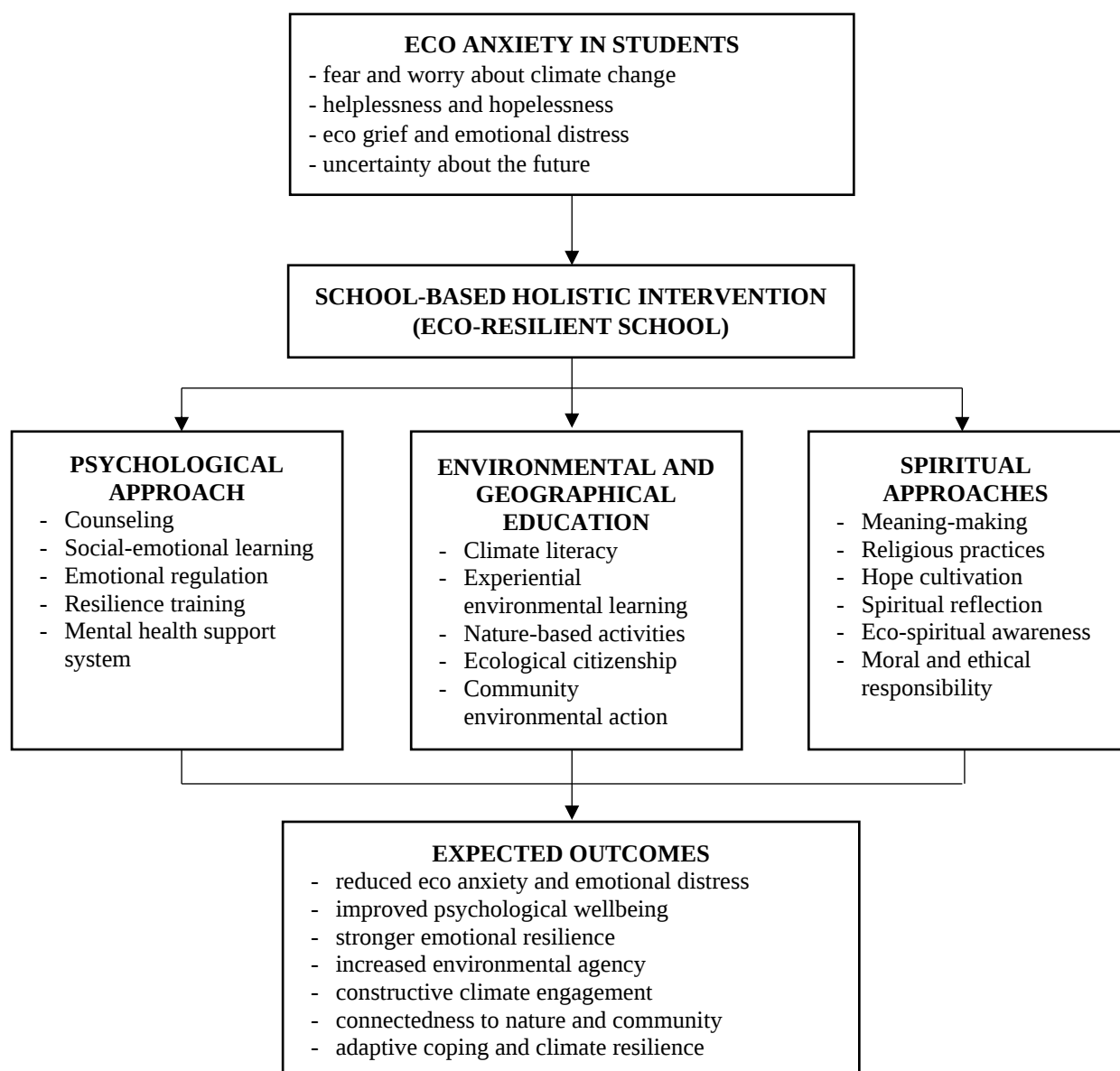


Figure 2. Eco resilient school integrates psychological, spiritual, and environmental strategies for addressing eco anxiety



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d. Limitation

Despite these contributions, this study has several limitations. First, the review relied on studies with diverse methodologies, contexts, and participant characteristics, which may limit the generalizability of findings across cultures and educational settings. Second, most studies focused on adolescents and university students, while research involving younger children and teachers remains limited. Third, several studies used cross-sectional or conceptual approaches, making it difficult to identify long-term effects of interventions on eco-anxiety and resilience. Future research should therefore examine longitudinal and experimental models to evaluate the effectiveness of integrated eco-resilience programs in schools across different sociocultural contexts.

4. CONCLUSION

This systematic literature review demonstrates that eco anxiety in educational settings is a multidimensional phenomenon encompassing emotional distress, cognitive and future-oriented concerns, behavioral responses, and psychological vulnerability among students. Students commonly experience fear, sadness, helplessness, grief, guilt, hopelessness, and chronic worry related to climate change and environmental uncertainty, which may negatively affect their emotional wellbeing, resilience, and quality of life if left unsupported. However, the findings also indicate that eco anxiety can be transformed into constructive environmental engagement, hope, and resilience through adaptive coping and supportive educational environments.

The review further reveals that effective school-based responses to eco anxiety require holistic interventions integrating psychological, environmental, and spiritual dimensions. Psychological interventions such as counseling, socio-emotional learning, and whole-school mental health systems help strengthen emotional resilience and adaptive coping. Environmental and geographical education approaches, including climate literacy, experiential learning, nature-based activities, and community environmental engagement, foster environmental agency, connectedness to nature, and constructive climate action. Meanwhile, spiritual and meaning-making interventions involving hope cultivation, reflection, prayer, moral values, and existential meaning-making function as important protective factors that support emotional calmness, resilience, and psychological wellbeing.

Overall, the findings suggest that schools should move beyond traditional climate education focused solely on scientific knowledge and adopt climate-responsive educational models integrating psychological support, participatory environmental education, and spiritual resilience. Such holistic approaches may help students process eco anxiety constructively while promoting emotional wellbeing, adaptive coping, environmental responsibility, and climate resilience in the face of increasing environmental uncertainty.



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