

Systematic Review on the Assessments of Eco Anxiety

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Abstract: *Eco-anxiety is increasingly recognised as an important psychological response to environmental degradation and climate change, yet its assessment remains conceptually and methodologically fragmented. This systematic review synthesised the development and psychometric characteristics of instruments used to measure eco-anxiety and related constructs. Following PRISMA 2020 guidelines, studies published between 1973 and 2023 were identified through major psychological and biomedical databases. Early measures primarily assessed environmental concern and distress, whereas recent instruments have attempted to capture the emotional, cognitive, behavioural, and functional dimensions of eco-anxiety. Scales such as the Climate Change Anxiety Scale, Hogg Eco-Anxiety Scale, and Climate Change Emotions Scale represent notable advances, but inconsistencies in factor structures, limited cross-cultural validation, and reliance on self-report data remain key limitations. Overall, the review highlights the absence of a comprehensive and culturally generalisable assessment tool and underscores the need for theoretically grounded, multidimensional measures to advance research and clinical practice in this emerging field.*

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Introduction

Eco-anxiety has emerged as a salient domain of scholarly inquiry, having been largely overlooked in prior research (Pearson, 2024). In the contemporary context, accelerated social, economic, and technological transformations have heightened individuals' susceptibility—whether through direct exposure or indirect awareness—to environmental change phenomena, thereby amplifying the potential for psychological distress and the onset of eco-anxiety. For instance, individuals who have personally observed the devastation of property and injury to persons during a typhoon often endure acute concern and trauma (Pearson, 2024). More broadly, exposure to extreme meteorological events has been found to exacerbate negative affect, with such impacts tending to intensify over time (Romanello et al., 2023). Even in the absence of direct experience, the consumption of adverse environmental reportage through media channels has been shown to elevate negative emotional states and precipitate eco-anxiety (Shao & Yu, 2023). Taken together, this body of evidence underscores the likelihood of a progressive escalation in eco-anxiety prevalence, mediated by diverse forms of environmental change exposure, thereby positioning it as a pressing and urgent psychological concern. Understanding how eco-anxiety is defined and differentiated from related constructs is therefore critical for framing subsequent research.

Within the scholarly literature, *eco-anxiety* is defined as a broad emotional response—characterized by affective states such as worry, fear, and distress—arising from the perception or experience of ecological crises (Coffey et al., 2021). Unlike *climate anxiety*, which specifically denotes emotional reactions to the threat posed by climate change to individual and collective well-being (Bhullar et al., 2022), *eco-anxiety* encompasses apprehension regarding a wider spectrum of environmental challenges, including but not limited to climate change. Although these terms are frequently employed interchangeably, this conceptual distinction remains significant, and in the present review, *eco-anxiety* is adopted as an inclusive construct subsuming both. Eco-anxiety may manifest in adaptive forms, serving as a catalyst for pro-environmental engagement, or in maladaptive forms, resulting in withdrawal or psychological burden (Clayton & Karazsia, 2020). Emerging evidence indicates that its behavioral influence may follow a non-linear, inverted U-shaped trajectory—moderate levels of eco-anxiety are generally associated with the highest degree of pro-environmental involvement, whereas both minimal and excessive levels correspond to diminished engagement (Wullenkord et al., 2021). Given these diverse manifestations, it is important to consider the mental health implications of eco-anxiety and its potential to exacerbate existing psychological vulnerabilities.

A recent meta-analysis (Gago et al., 2024) confirmed a strong negative correlation between climate anxiety and overall mental well-being. Individuals with pre-existing mental health conditions may be particularly vulnerable, as the stress associated with eco-anxiety can intensify existing psychological distress. Consistent with this, prior research has identified significant associations between climate change anxiety and heightened psychological distress (Reyes et al., 2023), as well as increased levels of depression, generalized anxiety and insomnia. Collectively, these findings suggest that higher eco-anxiety is likely to co-occur with greater general psychological distress (Henschel et al., 2025).

Recent reviews indicate that eco-anxiety is strongly linked to adverse mental health outcomes, including psychological distress, anxiety, depression, and stress symptoms. Although a few studies have reported no such associations, the overall evidence suggests that heightened awareness of climate change can significantly affect daily functioning and contribute to psychiatric burden. Notably, eco-anxiety appears to be more consistently associated with state-based emotional responses—such as state anxiety, depression, and stress—than with trait-based tendencies like pathological worry (Arvidsdotter et al., 2016). State anxiety reflects temporary feelings of apprehension or dread, which may be more directly tied to climate-related concerns. In contrast, trait worry, representing a more enduring predisposition to worry, shows weaker or inconsistent links with eco-anxiety. This pattern implies that eco-anxiety may arise primarily as a situational reaction to current environmental threats rather than as a manifestation of a stable personality characteristic (Cosh et al., 2024). These distinctions in emotional processes help explain why eco-anxiety may lead to different forms of environmental action or inaction.

Eco-anxiety has been linked to varying patterns of environmental engagement. Pro-environmental behaviors—such as reducing meat consumption, conserving water, supporting climate-friendly policies, and participating in environmental activism—reflect actions aimed at benefiting the environment or minimizing (Lutz et al., 2023). Two perspectives dominate the literature: one views eco-anxiety as a “practical anxiety” that motivates information-seeking and action, while the other frames it as “eco-paralysis” (Bertler & Barrett, 2010), leading to avoidance and inaction. Empirical evidence largely favors the practical anxiety view, with eco-anxiety—regardless of severity—showing a generally positive association with pro-environmental intentions and behaviors, though results are not entirely uniform (Pihkala, 2020).

Assessing eco-anxiety has been a key focus in recent research, with several instruments developed to capture its emotional, cognitive, and behavioral dimensions. Early measures, such as the Environmental Distress Scale (EDS)(Higginbotham et al., 2007), provided a unidimensional assessment of distress related to environmental degradation (Christodoulou et al., 2024) Subsequent tools, including Searle and Gow's (2010) climate distress inventory, evaluated a broader spectrum of negative emotions associated with ecological concerns. The Climate Change Anxiety Scale (CAS) (Clayton, 2020) introduced a two-dimensional approach, examining cognitive-emotional and functional impairment, though it does not fully capture affective components such as fear or worry (Hogg et al., 2023). More recently, the Hogg Eco-Anxiety Scale (HEAS) (Stanley et al., 2021) and the Climate Change Emotions (CCE) Scale have expanded assessment to include multiple emotional and behavioral facets, highlighting the importance of multidimensional and culturally adaptable tools. Collectively, these developments underscore the necessity of valid and reliable instruments for advancing empirical research and understanding the psychological impact of environmental change.

Methodology

Review Design and Reporting Guidelines

The present study employed a systematic review design to identify, examine, and synthesize psychological assessments intended to measure anxiety related to environmental concerns, commonly conceptualized as eco-anxiety. The review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) guidelines to ensure methodological rigor, transparency, and reproducibility.

Eligibility Criteria

Inclusion Criteria

Studies were included in the review if they met the following criteria:

- The study described the development, validation, adaptation, or psychometric evaluation of a psychological assessment intended to measure anxiety, distress, worry, fear, or emotional responses related to environmental or ecological concerns.
- The assessment targeted eco-anxiety or closely related constructs (e.g., environmental anxiety, climate anxiety, ecological worry).
- The study was published between 1973 and 2023, reflecting both early and contemporary measurement approaches.

- The study was published in a peer-reviewed journal.
- The publication was available in English.

Exclusion Criteria

Studies were excluded if they:

- Focused solely on general anxiety without explicit reference to environmental or ecological concerns.
- Examined attitudes, knowledge, or pro-environmental behaviors without assessing anxiety-related emotional responses.
- Were editorials, commentaries, dissertations, conference abstracts, or unpublished manuscripts.
- Did not provide sufficient information regarding the assessment tool or its measurement properties.

Information Sources

Electronic searches were conducted in PsycINFO, PsycARTICLES, PubMed, Scopus, Web of Science, and Academic Search Premier (EBSCOhost). Google Scholar and the APA website were additionally searched to identify grey literature and supplementary sources relevant to eco-anxiety assessment.

Search Strategy

A structured search strategy was developed using combinations of keywords and Boolean operators. Core search terms included variations of: eco-anxiety, environmental anxiety, climate anxiety, ecological distress, environmental worry, psychological assessment, scale, questionnaire, and measurement. Search terms were adapted for each database to optimize sensitivity and specificity. Filters were applied to restrict results to peer-reviewed articles published between 1973 and 2023.

Study Selection Process

All identified records were initially screened based on titles and abstracts to assess relevance. Potentially eligible studies were retrieved for full-text review. The selection process followed a stepwise approach in line with PRISMA guidelines. Studies meeting the predefined inclusion criteria were retained for final analysis. Any ambiguities regarding eligibility were resolved through careful review of the full text.

Comparative Analysis of Eco-Anxiety Assessment Tools

The identified measures were compared based on their conceptual focus, item content, target populations, and psychometric characteristics. Temporal trends in assessment development were also examined to highlight shifts from early general environmental concern measures to more nuanced, climate-specific eco-anxiety scales in recent decades.

Assessment Characteristics

The reviewed instruments demonstrated variability in dimensionality, ranging from unidimensional measures of environmental worry to multidimensional scales capturing emotional, cognitive, and functional aspects of eco-anxiety. Differences in target populations (e.g., adults, adolescents, community samples) and cultural contexts were also noted.

Methodological Rigor and Reporting Quality

Overall, more recent assessments exhibited greater methodological rigor, including clearer construct operationalization and more comprehensive psychometric evaluation. Earlier instruments, while foundational, often provided limited validity evidence compared to contemporary measures.

Result

INSTRUMENT	AUTHOR & YEAR	ITEMS/ DIMENSIONS	POPULATION/ SAMPLE	KEY FEATURES	LIMITATIONS
Ecology Scale (Maloney–Ward)	Maloney & Ward, 1973; Maloney, Ward, & Braucht, 1975 (short form)	4 subscales: Verbal Commitment (36), Actual Commitment (36), Affect (34), Knowledge (24); total 128 items (TF for VC/AC/A; MCQ for K).	Adult community & college samples; contrasted with Sierra Club members.	Environmental attitudes, affect, knowledge, and self-reported behavior	Very lengthy; dated wording; social desirability effects
Environmental Concern Scale (ECS)	Weigel & Weigel, 1978	16 items; 5-point Likert; 7 positive/9 negative (reverse scored).	Adult probability samples (“Western” and “Eastern” U.S. samples).	General concern about environmental issues (pollution, conservation)	Single-factor; items dated to the 1970s discourse
Ecocentric and Anthropocentric Attitudes (EAAT)	Thompson & Barton, 1994	30 items; 3 subscales: Ecocentrism, Anthropocentrism, Environmental Apathy; 5-point Likert.	U.S. undergraduates/adults.	Worldviews: ecocentrism (nature-centered), anthropocentrism (human-centered), environmental apathy	Some cultural/contextual sensitivity

General Ecological Behavior (GEB) Scale	Kaiser, Wölfig, & Fuhrer, 1999	Unidimensional Rasch-scaled behavioral index; 38 dichotomous (yes/no) items spanning multiple domains (e.g., conservation, mobility, consumption, waste).	Community/consumer samples in German-speaking contexts	Everyday ecological behaviors across multiple domains (mobility, consumption, waste, conservation)	Context-dependent items; dichotomous scoring less sensitive than frequency ratings
New Ecological Paradigm – Revised (NEP-R)	Dunlap, Van Liere, Mertig, & Jones, 2000	15 items, 5-point Likert	U.S. general adult samples; widely replicated cross-culturally.	General pro-ecological worldview	Factor structure varies across cultures/translations
Taj Environmental Attitude Scale (TEAS)	Haseen Taj, 2001	61 Likert-type items; 6 areas (population, health & hygiene, polluters, wildlife, forests, environmental concerns).	Indian students	Environmental attitudes across multiple issue areas (population, health, polluters, forests, etc.)	Limited psychometric reporting internationally

Environmental Identity Scale (EID)	Clayton, 2003	24 items; 7-point Likert; assesses inclusion of nature in self/identity processes.	U.S. undergraduates; later cross-cultural adaptations (e.g., Spanish).	Extent to which nature is central to one's identity	Factor structure varies by culture
Indian New Environmental Paradigm (I-NEP)	Khan, Khan, & Adil, 2012	9 items; four-factor solution reported for Indian consumers after refining the original NEP.	Office-goers in Delhi & Mumbai (n≈429 across studies).	Pro-ecological worldview adapted for Indian cultural context	Smaller evidence base; reduced comparability with NEP-R
Nature Relatedness – Short (NR-6)	Nisbet & Zelenski, 2013 (short form of NR; original NR: Nisbet, Zelenski, & Murphy, 2009)	6 items drawn from “self” and “experience” facets; single brief index.	Students, community members, and working adults across samples.	Individual connection/relationship with nature	Loses nuance of full NR facets
Environmental Attitude Scale (EAS)	Uğulu, Şahin, & Başlar, 2013	35 items; 4 factors: Environmental Awareness, Attitudes to Recovery, Attitudes to Recycling, Environmental	Turkish secondary students.	General environmental attitudes and awareness (recycling, consciousness, etc.)	Context-specific; translation issues possible

		Consciousness & Behavior.			
Climate Change Attitude Survey (CCAS)	Christensen & Knezek, 2015	15 items; 2 scales: Beliefs and Intentions; 5-point Likert.	Middle-school/secondary students; educational settings.	Climate change beliefs and behavioral intentions	Student-focused; not observed behavior
Environmental Portrait Value Questionnaire (E-PVQ)	Bouman, Steg, & Kiers, 2018	16–17 portraits; 7-point “like me” scale	Multiple adult samples in the Netherlands and U.K.	Underlying value orientations (biospheric, altruistic, egoistic, hedonic)	Values, not direct attitudes/behaviors
Environmental Distress Scale (EDS)	Higginbotham et al., 2007	6 components: hazard perception, threat appraisal, felt impact, solastalgia, environmental action	Residents of Australia's Upper Hunter Valley	Measures bio-psycho-social distress due to environmental change; includes solastalgia dimension	Limited to specific geographic region; may not capture broader eco-anxiety experiences
Climate Distress Inventory	Searle & Gow, 2010	12 items: concern, tension, worry, anxiety, depression, hopelessness, powerlessness, sadness, helplessness, stress, anger, fear	General population	Assesses a wide range of negative emotions related to climate change	Indirect measure of eco-anxiety; lacks behavioral or functional impairment assessment

Perceived Ecological Stress Scale	Helm et al., 2018 (Homburg et al., 2007)	4 items: stress in response to global environmental problems, pollution, species extinction, deforestation	General population	Provides a concise measure of perceived ecological stress	Focuses on stress perception; does not assess specific emotional components like anxiety or fear
Climate Change Anxiety Scale (CCAS)	Clayton & Karazsia, 2020; Chung et al., 2023	13 items: cognitive impairment (8 items), functional impairment (5 items)	General population	Widely used; measures cognitive and functional impairments related to climate change anxiety	Does not fully capture affective components; cross-cultural validity issues
Hogg Eco-Anxiety Scale (HEAS)	Hogg et al., 2021; Heinzl et al., 2023	13 items: affective symptoms, rumination, behavioral symptoms, anxiety about personal impac	General population; validated in multiple countries	Comprehensive measure with good internal consistency ($\alpha = 0.65-0.82$); captures multiple dimensions of eco-anxiety	Limited validation in clinical populations; self-report bias
Climate Change Emotions Scale (CCE)	Stanley et al., 2021; Stanley et al., 2023	3 dimensions: eco-anxiety, eco-depression, eco-anger	Predominantly Australian sample	Captures a broader emotional spectrum; predicts pro-environmental behaviors	Cross-cultural validity untested; cross-sectional design limits causal inference

Discussion

Developing psychometrically robust instruments specifically designed to measure eco-anxiety is an essential prerequisite for advancing empirical inquiry in this field. Over the years, researchers have adopted diverse strategies to operationalize the construct. A wide range of instruments have been developed to assess environmental attitudes, values, and behaviours. For instance, the General Ecological Behaviour Scale (Kaiser, 1998) provides a Rasch-calibrated unidimensional measure of ecological behaviours across multiple domains, though its binary response format limits sensitivity to individual differences. Earlier tools such as the Ecology Scale (Maloney et al., 1975) and the Environmental Concern Scale (Weigel & Weigel, 1978) were seminal in capturing behavioural, affective, and attitudinal aspects of ecological concern, but are lengthy, dated, and less reflective of contemporary environmental issues such as climate change. Similarly, the Ecocentric and Anthropocentric Attitudes Scale (Gagnon Thompson & Barton, 1994) and the Environmental Attitude Scale (Kibirige & Hodi, 2013) distinguish between different motivational bases of environmental support and measure attitudes in educational contexts, but remain limited in predicting actual behaviours. More recent measures such as the Pro-Environmental Behaviour Scale (Markle, 2013) and the New Ecological Paradigm (Dunlap et al., 2000) offer concise, psychometrically sound assessments of pro-environmental behaviour and environmental worldviews, though they are often criticized for their reliance on self-report and their inability to fully account for contextual factors influencing ecological action.

Scales assessing identity and values, such as the Environmental Identity Scale (Wullenkord et al., 2021), the Nature Relatedness Scale (Nisbet & Zelenski, 2013), and the Environmental Portrait Value Questionnaire (Bouman et al., 2018), provide valuable insights into the deeper motivational and self-conceptual bases of ecological behaviour. These demonstrate high internal consistency and construct validity but remain indirect indicators of action. Context-specific measures, including the Taj Environmental Attitude Scale (Taj, 2001) and the Indian New Ecological Paradigm (Khan et al., 2012), have improved cultural applicability in the Indian context, though their scope is narrower compared to international counterparts. Focused instruments like the Climate Change Attitude Survey (Christensen & Knezek, 2015) are grounded in behavioural theories and capture both beliefs and intentions toward climate change, yet are often tested primarily with student samples, limiting generalizability.

Taken together, these measures illustrate the breadth of existing approaches to studying environmental attitudes and behaviours, ranging from worldviews and values to specific practices and identity-based orientations. Their strengths lie in their strong theoretical grounding and demonstrated psychometric reliability. However, common limitations include an over-reliance on self-report data, lack of sensitivity to contextual influences, limited cross-cultural applicability, and inadequate attention to the emotional and psychological dimensions of environmental change. With the growing recognition of phenomena such as eco-anxiety, it becomes increasingly evident that existing tools do not adequately capture the mental health impacts of climate change or the psychological processes underlying ecological concern. There is, therefore, a pressing need for the development of more rigorous, multidimensional assessment tools that integrate attitudes, values, behaviours, and emotional responses.

One of the earliest contributions was the Environmental Distress Scale (EDS), a unidimensional tool introduced (Higginbotham et al., 2007) and recognized as a pioneering measure in the area

(Christodoulou et al., 2024). Its focus on environmental degradation and related emotional responses provided an early framework for linking ecological change to psychological distress. Subsequent approaches have often assessed eco-anxiety indirectly through indicators of negative affect associated with environmental concerns. For instance, Searle and Gow (2010) conceptualized climate distress via a 12-item inventory encompassing emotional states such as concern, tension, worry, anxiety, depression, hopelessness, powerlessness, sadness, helplessness, stress, anger, and fear (Searle & Gow, 2010).

In Helm et al., (Helm et al., 2018) eco-anxiety was assessed using a 4-item perceived ecological stress scale, originally developed by Homburg et al. (2007). This brief measure asks respondents to rate their stress levels in response to four environmental issues: (1) global environmental problems such as ozone depletion and climate change, (2) pollution of oceans and the environment, (3) species extinction, and (4) deforestation and the expansion of uninhabitable desert areas. Each item captures distinct facets of environmental concern, offering a concise proxy for eco-anxiety in the absence of a standardized measure. With only four items, the scale prioritizes general perceived stress without directly assessing emotional components like anxiety, fear, or worry. This narrow scope may limit its sensitivity and nuance in capturing eco-anxiety's full emotional spectrum. Recognizing these limitations, researchers moved toward developing multidimensional tools that could assess both emotional and functional aspects of climate-related distress.

Another widely cited measure is the Climate Change Anxiety Scale (CAS) by Clayton and Karazsia (2020), which evaluates two dimensions—personal cognitive and emotional impairment, and functional impairment—and has been employed in several studies on eco-anxiety despite its primary focus on climate change-related anxiety (Chung et al., 2023). Importantly, the CAS's cognitive and emotional impairment subscale does not directly capture several key affective components, including fear, anxiety, and worry. As a result, while it has become one of the most frequently used tools in climate anxiety research, its conceptual coverage remains partial. Collectively, these instruments tend to emphasize selected facets of eco-anxiety, such as negative affect or climate change anxiety, without fully encompassing its conceptual scope, thereby limiting their validity and precision as measurement tools. Validation studies across a range of countries—including Italy, Poland, Germany, the Philippines, Korea, China, India, Japan, and French-speaking European regions—have produced inconsistent factorial structures. Some failed to replicate the original two-factor model altogether and required modifications to fit local data. This variability raises questions about the scale's cross-cultural validity. Critics argue that the CAS places undue emphasis on functional impairment, lacking adequate assessment of affective dimensions of anxiety (e.g., worry, fear)(Hogg et al., 2023). In response to these conceptual and cross-cultural shortcomings, newer scales have attempted to integrate a broader range of eco-anxiety symptoms. The Hogg Eco-Anxiety Scale (HEAS), developed by Hogg et al. (2021), offers a more comprehensive and psychometrically sound assessment of eco-anxiety, encompassing four dimensions: affective symptoms, rumination, behavioral manifestations, and anxiety regarding personal impact(Intergovernmental Panel on Climate Change, 2021)(Nurdayati dkk, 2021). Its validation is limited to general population samples, restricting applicability to clinical cohorts. The “anxiety about personal impact” dimension may lack cultural relevance in collectivist societies, necessitating adaptation for cross-cultural validity. Furthermore, exclusive reliance on self-report measures introduces potential bias and omits corroboration from objective indicators (Heinzel et al., 2023). By synthesizing elements from earlier tools and expanding their conceptual scope, the HEAS represents a significant methodological advance, yet it still falls short of offering a

universally applicable gold standard. Taken together, the limitations of existing measures underscore the urgent need for a psychometrically rigorous, culturally adaptable, and multidimensional instrument capable of capturing the full emotional, cognitive, and behavioral spectrum of eco-anxiety.

In addition to these established measures, Stanley et al., (Stanley et al., 2021) introduced the Climate Change Emotions (CCE) Scale, which represents a conceptual shift by assessing three distinct eco-emotions - eco-anxiety, eco-depression, and eco-anger rather than focusing solely on anxiety. This multidimensional approach is grounded in the recognition that climate-related emotional responses are heterogeneous, with each emotion potentially playing a different role in motivating or inhibiting pro-environmental behavior (Clayton & Karazsia, 2020). The CCE demonstrated good internal consistency and clear factorial separation of the three constructs, supporting its discriminant validity. Importantly, their findings indicated that eco-anger was the strongest predictor of pro-environmental behaviors and climate activism, whereas eco-anxiety and eco-depression also correlated with climate action but with varying magnitudes and directions of effect (Stanley et al., 2021). From an assessment standpoint, the CCE addresses a critical gap in the literature by capturing a broader emotional spectrum, thereby avoiding the conceptual reductionism inherent in tools that measure eco-anxiety in isolation. However, as Stanley et al. note, the tool was developed using a predominantly Australian sample, and its cross-cultural validity remains untested (Rosseel, 2012). Furthermore, the study's cross-sectional design limits causal inference, underscoring the need for longitudinal and experimental research to examine how these eco-emotions interact over time and how they differentially influence both mental health outcomes and climate engagement (Pihkala, 2020). Future validation efforts should also consider whether the predictive strength of these emotions varies across cultural contexts, particularly in collectivist versus individualist societies.

Conclusion

This systematic review examined the evolution and characteristics of psychological assessments used to measure eco-anxiety and related constructs from 1973 to 2023. The findings highlight a clear progression from early measures of environmental attitudes, values, and behaviours toward more recent attempts to capture the emotional and psychological impacts of environmental degradation and climate change. While foundational instruments such as the Ecology Scale, Environmental Concern Scale, and New Ecological Paradigm provided essential theoretical grounding, they were not designed to assess the affective and cognitive dimensions central to eco-anxiety.

More recent tools, including the Environmental Distress Scale, Climate Change Anxiety Scale, Hogg Eco-Anxiety Scale, and Climate Change Emotions Scale, represent important methodological advances by explicitly acknowledging emotional distress associated with environmental change. However, none of the reviewed instruments fully capture the multidimensional nature of eco-anxiety across emotional, cognitive, behavioral, and functional domains in a manner that is both psychometrically robust and culturally generalizable. Inconsistencies in factorial structures across cultures, overreliance on self-report methods, and narrow conceptual coverage remain persistent challenges.

Taken together, the findings underscore the absence of a universally accepted gold-standard measure of eco-anxiety. Advancing empirical research and clinical understanding in this domain will require the development of comprehensive, culturally adaptable, and theoretically integrative assessment tools capable of capturing the full psychological complexity of eco-anxiety and its related emotional states.

Implications

Theoretical Implications

The review highlights the need for greater conceptual clarity in defining eco-anxiety as a distinct yet related construct within the broader spectrum of climate-related emotions. Instruments that narrowly equate eco-anxiety with functional impairment or generalized distress risk oversimplifying a complex psychological phenomenon. Future theoretical models should explicitly integrate affective (e.g., fear, worry), cognitive (e.g., rumination, perceived threat), behavioral (e.g., avoidance, activism), and existential dimensions of eco-anxiety, drawing from environmental psychology, clinical psychology, and stress-related frameworks.

Methodological Implications

Methodologically, the findings emphasize the importance of developing multidimensional, psychometrically rigorous instruments that move beyond proxy measures of environmental concern or stress. Future scale development should prioritize robust validation procedures, including measurement invariance testing across cultures, age groups, and clinical versus non-clinical populations. Incorporating mixed-method approaches, such as qualitative data, behavioral indicators, or physiological measures, may help mitigate the limitations inherent in exclusive reliance on self-report instruments.

Applied and Clinical Implications

From an applied perspective, the lack of precise and comprehensive assessment tools limits the identification of individuals experiencing clinically significant eco-anxiety and constrains the development of targeted interventions. Reliable measurement is essential for distinguishing adaptive concern from maladaptive distress and for informing prevention, psychoeducation, and therapeutic approaches. In educational and policy contexts, improved assessment tools could also guide the design of climate communication strategies that foster engagement without exacerbating psychological distress.

Limitations

Several limitations of the present review should be acknowledged. First, the review was restricted to studies published in English, which may have excluded relevant instruments developed or validated in non-English-speaking contexts. Second, although multiple databases were searched, the possibility of missed studies cannot be entirely ruled out, particularly unpublished or grey literature. Third, the review focused primarily on the conceptual and psychometric characteristics reported by the original authors; independent re-analyses of scale properties were beyond its scope. Finally, heterogeneity in study designs, populations, and validation methods limited direct comparison across instruments and precluded quantitative synthesis.

Despite these limitations, the review provides a comprehensive overview of existing eco-anxiety assessments and identifies critical gaps that can inform future research and scale development.

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Data Availability Statement

All data generated or analysed during this study are included in this published article. No new datasets were generated.

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